SRA Life, Earth, and Physical Science Laboratories
correlation to
New Hampshire Science Framework
Grade 6

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.1 Make observations and record measurements using a variety of tools and instruments.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.2 Plan observations based on a given purpose.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.3 Identify and investigate similarities and differences among observations and sets of observations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.4 Use appropriate units and precision of metric measurements when recording data.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.5 Use a classification key, such as a dichotomous key, to identify and distinguish among members of a group or set.
Life Science Lab, Level A: Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79 **Earth Science Lab, Level A:** Cards 4, 6, 7, 8, 75 **Earth Science Lab, Level B:** Cards 4, 6, 7, 8, 75 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75 **Physical Science Lab, Level A:** Cards 14, 15, 17, 18, 19, 2 0 **Physical Science Lab, Level B:** Cards 14, 15, 17, 18, 19, 20 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.6 Construct a simple classification key.
Life Science Lab, Level A: Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79 **Earth Science Lab, Level A:** Cards 4, 6, 7, 8, 75 **Earth Science Lab, Level B:** Cards 4, 6, 7, 8, 75 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75 **Physical Science Lab, Level A:** Cards 14, 15, 17, 18, 19, 2 0 **Physical Science Lab, Level B:** Cards 14, 15, 17, 18, 19, 20 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.7 Compare methods of classification for a specific purpose.
Life Science Lab, Level A: Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79 **Earth Science Lab, Level A:** Cards 4, 6, 7, 8, 75 **Earth Science Lab, Level B:** Cards 4, 6, 7, 8, 75 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75 **Physical Science Lab, Level A:** Cards 14, 15, 17, 18, 19, 2 0 **Physical Science Lab, Level B:** Cards 14, 15, 17, 18, 19, 20 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.8 Ask questions about relationships between and among observations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 11

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.9 Determine what observations will be helpful to a given investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 11

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:6:1.10 Distinguish between those questions that can be answered by science and those that cannot.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
2. DESIGNING SCIENTIFIC INVESTIGATIONS
S:SPS1:6:2.1 Design and record a simple step-by-step procedure to follow in order to carry out a fair test of a scientific question.
Classroom Resource CD-ROM: Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
2. DESIGNING SCIENTIFIC INVESTIGATIONS
S:SPS1:6:2.2 Identify and utilize appropriate tools/technology for collecting data in designing investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 11

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
2. DESIGNING SCIENTIFIC INVESTIGATIONS
S:SPS1:6:2.3 Incorporate components of good experimental design, such as controls and multiple trials, into investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
3. CONDUCTING SCIENTIFIC INVESTIGATIONS
S:SPS1:6:3.1 Carry out simple student or teacher-developed procedures or experiments.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
3. CONDUCTING SCIENTIFIC INVESTIGATIONS
S:SPS1:6:3.2 Use appropriate tools to collect and record data.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 22, 24, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
3. CONDUCTING SCIENTIFIC INVESTIGATIONS
S:SPS1:6:3.3 Follow the teacher's instructions in performing experiments, following all appropriate safety rules and procedures.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:6:4.1 Use appropriate tools to organize, represent, analyze, and explain data.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 22, 24, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:6:4.2 Make and record observations using a predetermined format.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 11

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:6:4.3 Compare and display data in a variety of student or computer generated formats (such as diagrams, flow charts, tables, bar graphs, line graphs, scatter plots, and histograms).
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 16, 22, 24

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:6:4.4 Identify patterns and relationships in data and formulate basic explanations.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 16

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:6:4.5 Draw appropriate conclusions based on data collected.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 17, 18

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
5. EVALUATING SCIENTIFIC EXPLANATIONS
S:SPS1:6:5.1 Determine if the results of an experiment support or fail to support the scientific idea tested.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
5. EVALUATING SCIENTIFIC EXPLANATIONS
S:SPS1:6:5.2 Explain how a hypothesis is a direct extension of a scientific idea and therefore makes the idea "testable."
Life Science Lab Teacher's Handbook: Hands-On Activity 3, *Investigating Arthropods,* pages 85-87 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87 **Classroom Resource CD-ROM:** Writing Strategy 8, 15

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:6:1.1 Explain that scientists do not pay much attention to claims about how something works unless they are backed up with evidence that can be confirmed and with a logical argument.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:6:1.2 Describe how results of similar and repeated investigations may vary and suggest possible explanations for variations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:6:1.3 Explain that sometimes similar investigations get different results because of unexpected differences in the things being investigated, the methods used, or the circumstances in which the investigation is carried out, and sometimes just because of uncertainties of observations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:6:1.4 Realize that if more than one variable changes at the same time in an experiment, the outcome of the experiment may not be clearly attributable to any one of the variables.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 23

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:6:2.1 Recognize that thinking about things as systems means looking for how every part relates to others.
Life Science Lab, Level A: Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:6:2.2 Discover that collections of pieces (e.g., powders, marbles, sugar cubes or wooden blocks) may have properties that the individual pieces do not.
This concept is not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:6:2.3 Estimate or predict the effect of making a change in one part of the system will have on other parts, and on the system as a whole.
Life Science Lab, Level A: Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:6:2.4 Compare a variety of forms of energy, including heat, light, sound, mechanical, electrical, and chemical energy.
Physical Science Lab, Level A: Cards 34, 36, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 34, 36, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 79, 80, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity **Classroom Resource CD-ROM:** Writing Strategy 3, *Energy Conversion*, pages 85-87; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:6:2.5 Demonstrate how energy can be transformed from one form to another (e.g., from electrical energy to heat, light or mechanical energy.
Physical Science Lab, Level A: Cards 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70, 72, 76, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70, 72, 76, 79, 80, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
3. MODELS AND SCALE (MAS)
S:SPS2:6:3.1 Understand that models are often used to think about processes that happen too slowly, too quickly, or on too small a scale to observe directly; or that are too vast to be changed deliberately; or that are potentially dangerous.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 20

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
3. MODELS AND SCALE (MAS)
S:SPS2:6:3.2 Analyze how finding out the biggest and smallest values of something are often as revealing as knowing what the usual value is.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2:6:4.1 Understand that things change in steady, repetitive, or irregular ways-or sometimes in more than one way at the same time; often the best way to tell which kinds of change are happening is to make a table or graph of measurements.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2)-4.6-2 Discover how a system may stay the same because nothing is happening or because things are happening that exactly balance each other out.
Life Science Lab, Level A: Card 80 **Life Science Lab, Level B:** Card 80 **Earth Science Lab, Level A:** Cards 11, 12, 13, 62, 64, 66 **Earth Science Lab, Level B:** Cards 11, 12, 13, 62, 64, 66 **Physical Science Lab, Level A:** Cards 40, 53, 56 **Physical Science Lab, Level B:** Cards 40, 53, 56

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
5. FORM AND FUNCTION (FAF)
S:SPS2:6:5.1 Describe the structure and function of organs.
Life Science Lab, Level A: Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
5. FORM AND FUNCTION (FAF)
S:SPS2:6:5.2 Diagram and label the structure of primary components of representative organs in plants and animals.
Life Science Lab, Level A: Cards 6, 7, 12, 20, 22, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 6, 7, 12, 20, 22, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
5. FORM AND FUNCTION (FAF)
S:SPS2:6:5.3 Investigate the relationship between various landforms and wind currents.
Earth Science Lab, Level A: Cards 21, 27 **Earth Science Lab, Level B:** Cards 21, 27

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:6:1.1 Work effectively within a cooperative group setting, accepting and executing assigned roles and responsibilities.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:6:1.2 Work collectively within a group toward a common goal.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:6:1.3 Demonstrate respect of one another's abilities and contributions to the group.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:6:2.1 Develop, focus, and explain questions about the environment and do environmental investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91 **Classroom Resource CD-ROM:** Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:6:2.2 Design environmental investigations to answer particular questions.
Life Science Lab Teacher's Handbook: Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91 **Classroom Resource CD-ROM:** Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:6:2.3 Explore evidence that human-caused changes have consequences for the immediate environment as well as for other places and future times.
Life Science Lab, Level A: Cards 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 37, 42, 59, 60, 61 **Earth Science Lab, Level B:** Cards 37, 42, 59, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91 **Physical Science Lab, Level A:** Card 33 **Physical Science Lab, Level B:** Card 33

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:6:2.4 Explore how humans shape and control the environment while creating knowledge and developing new technologies.
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 16, 29, 37, 42, 51, 54, 59, 60, 61 **Earth Science Lab, Level B:** Cards 16, 29, 37, 42, 51, 54, 59, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91 **Physical Science Lab, Level A:** Card 33 **Physical Science Lab, Level B:** Card 33

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:6:2.5 Investigate environmental and resource management issues at scales that range from local to national to global.
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 29, 35, 37, 42, 59, 60, 61 **Earth Science Lab, Level B:** Cards 29, 35, 37, 42, 59, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91 **Physical Science Lab, Level A:** Cards 38, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 38, 46, 47, 48, 49

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
3. SCIENCE AND TECHNOLOGY; TECHNOLOGICAL DESIGN AND APPL:ICATION
S:SPS3:6:3.1 Identify problems/issues that can be addressed by design technology.
S:SPS3:6:3.2 Identify and describe the procedure for designing a product, including identifying a need, researching, brainstorming, selecting, developing a prototype, testing, and evaluating.
S:SPS3:6:3.3 Evaluate technological designs using established criteria.
These concepts are not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
1. INFORMATION AND MEDIA LITERARY
S:SPS4:8:1.1 Use a variety of information access tools to locate, gather, and organize potential sources of scientific information to answer questions.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria*, pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 9, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
1. INFORMATION AND MEDIA LITERARY
S:SPS4:8:1.2 Collect real-time observations and data, synthesizing and building upon existing information (e.g., online databases, NOAA, EPA, USGS) to solve problems.
Classroom Resource CD-ROM: Writing Strategy 9, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
1. INFORMATION AND MEDIA LITERARY
S:SPS4:8:1.3 Use appropriate tools to analyze and synthesize information (e.g., diagrams, flow charts, frequency tables, bar graphs, line graphs, stem-and-leaf plots) to draw conclusions and implications based on investigations of an issue or question.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 16, 21, 26, 27, 29

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
2. COMMUNICATION SKILLS
S:SPS4:8:2.1 Use a wide range of tools and a variety of oral, written, and graphic formats to share information and results from observations and investigations.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103

Earth Science Lab Teacher's Handbook: Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103

Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Classroom Resource CD-ROM: Writing Strategy 1-30

Science Process Skills: All students can explore the world by developing skills in…

SPS4 Science Skills for Information, Communication and Media Literary

3. CRITICAL THINKING AND SYSTEMS THINKING

S:SPS4:8:3.1 Execute steps in scientific inquiry to engage in the problem-solving and decision making processes.

Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103

Earth Science Lab Teacher's Handbook: Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103

Physical Science Lab Teacher's Handbook: Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Classroom Resource CD-ROM: Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
3. CRITICAL THINKING AND SYSTEMS THINKING
S:SPS4:8:3.2 Apply new and unusual applications of existing knowledge to new and different situations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
3. CRITICAL THINKING AND SYSTEMS THINKING
S:SPS4:8:3.3 Make sketches, graphs, and diagrams to explain ideas and to demonstrate the interconnections between systems.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery,* pages 93-95 **Classroom Resource CD-ROM:** Writing Strategy 26, 27

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
4. PROBLEM IDENTIFICATION, FORMULATION, AND SOLUTION
S:SPS4:8:4.1 Formulate a scientific question about phenomena, a problem, or an issue and using a broad range of tools and techniques: plan and conduct an inquiry to address the question.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
4. PROBLEM IDENTIFICATION, FORMULATION, AND SOLUTION
S:SPS4:8:4.2 Use evidence collected from observations or other sources and use them to create models and explanations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
5. CREATIVITY AND INTELLECTUAL CURIOSITY
S:SPS4:8:5.1 Use a variety of media tools to make oral and written presentations, which include written notes and descriptions, drawings, photos, and charts to communicate the procedures and results of an investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 1-30

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
6. INTERPERSONAL AND COLLABORATIVE SKILLS
S:SPS4:8:6.1 Work in diverse pair/teams to answer questions, solve problems and make decisions.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
6. INTERPERSONAL AND COLLABORATIVE SKILLS
S:SPS4:8:6.2 Plan and develop team science projects.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
6. INTERPERSONAL AND COLLABORATIVE SKILLS
S:SPS4:8:6.3 Articulate understanding of content through personal interaction and sharing with peers.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
7. SELF DIRECTION
S:SPS4:8:7.1 Keep a journal of observations and investigations, and periodically evaluate entries to assess progress toward achieving the understanding of key ideas.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
8. ACCOUNTABILITY AND ADAPTABILITY
S:SPS4:8:8.1 Develop and execute a plan to collect and record accurate and complete data from various sources to solve a problem or answer a question; and gather and critically analyze data from a variety of sources.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
8. ACCOUNTABILITY AND ADAPTABILITY
S:SPS4:8:8.2 Participate in science competitions, where students are responsible for creating a product or participating in an event.
9. SOCIAL RESPONSIBILITY
S:SPS4:8:9.1 Collaborate with a network of learners by phone, video, virtual classroom platform.
S:SPS4:8:9.2 Participate in simulation or role-playing activities in which students grapple with the ethics of complex issues.
These concepts are not covered at this level.

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:6:1.1 Describe and make predictions about local and regional weather conditions using observation and data collection methods.
Earth Science Lab, Level A: Cards 39, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 **Earth Science Lab, Level B:** Cards 39, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado*, pages 93-95

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:6:1.2 Identify weather patterns by tracking weather related events, such as hurricanes.
Earth Science Lab, Level A: Cards 39, 40, 41, 43, 45, 46, 48, 49, 52, 53, 54, 55, 56, 57, 58 **Earth Science Lab, Level B:** Cards 39, 40, 41, 43, 45, 46, 48, 49, 52, 53, 54, 55, 56, 57, 58 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado*, pages 93-95

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:6:1.3 Explain the composition and structure of the Earth's atmosphere.
Earth Science Lab, Level A: Cards 36, 37, 38, 39, 40, 41 **Earth Science Lab, Level B:** Cards 36, 37, 38, 39, 40, 41

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:6:1.4 Describe weather in terms of temperature, wind speed and direction, precipitation, and cloud cover.
Earth Science Lab, Level A: Cards 39, 41, 43, 44, 45, 46, 48, 49 **Earth Science Lab, Level B:** Cards 39, 41, 43, 44, 45, 46, 48, 49

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:6:1.5 Describe how clouds affect weather and climate, including precipitation, reflecting light from the sun, and retaining heat energy emitted from the Earth's surface.
Earth Science Lab, Level A: Cards37, 38, 42, 48, 49 **Earth Science Lab, Level B:** Cards 37, 38, 42, 48, 49

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
2. COMPOSITION & FEATURES
S:ESS1:6:2.1 Differentiate between renewable and non-renewable resources.
Life Science Lab, Level A: Card 84 **Life Science Lab, Level B:** Card 84 **Earth Science Lab, Level A:** Cards 3, 29, 35, 36, 82, 85, 90 **Earth Science Lab, Level B:** Cards 3, 29, 35, 36, 82, 85, 90 **Physical Science Lab, Level A:** Cards 38, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 38, 46, 47, 48, 49

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
2. COMPOSITION & FEATURES
S:ESS1:6:2.2 Describe and define the different landforms in the Earth's surface, such as coastlines, rivers, mountains, deltas, canyons, etc.
Earth Science Lab, Level A: Cards 12, 13, 14, 17, 21, 88 **Earth Science Lab, Level B:** Cards 12, 13, 14, 17, 21, 88

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
2. COMPOSITION & FEATURES
S:ESS1:6:2.3 Identify and distinguish between various landforms, using a map and/or digital images.
Earth Science Lab, Level A: Cards 12, 13, 14, 17, 18, 19, 20, 21, 88 **Earth Science Lab, Level B:** Cards 12, 13, 14, 17, 18, 19, 20, 21, 88

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
3. FOSSILS
S:ESS1:6:3.1 Recognize that fossils offer evidence relating to changes in life forms and environmental conditions over geologic time.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Life Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making Fossils,* pages 93-95 **Earth Science Lab, Level A:** Cards 33, 34 **Earth Science Lab, Level B:** Cards 33, 34

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
3. FOSSILS
S:ESS1:6:3.2 Identify connections between fossil evidence and geological events, such as changes in atmospheric composition, movement of tectonic plates, and asteroid/comet impact; and develop a means of sequencing this evidence.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 10, 30, 31, 32, 33, 34 **Earth Science Lab, Level B:** Cards 10, 30, 31, 32, 33, 34

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
4. OBSERVATION OF THE EARTH FROM SPACE
S:ESS1:6:4.1 Recognize that images taken of the Earth from space can show its features, and any changes in those features that appear over time.
Earth Science Lab, Level A: Cards 20, 54 **Earth Science Lab, Level B:** Cards 20, 54

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
4. OBSERVATION OF THE EARTH FROM SPACE
S:ESS1:6:4.2 Explain that satellites can be used to view and track storms and Earth events, such as hurricanes and wild fires.
Life Science Lab, Level A: Card 83 **Life Science Lab, Level B:** Card 83 **Earth Science Lab, Level A:** Cards 54, 80 **Earth Science Lab, Level B:** Cards 54, 80

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
5. PROCESSES & RATES OF CHANGE
S:ESS1:6:5.1 Recognize that things change in steady, repetitive, or irregular ways, or sometimes, in more than one way at the same time.
Earth Science Lab, Level A: Cards 9, 10, 11, 12, 13, 14, 15, 17, 22, 24, 25, 26, 27, 28, 32, 38, 39, 40, 41, 43, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 65, 66, 76, 88, 90 **Earth Science Lab, Level B:** Cards 9, 10, 11, 12, 13, 14, 15, 17, 22, 24, 25, 26, 27, 28, 32, 38, 39, 40, 41, 43, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 65, 66, 76, 88, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
5. PROCESSES & RATES OF CHANGE
S:ESS1:6:5.2 Explain how some changes to the Earth's surface happen abruptly, as a result of landslides, earthquakes, and volcanic eruptions; while other changes, happen very slowly as a result of weathering, erosions, and deposition of sediment caused by waves, wind, water, and ice.
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 17, 22, 24, 25, 26, 27, 28 **Earth Science Lab, Level B:** Cards 10, 11, 12, 13, 14, 15, 17, 22, 24, 25, 26, 27, 28 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
5. PROCESSES & RATES OF CHANGE
S:ESS1:6:5.3 Recognize that vibrations in materials set up wavelike disturbances that spread away from the source, as with earthquakes.
Earth Science Lab, Level A: Card 16 **Earth Science Lab, Level B:** Card 16 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 4, *Using Sound Waves,* pages 85-87

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
6. ROCK CYCLE
S:ESS1:6:6.1 Explain how soil is formed from combinations of weathered rock and decomposed plant and animal remains, and that it contains living organisms.
Earth Science Lab, Level A: Cards 23, 29 **Earth Science Lab, Level B:** Cards 23, 29

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
6. ROCK CYCLE
S:ESS1:6:6.2 Identify the components of soil and other factors, such as bacteria, fungi and worms, which influence its texture, fertility, and resistance to erosion.
Life Science Lab, Level A: Card 13 **Life Science Lab, Level B:** Card 13 **Earth Science Lab, Level A:** Cards 23, 29 **Earth Science Lab, Level B:** Cards 23, 29

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
6. ROCK CYCLE
S:ESS1:6:6.3 Describe the properties of soil, such as color, texture, capacity to retain water, and its ability to support plant life.
Earth Science Lab, Level A: Card 23 **Earth Science Lab, Level B:** Card 23

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
7. WATER
S:ESS1:6:7.1 Explain the properties that make water an essential component of the Earth's system, including solvency and its ability to maintain a liquid state at most temperatures.
Earth Science Lab, Level A: Cards 47, 49, 82, 83, 84, 85, 86, 87 **Earth Science Lab, Level B:** Cards 47, 49, 82, 83, 84, 85, 86, 87

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
7. WATER
S:ESS1:6:7.2 Explain that water quality has a direct effect on Earth's life forms.
Life Science Lab, Level A: Card 90 **Life Science Lab, Level B:** Card 90 **Earth Science Lab, Level A:** Card 86 **Earth Science Lab, Level B:** Card 86

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
1. EARTH, SUN AND MOON
S:ESS2:6:1.1 Recognize and describe how the regular and predictable motions of the Earth and Moon explain certain Earth phenomena, such as day and night, the seasons, the year, shadows, and the tides.
Earth Science Lab, Level A: Cards 62, 64, 65, 66 **Earth Science Lab, Level B:** Cards 62, 64, 65, 66

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
1. EARTH, SUN AND MOON
S:ESS2:6:1.2 Recognize that of all the known planets, Earth appears to be somewhat unique; and describe the conditions that exist on Earth that allow it to support life.
Earth Science Lab, Level A: Card 69 **Earth Science Lab, Level B:** Card 69

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
2. ENERGY
S:ESS2:6:2.1 Recognize how the tilt of the Earth's axis and the Earth's revolution around the Sun affect seasons and weather patterns.
Earth Science Lab, Level A: Cards 55, 62 **Earth Science Lab, Level B:** Cards 55, 62

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
2. ENERGY
S:ESS2:6:2.2 Identify and describe seasonal, daylight and weather patterns as they relate to energy.
Earth Science Lab, Level A: Cards 38, 39, 40, 41, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58 **Earth Science Lab, Level B:** Cards 38, 39, 40, 41, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado*, pages 93-95

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Identify the characteristics and movement patterns of the planets in our Solar System and differentiate between them.
Earth Science Lab, Level A: Cards 62, 64, 65, 66, 68, 69, 71, 72, 73 **Earth Science Lab, Level B:** Cards 62, 64, 65, 66, 68, 69, 71, 72, 73

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Explain the effects of gravitational force on the planets and their moons.
Earth Science Lab, Level A: Cards 63, 66, 68 **Earth Science Lab, Level B:** Cards 63, 66, 68 **Physical Science Lab, Level A:** Cards 48, 59 **Physical Science Lab, Level B:** Cards 48, 59

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Explain why Earth and our Solar System appear to be somewhat unique, while acknowledging recent evidence that suggests similar systems exist in the universe.
Earth Science Lab, Level A: Cards 68, 69, 77, 79, 80, 81 **Earth Science Lab, Level B:** Cards 68, 69, 77, 79, 80, 81

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Compare and contrast planets based on data provided about size, composition, location, orbital movement, atmosphere, or surface features (includes moons).
Earth Science Lab, Level A: Cards 69, 70, 71, 72 **Earth Science Lab, Level B:** Cards 69, 70, 71, 72

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Explain how gravitational force affects objects in the Solar System (e.g., moons, tides, orbits, satellites).
Earth Science Lab, Level A: Cards 63, 66, 68, 80 **Earth Science Lab, Level B:** Cards 63, 66, 68, 80 **Physical Science Lab, Level A:** Cards 48, 59 **Physical Science Lab, Level B:** Cards 48, 59

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
4. VIEW FROM EARTH
S:ESS2:6:4.1 Explain the historical perspective of planetary exploration and man's achievements in space, beginning with Russia's Sputnik mission in 1957.
Earth Science Lab, Level A: Cards 70, 79, 80, 81 **Earth Science Lab, Level B:** Cards 70, 79, 80, 81

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
4. VIEW FROM EARTH
S:ESS2:6:4.2 Describe man's perception of the constellations throughout history; and explain how he has used them to his advantage, including navigational purposes and to explain historical events.
Earth Science Lab, Level A: Card 75 **Earth Science Lab, Level B:** Card 75

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
1. SIZE AND SCALE
S:ESS3:8:1.1 Define an astronomical unit as the distance from the Earth to the Sun.
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
1. SIZE AND SCALE
S:ESS3:8:1.2 Explain that special units of measure, such as light years and astronomical units, are used to calculate distances in space.
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
2. STARS AND GALAXIES
S:ESS3:8:2.1 Describe objects such as asteroids, comets, and meteors in terms of their characteristics and movement patterns.
Earth Science Lab, Level A: Card 73 **Earth Science Lab, Level B:** Card 73

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
3. UNIVERSE
S:ESS3:8:3.1 Describe the universe as being comprised of billions of galaxies, each containing many billions of stars; and explain that there are vast distances separating these galaxies and stars from one another and from the Earth.
Earth Science Lab, Level A: Cards 74, 75, 76, 77 **Earth Science Lab, Level B:** Cards 74, 75, 76, 77

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:ESS4:6:1.1 Understand that technology is used to design tools that improve our ability to measure and observe the world.
Life Science Lab, Level A: Cards 70, 79, 80, 81 **Life Science Lab, Level B:** Cards 70, 79, 80, 81

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:ESS4:6:2.1 Recognize that satellites and Doppler radar can be used to observe or predict the weather.
Earth Science Lab, Level A: Cards 51, 54 **Earth Science Lab, Level B:** Cards 51, 54

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:ESS4:6:2.2 Employ knowledge of basic weather symbols to read and interpret weather and topographic maps.
Earth Science Lab, Level A: Cards 18, 19, 20, 50 **Earth Science Lab, Level B:** Cards 18, 19, 20, 50 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:ESS4:6:2.3 Read and interpret data from barometers, sling psychrometers, and anemometers.
Earth Science Lab, Level A: Cards 39, 43, 44, 51 **Earth Science Lab, Level B:** Cards 39, 43, 44, 51

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:6:3.1 Provide examples of products that man has developed which have humans do things that they could not do otherwise; and identify the natural materials used to produce these products.
Life Science Lab, Level A: Cards 5, 59, 83 **Life Science Lab, Level B:** Cards 5, 59, 83 **Earth Science Lab, Level A:** Cards 3, 35, 51, 54, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 3, 35, 51, 54, 79, 80, 81, 88 **Physical Science Lab, Level A:** Cards 35, 63, 64, 70, 72, 73, 76, 81, 84, 90

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:6:3.2 Identify the most appropriate materials for a given design task with requirements for specific properties, such as weight, strength, hardness, and flexibility.
Earth Science Lab, Level A: Cards 18, 19, 20, 29, 35, 69, 71, 74, 87 **Earth Science Lab, Level B:** Cards 18, 19, 20, 29, 35, 69, 71, 74, 87

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:6:3.3 Provide examples of how to reduce waste through conservation, recycling, and reuse.
Life Science Lab, Level A: Cards 84, 85, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 85, 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 29, 35, 37, 42, 59, 60, 61, 85, 86, 90 **Earth Science Lab, Level B:** Cards 29, 35, 37, 42, 59, 60, 61, 85, 86, 90 **Physical Science Lab, Level A:** Card 49 **Physical Science Lab, Level B:** Card 49

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
4. CAREER TECHNICAL EDUCATION CONNECTIONS
S:ESS4)-6.4.1 Understand that some form of science is used in most jobs/careers and that some jobs/careers specifically require knowledge of Earth science.
This concept is not covered at this level.

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
1. CLASSIFICATION
S:LS1:6:1.1 Identify ways in which living things can be grouped and organized, such as taxonomic groups of plants, animals and fungi.
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
1. CLASSIFICATION
S:LS1:6:1.2 Categorize organisms into kingdoms that are currently recognized, according to shared characteristics.
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:6:2.1 Recognize that all living things are composed of cells, and explain that while many organisms are single celled, such as yeast, others, including humans, are multicellular.
Life Science Lab, Level A: Cards 1, 5, 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 1, 5, 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:6:2.2 Explain that the way in which cells function is similar in all organisms.
Life Science Lab, Level A: Cards 8, 9, 10 **Life Science Lab, Level B:** Cards 8, 9, 10

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:6:2.3 Recognize that cells use energy obtained from food, to conduct the functions necessary to sustain life, such as cell growth.
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:6:2.4 Recognize and describe the hierarchical organization of living systems, including cells, tissues, organs, organ systems, whole organisms, and ecosystems.
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 44, 71 **Life Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 44, 71 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:6:2.5 Explain that multicellular organisms have specialized cells, tissues, organs, and organ systems that perform certain necessary functions, including digestion, respiration, reproduction, circulation, excretion, movement, control and coordination and protection from disease.
Life Science Lab, Level A: Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:6:2.6 Recognize that the human cells found in tissues and organs are similar to those of other animals, but somewhat different from cells found in plants.
Life Science Lab, Level A: Cards 6, 7, 44 **Life Science Lab, Level B:** Cards 6, 7, 44 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:6:3.1 Explain that cells repeatedly divide to make more cells for growth and repair.
Life Science Lab, Level A: Cards 10, 60 **Life Science Lab, Level B:** Cards 10, 60

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:6:3.2 Explain that the same genetic information is copied in each cell of a new organism.
Life Science Lab, Level A: Cards 10, 60, 61 **Life Science Lab, Level B:** Cards 10, 60, 61

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:6:3.3 Explain that all living things reproduce in order to continue their species.
Life Science Lab, Level A: Cards 1, 60, 61 **Life Science Lab, Level B:** Cards 1, 60, 61

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
1. ENVIRONEMNT
S:LS2:6:1.1 Identify and describe the factors that influence the number and kinds of organisms an ecosystem can support, including the resources that are available, the differences in temperature, the composition of the soil, any disease, the threat of predators, and competition from other organisms.
Life Science Lab, Level A: Cards 70, 71, 72, 73, 74, 75, 76 **Life Science Lab, Level B:** Cards 70, 71, 72, 73, 74, 75, 76

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
1. ENVIRONEMNT
S:LS2:6:1.2 Explain that most microorganisms do not cause disease and that many are beneficial to the environment.
Life Science Lab, Level A: Cards 12, 13, 14, 15 **Life Science Lab, Level B:** Cards 12, 13, 14, 15

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
2. FLOW OF ENERGY
S:LS2:6:2.1 Describe how energy is transferred in an ecosystem through food webs; and explain the roles and relationships between producers, consumers, and decomposers.
Life Science Lab, Level A: Cards 13, 76, 77 **Life Science Lab, Level B:** Cards 13, 76, 77

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
2. FLOW OF ENERGY
S:LS2:6:2.2 Recognize that one of the most general distinctions among organisms is between plants, which use sunlight to make their own food, and animals, which consume energy-rich foods.
Life Science Lab, Level A: Cards 6, 7, 16, 17, 76, 77 **Life Science Lab, Level B:** Cards 6, 7, 16, 17, 76, 77 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
2. FLOW OF ENERGY
S:LS2:6:2.3 Describe the process of photosynthesis and explain that plants can use the food they make immediately or store it for later use.
Life Science Lab, Level A: Cards 16, 17, 76, 77 **Life Science Lab, Level B:** Cards 16, 17, 76, 77

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
2. FLOW OF ENERGY
S:LS2:6:2.4 Recognize that energy, in the form of heat, is usually a byproduct when one form of energy is converted to another, such as when living organisms transform stored energy to motion.
Life Science Lab, Level A: Cards 1, 16, 17, 76, 77 **Life Science Lab, Level B:** Cards 1, 16, 17, 76, 77

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:6:3.1 Define a population as all individuals of a species that exist together at a given place and time; and explain that all populations living together in a community, along with the physical factors with which they interact, compose an ecosystem.
Life Science Lab, Level A: Cards 70, 71, 72 **Life Science Lab, Level B:** Cards 70, 71, 72

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:6:3.2 Using food webs, identify and describe the ways in which organisms interact and depend on one another in an ecosystem, using food webs.
Life Science Lab, Level A: Cards 73, 74, 75, 76 **Life Science Lab, Level B:** Cards 73, 74, 75, 76 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:6:3.3 Explain how insects and various other organisms depend on dead plant and animal matter for food; and describe how this process contributes to the system.
Life Science Lab, Level A: Cards 12, 13, 29, 32, 76 **Life Science Lab, Level B:** Cards 12, 113, 29, 32, 76

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
1. CHANGE
S:LS3:6:1.1 Provide examples of how all organisms, including humans, impact their environment; and explain how some changes can be detrimental to other organisms.
Life Science Lab, Level A: Cards 13, 17, 22, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 13, 17, 22, 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
1. CHANGE
S:LS3:6:1.2 Explain how changes in environmental conditions can affect the survival of individual organisms and the entire species.
Life Science Lab, Level A: Cards 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
2. EVIDENCE OF EVOLUTION
S:LS3:6:2.1 Describe the fundamental concepts related to biological evolution, such as biological adaptations and the diversity of species.
Life Science Lab, Level A: Cards 23, 41, 65, 66, 67 **Life Science Lab, Level B:** Cards 23, 41, 65, 66, 67

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:6:3.1 Recognize that there are genetic variations among individuals in groups of organisms and provide examples of how these variations affect the survival of an organism.
Life Science Lab, Level A: Cards 64, 65, 66, 67 **Life Science Lab, Level B:** Cards 64, 65, 66, 67

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:6:3.2 Recognize that only organisms that are able to reproduce can pass on their genetic information to the next generation.
Life Science Lab, Level A: Cards 58, 60, 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 58, 60, 61, 62, 63, 64

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
1. BEHAVIOR
S:LS4:6:1.1 Recognizes that learning requires more than just storage and retrieval of information and that prior knowledge needs to be tapped in order to make sense out of new experiences or information.
S:LS4:6:1.2 Explain that people can learn about others from direct experience, from the media, and from listening to others talk about their life and work.
S:LS4:6:1.3 Provide examples of how humans make judgments about new situations based on memories of past experiences.
These concepts are not covered at this level.

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:6:2.1 Explain that the human body has ways to defend itself against disease causing organisms and describe how defenders, including tears, saliva, the skin, some blood cells, and stomach secretions support the defense process.
Life Science Lab, Level A: Cards 45, 48, 49, 50, 56, 57 **Life Science Lab, Level B:** Cards 45, 48, 49, 50, 56, 57

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:6:2.2 Recognize that there are some diseases that human beings can only get once; and explain how many diseases can be prevented by vaccination.
Life Science Lab, Level A: Cards 45, 49 **Life Science Lab, Level B:** Cards 45, 49

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:6:2.3 Explain how vaccines induce the body to build immunity to a disease without actually causing the disease itself.
Life Science Lab, Level A: Card 49 **Life Science Lab, Level B:** Card 49

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:6:2.4 Recognize a healthy body cannot fight all germs that invade it; and explain how some germs interfere with the body's defenses.
Life Science Lab, Level A: Cards 45, 47, 49, 51, 53, 55, 57 **Life Science Lab, Level B:** Cards 45, 47, 49, 51, 53, 55, 57

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
3. HUMAN IDENTITY
S:LS4:6:3.1 Recognize that the length and quality of human life are influenced by many factors, including sanitation, diet, medical care, gender, genes, environmental conditions, and personal health behaviors.
Life Science Lab, Level A: Cards 45, 46, 47, 49, 51, 57 **Life Science Lab, Level B:** Cards 45, 46, 47, 49, 51, 57

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:LS5:6:1.1 Recognize that an agricultural system is designed to maximize the use of all the elements in the system, including using plants for food, oxygen, for the filtration of air and water, and for making compost.
This concept is not covered at this level.

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:LS5:6:2.1 Demonstrate the appropriate use of tools, such as thermometers, probes, microscopes and computers to gather, analyze, and interpret data in the life sciences.
Life Science Lab, Level A: Cards 5, 59, 64, 69 **Life Science Lab, Level B:** Cards 5, 59, 64, 69

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:6:3.1 Provide examples of early health care technology that helped to extend the life expectancy of humans, such as the discovery of penicillin and sterilization of surgical instruments.
Life Science Lab, Level A: Cards 45, 46, 49 **Life Science Lab, Level B:** Cards 45, 46, 49

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:6:3.2 Differentiate between vaccines, which help prevent diseases from developing and spreading, and medicines, which relieve symptoms or cure diseases.
Life Science Lab, Level A: Card 49 **Life Science Lab, Level B:** Card 49

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:6:3.3 Recognize that the quality of personal health can be influenced by society and technology.
Life Science Lab, Level A: Cards 45, 46, 49 **Life Science Lab, Level B:** Cards 45, 46, 49

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:6:3.4 Identify and describe some of the processes and systems used to grow food in New Hampshire, including irrigation, pest control and harvesting.
This concept is not covered at this level.

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
CAREER TECHNICAL EDUCATION CONNECTIONS
S:LS5:6:4.1 Understand that some form of science is used in most jobs/careers specifically require knowledge of life science.
This concept is not covered at this level.

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:6:1.1 Recognize that all matter is composed of minute particles called atoms; and explain that all substances are composed of atoms, each arranged into different groupings.
Physical Science Lab, Level A: Cards 3, 4, 5, 10, 11 **Physical Science Lab, Level B:** Cards 3, 4, 5, 10, 11

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:6:1.2 Identify elements as substances that contain only one kind of atom; and explain that elements do not break down by normal laboratory reactions, such as heating, exposure to electric current, and reaction to acid.
Physical Science Lab, Level A: Cards 10, 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 10, 17, 18, 19, 20

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:6:1.3 Recognize that over one hundred elements exist, and identify the periodic table as a tool for organizing the information about them.
Physical Science Lab, Level A: Cards 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:6:2.1 Identify elements according to their common properties, such as highly reactive metals, less reactive metals, highly reactive non-metals and almost non-reactive gases.
Physical Science Lab, Level A: Cards 17, 18, 19, 20 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:6:2.2 Identify substances by their physical and chemical properties, such as magnetism, conductivity, density, solubility, boiling and melting points.
Physical Science Lab, Level A: Cards 1, 2, 5, 68, 74 **Physical Science Lab, Level B:** Cards 1, 2, 5, 68, 74

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:6:2.3 Differentiate between weight and mass.
Physical Science Lab, Level A: Cards 2, 57 **Physical Science Lab, Level B:** Cards 2, 57

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:6:2.4 Identify energy as a property of many substances.
Physical Science Lab, Level A: Cards 34, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 77, 78, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 34, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 77, 78, 79, 80, 82, 83

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
1. CHANGE
S:PS2:6:1.1 Differentiate between a physical change, such as melting, and a chemical change, such as rusting.
Physical Science Lab, Level A: Cards 8, 9, 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 8, 9, 27, 28, 29, 30

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
2. CONSERVATION
S:PS2:6:2.1 Describe how mass remains constant in a closed system and provide examples relating to both physical and chemical change.
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:6:3.1 Explain that the pitch of a sound is dependent on the frequency of the vibration producing it.
Physical Science Lab, Level A: Card 80 **Physical Science Lab, Level B:** Card 80

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:6:3.2 Explain that sound vibrations move at different speeds, have different wavelengths; and establish wave-like disturbances that emanate from the source.
Physical Science Lab, Level A: Cards 77, 78, 79, 80, 81 **Physical Science Lab, Level B:** Cards 77, 78, 79, 80, 81 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound,* pages 97-99

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:6:3.3 Recognize that energy, in the form of heat, is usually a by-product when one form of energy is changed to another, such as when machines convert storied energy to motion.
Physical Science Lab, Level A: Cards 28, 34, 38, 42, 45, 46, 66, 67, 71, 85 **Physical Science Lab, Level B:** Cards 28, 34, 38, 42, 45, 46, 66, 67, 71, 85

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:6:3.4 Explain that heat energy moves from warmer materials or regions to cooler ones through conduction, convection, and radiation.
Physical Science Lab, Level A: Cards 42, 43, 44 **Physical Science Lab, Level B:** Cards 42, 43, 44

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:6:3.5 Explain how electrical circuits can be used to transfer energy in order to produce heat, light, sound, and chemical changes.
Physical Science Lab, Level A: Cards 68, 69, 70, 71, 72, 73 **Physical Science Lab, Level B:** Cards 68, 69, 70, 71, 72, 73 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery,* pages 93-95

Physical Science
PS3-The motion of an object is affected by force.
1. FORCES
S:PS3:6:1.1 Recognize that just as electric currents can produce magnetic forces, magnets can cause electric currents.
Physical Science Lab, Level A: Cards 74, 75, 76 **Physical Science Lab, Level B:** Cards 74, 75, 76

Physical Science
PS3-The motion of an object is affected by force.
1. FORCES
S:PS3:6:1.2 Explain that when a force is applied to an object, it reacts in one of three ways: the object either speeds up, slows down, or goes in a different direction.
Physical Science Lab, Level A: Cards 54, 55, 56, 58 **Physical Science Lab, Level B:** Cards 54, 55, 56, 58 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction,* pages 89-91

Physical Science
PS3-The motion of an object is affected by force.
1. FORCES
S:PS3:6:1.3 Describe the relationship between the strength of a force on an object and the resulting effect, such as the greater the force, the greater the change in motion.
Physical Science Lab, Level A: Cards 54, 55, 56 **Physical Science Lab, Level B:** Cards 54, 55, 56

Physical Science
PS3-The motion of an object is affected by force.
2. MOTION
S:PS3:6:2.1 Explain how balanced and unbalanced forces are related to an object's motion.
Physical Science Lab, Level A: Cards 54, 55, 56, 58, 59 **Physical Science Lab, Level B:** Cards 54, 55, 56, 58, 59

Physical Science
PS3-The motion of an object is affected by force.
2. MOTION
S:PS3:6:2.2 Explain that an object's motion can be tracked and measured over time and that the data can be used to describe its position.
Physical Science Lab, Level A: Cards 50, 51, 52 **Physical Science Lab, Level B:** Cards 50, 51, 52

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:PS4:6:1.1 Understand that scientific principles are used in the design of technology.
This concept is not covered at this level.

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:PS4:6:2.1 Recognize that manufacturing processes use a variety of tools and machines to separate, form, combine, and condition natural and synthetic materials.
This concept is not covered at this level.

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL): ENERY, POWER, AND TRANSPORTATION
S:PS4:6:3.1 Explain how a battery changes chemical energy into electrical energy.
Physical Science Lab, Level A: Card 70 **Physical Science Lab, Level B:** Card 70 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL): ENERY, POWER, AND TRANSPORTATION
S:PS4:6:3.2 Demonstrate how to produce a magnetic force with an electric current, such as an electromagnet, and how to produce an electric current with a magnet, such as a generator.
Physical Science Lab, Level A: Card 76 **Physical Science Lab, Level B:** Card 76

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL): ENERY, POWER, AND TRANSPORTATION
S:PS4:6:3.3 Provide an example to show that manufacturing processes involve changing natural materials into finished products through a series of processes that involve physical and/or chemical changes.
Physical Science Lab, Level A: Card 35 **Physical Science Lab, Level B:** Card 35

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
4. CAREER TECHNICAL EDUCATION CONNECTIONS
S:PS4:6:4.1 Understand that some form of science is used in most jobs/careers and that some jobs/careers specifically require knowledge of physical science.
This concept is not covered at this level.

SRA Life, Earth, and Physical Science Laboratories
correlation to
New Hampshire Science Framework
Grades 7-8

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.1 Use appropriate tools to accurately collect and record both qualitative and quantitative data gathered through observations (e.g., temperature probes, electronic balances, spring scales, microscopes, stop watches).
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.2 Determine the degree of accuracy that can be obtained using a given instrument.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.3 Investigate similarities and differences noted when making observations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.4 Construct and use a dichotomous key to classify a given set of objects or organisms.
Life Science Lab, Level A: Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79 **Earth Science Lab, Level A:** Cards 4, 6, 7, 8, 75 **Earth Science Lab, Level B:** Cards 4, 6, 7, 8, 75 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75 **Physical Science Lab, Level A:** Cards 14, 15, 17, 18, 19, 2 0 **Physical Science Lab, Level B:** Cards 14, 15, 17, 18, 19, 20 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.5 Evaluate methods of classification for a specific purpose.
Life Science Lab, Level A: Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79 **Earth Science Lab, Level A:** Cards 4, 6, 7, 8, 75 **Earth Science Lab, Level B:** Cards 4, 6, 7, 8, 75 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75 **Physical Science Lab, Level A:** Cards 14, 15, 17, 18, 19, 2 0 **Physical Science Lab, Level B:** Cards 14, 15, 17, 18, 19, 20 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.6 Rephrase questions so that they can be tested or investigated using scientific methodologies.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 8, 15

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
1. MAKING OBSERVATIONS AND ASKING QUESTIONS
S:SPS1:8:1.7 Ask questions about relationships between and among observable variables.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
2. DESIGNING SCIENTIFIC INVESTIGATIONS
S:SPS1:8:2.1 Identify the manipulated, responding and controlled variables in an experiment.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
2. DESIGNING SCIENTIFIC INVESTIGATIONS
S:SPS1:8:2.2 Design a controlled experiment, identifying and controlling the major variables.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
2. DESIGNING SCIENTIFIC INVESTIGATIONS
S:SPS1:8:2.3 Identify flaws or omissions in the design of simple experiments.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
3. CONDUCTING SCIENTIFIC INVESTIGATIONS
S:SPS1:8:3.1 Use appropriate laboratory techniques to carry out student- or teacher-developed procedures or experiments.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
3. CONDUCTING SCIENTIFIC INVESTIGATIONS
S:SPS1:8:3.2 Use appropriate tools to gather data as part of an investigation (e.g., ruler, meter stick, thermometer, spring scale, graduated cylinder, calipers, balance, probes, microscopes).
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
3. CONDUCTING SCIENTIFIC INVESTIGATIONS
S:SPS1:8:3.3 Follow the teacher's instructions in performing experiments, following all appropriate safety rules and procedures.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:8:4.1 Use appropriate tools (including computer hardware and software) to collect, organize, represent, analyze and explain data.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:8:4.2 Identify sources of error in experiments.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
4. REPRESENTING AND UNDERSTANDING RESULTS OF INVESTIGATIONS
S:SPS1:8:4.3 Draw appropriate conclusions regarding the scientific question under investigation, based on the data collected.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
5. EVALUATING SCIENTIFIC EXPLANATIONS
S:SPS1:8:5.1 Determine if the results of an experiment support or refute the scientific idea tested.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
5. EVALUATING SCIENTIFIC EXPLANATIONS
S:SPS1:8:5.2 Evaluate whether the information and data collected allows an evaluation of the scientific idea under investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS1: Scientific Inquiry and Critical Thinking Skills (INQ)
5. EVALUATING SCIENTIFIC EXPLANATIONS
S:SPS1:8:5.3 Determine what additional information would be helpful in answering the scientific question.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:8:1.1 Describe how scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:8:1.2 Realize that when similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, and this often requires more investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:8:1.3 Realize that knowledge, based on science, is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.
Life Science Lab, Level A: Cards 2, 5, 49, 59, 64, 69, 83 **Life Science Lab, Level B:** Cards 2, 5, 49, 59, 64, 69, 83 **Earth Science Lab, Level A:** Cards 10, 16, 20, 30, 31, 54, 68, 72, 78, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 10, 16, 20, 30, 31, 54, 68, 72, 78, 79, 80, 81, 88 **Physical Science Lab, Level A:** Cards 3, 17, 33, 35, 73, 81, 84, 90 **Physical Science Lab, Level B:** Cards 3, 17, 33, 35, 73, 81, 84, 90

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:8:1.4 Provide examples that show how some scientific knowledge is very old and yet is till applicable today.
Life Science Lab, Level A: Cards 2, 5, 59 **Life Science Lab, Level B:** Cards 2, 5, 59 **Earth Science Lab, Level A:** Cards 30, 68, 69 **Earth Science Lab, Level B:** Cards 30, 68, 69 **Physical Science Lab, Level A:** Cards 3, 55 **Physical Science Lab, Level B:** Cards 3, 55

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
1. NATURE OF SCIENCE (NOS)
S:SPS2:8:1.5 Recognize that some matters cannot be examined usefully in a scientific way, such as those matters that by their nature cannot be tested objectively and those that are essentially matters of morality.
S:SPS2:8:1.6 Give examples of how science can sometimes be used to inform ethical decisions by identifying the likely consequences of particular actions but cannot be used to establish that some action is either moral or immoral.
These concepts are not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:8:2.1 Understand that any system is usually connected to other systems, both internally and externally, thus a system may be thought of as containing subsystems and as being a subsystem of a larger system.
Life Science Lab, Level A: Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:8:2.2 Analyze how the output of one part of a system, which can include materials, energy or information, can become the input into other parts.
Life Science Lab, Level A: Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:8:2.3 Realize that as the complexity of any system increases, gaining an understanding of it depends on increasingly on summaries (such as averages and ranges) and on descriptions of typical examples of that system.
Life Science Lab, Level A: Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab, Level A:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab, Level B:** Cards 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:8:2.4 Explain that when energy is transformed or converted from one type to another, there is no net loss of energy.
Physical Science Lab, Level A: Cards 34, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 77, 78, 79, 82, 83 **Physical Science Lab, Level B:** Cards 34, 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 74, 77, 78, 79, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
2. SYSTEMS AND ENERGY (SAE)
S:SPS2:8:2.5 Describe how objects and substances can store energy (e.g., a battery, food, gasoline).
Life Science Lab, Level A: Cards 22, 46 **Life Science Lab, Level B:** Cards 22, 46 **Earth Science Lab, Level A:** Card 35 **Earth Science Lab, Level B:** Card 35 **Physical Science Lab, Level A:** Cards 36, 38, 40 **Physical Science Lab, Level B:** Cards 36, 38, 40 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
3. MODELS AND SCALE (MAS)
S:SPS2:8:3.1 Demonstrate how mathematical models can be displayed on a computer and then modified to see what happens.
This concept is not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
3. MODELS AND SCALE (MAS)
S:SPS2:8:3.2 Know that different models can be used to represent the same thing; what kind of model is used and how complex it should be depends on its purpose; and the usefulness of a model is one of the instances in which intuition and creativity come into play in science, mathematics, and engineering.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 20

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
3. MODELS AND SCALE (MAS)
S:SPS2:8:3.3 Discover how properties of systems that depend on volume, such as capacity and weight change, change out of proportion to properties that depend on area, such as strength or surface processes.
Physical Science Lab, Level A: Cards 2, 60, 61 **Physical Science Lab, Level B:** Cards 2, 60, 61

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
3. MODELS AND SCALE (MAS)
S:SPS2:8:3.4 Recognize that as the complexity of any system increases, gaining an understanding increasingly depends on summaries (such as averages and ranges) and on descriptions of typical examples of that system.
This concept is not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2:8:4.1 Analyze how physical and biological systems tend to change until they become stable and then stay that way unless their surroundings change.
Life Science Lab, Level A: Cards 47, 48, 51, 55, 57, 72, 80 **Life Science Lab, Level B:** Cards 47, 48, 51, 55, 57, 72, 80 **Earth Science Lab, Level A:** Cards 15, 17, 38, 84 **Earth Science Lab, Level B:** Cards 15, 17, 38, 84 **Physical Science Lab, Level A:** Cards 8, 9, 13, 43, 44, 53 **Physical Science Lab, Level B:** Cards 8, 9, 13, 43, 44, 53

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2:8.4.2 Recognize how many systems contain feedback mechanisms that serve to keep changes within specific limits.
Life Science Lab, Level A: Cards 47, 48, 51, 55, 57 **Life Science Lab, Level B:** Cards 47, 48, 51, 55, 57 **Physical Science Lab, Level A:** Cards 29, 69, 71 **Physical Science Lab, Level B:** Cards 29, 69, 71

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2:8:4.3 Realize that symbolic equations can be used to summarize how the quantity of something changes over time or in response to other changes.
Physical Science Lab, Level A: Cards 27, 28, 29 **Physical Science Lab, Level B:** Cards 27, 28, 29

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2:8:4.4 Explain how symmetry (or the lack of it) may determine properties of many objects, from molecules and crystals to organisms and designed structures.
Life Science Lab, Level A: Card 26 **Life Science Lab, Level B:** Card 26 **Physical Science Lab, Level A:** Card 4 **Physical Science Lab, Level B:** Card 4

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
4. PATTERNS OF CHANGE (POC)
S:SPS2:8:4.5 Realize that cycles, such as the seasons or body temperature, can be described by their cycle length or frequency, what their highest and lowest values are, and when those values occur; different cycles range from many thousand years down to less than a billionth of a second.
Life Science Lab, Level A: Card 47 **Life Science Lab, Level B:** Card 47 **Earth Science Lab, Level A:** Cards 31, 32, 41, 47, 62, 64, 65, 66, 76 **Earth Science Lab, Level B:** Cards 31, 32, 41, 47, 62, 64, 65, 66, 76

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
5. FORM AND FUNCTION (FAF)
S:SPS2:8:5.1 Describe the relationship between structure and function of organ systems in plants and animals.
Life Science Lab, Level A: Cards 6, 7, 12, 14, 15, 16, 18, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 6, 7, 12, 14, 15, 16, 18, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
5. FORM AND FUNCTION (FAF)
S:SPS2:8:5.2 Describe the structure and function of various organ systems (i.e., digestion, respiration, circulatory, nervous, protection and support) and how these systems contribute to homeostasis of the organisms.
Life Science Lab, Level A: Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Science Process Skills: All students can explore the world by developing skills in…
SPS2: Unifying Concepts of Science
5. FORM AND FUNCTION (FAF)
S:SPS2:8:5.3 Compare the structure and function of organ systems in one organism to the structure and function in another organism.
Life Science Lab, Level A: Card 68 **Life Science Lab, Level B:** Card 68

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:8:1.1 Work effectively within a cooperative group setting, accepting and executing assigned roles and responsibilities.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:8:1.2 Work collectively within a group toward a common goal.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:8:1.3 Demonstrate respect of one another's abilities and contributions to the group.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
1. COLLABORATION IN SCIENTIFIC ENDEAVORS
S:SPS3:8:1.4 Demonstrate an understanding of the ethics involved in scientific inquiry.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:8:2.1 Locate and collect reliable information about the environment and environmental topics using a variety of methods and sources.
Classroom Resource CD-ROM: Writing Strategy 9, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:8:2.2 Judge the weaknesses and strengths of the information they are using.
Classroom Resource CD-ROM: Writing Strategy 9, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:8:2.3 Explore the uses and limitation of models.
Life Science Lab Teacher's Handbook: Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 20

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
2. COMMON ENVIRONMENTAL ISSUES, NATURAL RESOURCES MANAGEMENT AND CONSERVATION
S:SPS3:8:2.4 Synthesize observations and findings into coherent explanations about natural resources and the environment.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS3: Personal, Social, and Technological Perspectives
3. SCIENCE AND TECHNOLOGY; TECHNOLOGICAL DESIGN AND APPL:ICATION
S:SPS3:8:3.1 Design a product or solution to a problem.
S:SPS3:8:3.2 Build a product that has been designed in class.
S:SPS3:8:3.3 Evaluate student-developed products according to established criteria and recommend improvements or modifications.
These concepts are not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
1. INFORMATION AND MEDIA LITERARY
S:SPS4:8:1.1 Use a variety of information access tools to locate, gather, and organize potential sources of scientific information to answer questions.
Life Science Lab Teacher's Handbook: Hands-On Activity 2, *Culturing Bacteria,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 9, 25

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
1. INFORMATION AND MEDIA LITERARY
S:SPS4:8:1.2 Collect real-time observations and data, synthesizing and building upon existing information (e.g., online databases, NOAA, EPA, USGS) to solve problems.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
1. INFORMATION AND MEDIA LITERARY
S:SPS4:8:1.3 Use appropriate tools to analyze and synthesize information (e.g., diagrams, flow charts, frequency tables, bar graphs, line graphs, stem-and-leaf plots) to draw conclusions and implications based on investigations of an issue or question.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 16, 21, 26, 27, 29

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
2. COMMUNICATION SKILLS
S:SPS4:8:2.1 Use a wide range of tools and a variety of oral, written, and graphic formats to share information and results from observations and investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
3. CRITICAL THINKING AND SYSTEMS THINKING
S:SPS4:8:3.1 Execute steps in scientific inquiry to engage in the problem-solving and decision making processes.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
3. CRITICAL THINKING AND SYSTEMS THINKING
S:SPS4:8:3.2 Apply new and unusual applications of existing knowledge to new and different situations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
3. CRITICAL THINKING AND SYSTEMS THINKING
S:SPS4:8:3.3 Make sketches, graphs, and diagrams to explain ideas and to demonstrate the interconnections between systems.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 5, *Making Fossils,* pages 93-95 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 27

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
4. PROBLEM IDENTIFICATION, FORMULATION, AND SOLUTION
S:SPS4:8:4.1 Formulate a scientific question about phenomena, a problem, or an issue and using a broad range of tools and techniques: plan and conduct an inquiry to address the question.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
4. PROBLEM IDENTIFICATION, FORMULATION, AND SOLUTION
S:SPS4:8:4.2 Use evidence collected from observations or other sources and use them to create models and explanations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
5. CREATIVITY AND INTELLECTUAL CURIOSITY
S:SPS4:8:5.1 Use a variety of media tools to make oral and written presentations, which include written notes and descriptions, drawings, photos, and charts to communicate the procedures and results of an investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 1-30

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
6. INTERPERSONAL AND COLLABORATIVE SKILLS
S:SPS4:8:6.1 Work in diverse pair/teams to answer questions, solve problems and make decisions.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
6. INTERPERSONAL AND COLLABORATIVE SKILLS
S:SPS4:8:6.2 Plan and develop team science projects.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
6. INTERPERSONAL AND COLLABORATIVE SKILLS
S:SPS4:8:6.3 Articulate understanding of content through personal interaction and sharing with peers.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
7. SELF DIRECTION
S:SPS4:8:7.1 Keep a journal of observations and investigations, and periodically evaluate entries to assess progress toward achieving the understanding of key ideas.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 5, 11

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
8. ACCOUNTABILITY AND ADAPTABILITY
S:SPS4:8:8.1 Develop and execute a plan to collect and record accurate and complete data from various sources to solve a problem or answer a question; and gather and critically analyze data from a variety of sources.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
8. ACCOUNTABILITY AND ADAPTABILITY
S:SPS4:8:8.2 Participate in science competitions, where students are responsible for creating a product or participating in an event.
This concept is not covered at this level.

Science Process Skills: All students can explore the world by developing skills in…
SPS4 Science Skills for Information, Communication and Media Literary
9. SOCIAL RESPONSIBILITY
S:SPS4:8:9.1 Collaborate with a network of learners by phone, video, virtual classroom platform.
S:SPS4:8:9.2 Participate in simulation or role-playing activities in which students grapple with the ethics of complex issues.
These concepts are not covered at this level.

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:8:1.1 Identify and describe the processes of the water cycle and explain their effects on climatic patterns.
Earth Science Lab, Level A: Cards 47, 48, 49, 54, 55, 56, 57, 58 **Earth Science Lab, Level B:** Cards 47, 48, 49, 54, 55, 56, 57, 58

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
1. ATMOSPHERE, CLIMATE, & WEATHER
S:ESS1:8:1.2 Identify and describe the impact certain factors have on the Earth's climate, including changes in the oceans' temperature, changes in the composition of the atmosphere, and geological shifts due to events such as volcanic eruptions and glacial movements.
Earth Science Lab, Level A: Cards 17, 40, 41, 55, 56, 57, 58, 59, 60, 61 **Earth Science Lab, Level B:** Cards 17, 40, 41, 55, 56, 57, 58, 59, 50, 61

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
2. COMPOSITION & FEATURES
S:ESS1:8:2.1 Describe the layers of the Earth, including the core, mantle, lithosphere, hydrosphere, and atmosphere.
Earth Science Lab, Level A: Cards 1, 2, 36, 37, 82, 83, 84 **Earth Science Lab, Level B:** Cards 1, 2, 36, 37, 82, 83, 84

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
2. COMPOSITION & FEATURES
S:ESS1:8:2.2 Use geological evidence provided to support the idea that Earth's crust/lithosphere is composed of plates that move.
Earth Science Lab, Level A: Cards 2, 10, 11, 12, 13, 14, 88 **Earth Science Lab, Level B:** Cards 2, 10, 11, 12, 13, 14, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
3. FOSSILS
S:ESS1:8:3.1 Explain how fossils found in sedimentary rock can be used to support the theories of Earth's evolution over geologic time; and describe how the folding, breaking, and uplifting of the layers affects the evidence.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 30, 33, 34 **Earth Science Lab, Level B:** Cards 30, 33, 34

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
4. OBSERVATION OF THE EARTH FROM SPACE
S:ESS1:8:4.1 Describe how catastrophic changes that have taken place on the Earth's surface can be revealed by satellite images.
Earth Science Lab, Level A: Cards 20, 51, 54, 80 **Earth Science Lab, Level B:** Cards 20, 51, 54, 80

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
5. PROCESSES & RATES OF CHANGE
S:ESS1:8:5.1 Explain that the Earth's crust is divided into plates which move at extremely slow rates in response to movements in the mantle.
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14 **Earth Science Lab, Level B:** Cards 10, 11, 12, 13, 14 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
5. PROCESSES & RATES OF CHANGE
S:ESS1:8:5.2 Explain how Earth events, abruptly and over time, can bring about changes on Earth's surface (e.g., landforms, ocean floor, rock features, climate).
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 17, 22, 24, 25, 26, 27, 28, 52, 53, 54, 60, 61 **Earth Science Lab, Level B:** Cards 10, 11, 12, 13, 14, 15, 17, 22, 24, 25, 26, 27, 28, 52, 53, 54, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
5. PROCESSES & RATES OF CHANGE
S:ESS1:8:5.3 Explain the role of different heating or convection in ocean currents, winds, weather, and weather patterns, atmosphere, or climate.
Earth Science Lab, Level A: Cards 38, 40, 41, 46, 52, 53, 54, 57, 58, 87 **Earth Science Lab, Level B:** Cards 38, 40, 41, 46, 52, 53, 54, 57, 58, 87

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
6. ROCK CYCLE
S:ESS1:8:6.1 Describe the processes of the rock cycle.
Earth Science Lab, Level A: Cards 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
6. ROCK CYCLE
S:ESS1:8:6.2 Explain that sedimentary, igneous, and metamorphic rocks contain evidence of the minerals, temperatures, and forces that created them.
Earth Science Lab, Level A: Cards 3, 4, 5, 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 3, 4, 5, 6, 7, 8, 9 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
6. ROCK CYCLE
S:ESS1:8:6.3 Explain how sediments of sand and small particles, which may contain the remains of organisms, are gradually buried and cemented together by dissolved minerals to form solid rock.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Life Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making Fossils*, pages 93-95 **Earth Science Lab, Level A:** Cards 33, 34 **Earth Science Lab, Level B:** Cards 33, 34

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
7. WATER
S:ESS1:8:7.1 Describe how water flows into and through a watershed, falling over the land, collecting in rivers and lakes, soil, and porous layers of rock, until much of it flows back into the ocean.
Earth Science Lab, Level A: Cards 25, 47, 82, 83, 84 **Earth Science Lab, Level B:** Cards 25, 47, 82, 83, 84

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
7. WATER
S:ESS1:8:7.2 Identify the physical and chemical properties that make water an essential component of the Earth's system.
Earth Science Lab, Level A: Cards 47, 82 **Earth Science Lab, Level B:** Cards 47, 82

Earth Space Science
ESS1-The Earth and Earth materials, as we know them today, have developed over long periods of time, through constant change processes.
7. WATER
S:ESS1:8:7.3 Explain the processes that cause cycling of water into and out of the atmosphere and their connections to our planet's weather patterns.
Earth Science Lab, Level A: Cards 43, 47, 48, 49, 52, 53, 54, 56 **Earth Science Lab, Level B:** Cards 43, 47, 48, 49, 52, 53, 54, 56

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
1. EARTH, SUN AND MOON
S:ESS2:8:1.1 Identify the characteristics of the Sun and its position in the universe.
Earth Science Lab, Level A: Cards 67, 68 **Earth Science Lab, Level B:** Cards 67, 68

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
1. EARTH, SUN AND MOON
S:ESS2:8:1.2 Recognize and describe how the regular and predictable motions of the Earth and Moon account for phenomena, such as the phases of the Moon and eclipses.
Earth Science Lab, Level A: Cards 64, 65, 66 **Earth Science Lab, Level B:** Cards 64, 65, 66

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
1. EARTH, SUN AND MOON
S:ESS2:8:1.3 Recognize the relationships between the tides and the phases of the moon; and use tide charts and NOAA information to describe them.
Earth Science Lab, Level A: Cards 64, 66, 90 **Earth Science Lab, Level B:** Cards 64, 66, 90 **Physical Science Lab, Level A:** Card 48 **Physical Science Lab, Level B:** Card 48

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
1. EARTH, SUN AND MOON
S:ESS2:8:1.4 Explain the temporal or positional relationships between or among the Earth, Sun, and Moon (e.g., night/day, seasons, year, tide).
Earth Science Lab, Level A: Cards 62, 64, 65, 66 **Earth Science Lab, Level B:** Cards 62, 64, 65, 66

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
2. ENERGY
S:ESS2:8:2.1 Describe the Sun as the principle energy source for phenomena on the Earth's surface.
Earth Science Lab, Level A: Cards 25, 26, 27, 28, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 52, 53, 54, 55, 57, 58, 60, 61, 62, 67, 87 **Earth Science Lab, Level B:** Cards 25, 26, 27, 28, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 52, 53, 54, 55, 57, 58, 60, 61, 62, 67, 87 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado*, pages 93-95

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Identify the characteristics and movement patterns of the planets in our Solar System and differentiate between them.
Earth Science Lab, Level A: Cards 68, 69, 70, 71, 72, 73 **Earth Science Lab, Level B:** Cards 68, 69, 70, 71, 72, 73

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Explain the effects of gravitational force on the planets and their moons.
Earth Science Lab, Level A: Card 68 **Earth Science Lab, Level B:** Card 68 **Physical Science Lab, Level A:** Card 59 **Physical Science Lab, Level B:** Card 59

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Explain why Earth and out Solar System appear to be somewhat unique, while acknowledging recent evidence that suggests similar systems exist in the universe.
Earth Science Lab, Level A: Cards 68, 69, 77, 79, 81 **Earth Science Lab, Level B:** Cards 68, 69, 77, 79, 81

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Compare and contrast planets based on data provided about size, composition, location, orbital movement, atmosphere, or surface features (includes moons).
Earth Science Lab, Level A: Cards 69, 70, 71, 72 **Earth Science Lab, Level B:** Cards 69, 70, 71, 72

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial relationships.
3. SOLAR SYSTEM
S:ESS2:8.3.1 Explain how gravitational force affects objects in the Solar System (e.g., moons, tides, orbits, satellites).
Earth Science Lab, Level A: Cards 66, 68, 90 **Earth Science Lab, Level B:** Cards 66, 68, 90 **Physical Science Lab, Level A:** Cards 48, 59 **Physical Science Lab, Level B:** Cards 48, 59

Earth Space Science
ESS2-The Earth is part of a solar system, made up of distinct parts, which have temporal and spatial interrelationships.
4. VIEW FROM EARTH
S:ESS2:8:4.1 Explain how technological advances have allowed scientists to re-evaluate or extend existing ideas about the Solar System.
Earth Science Lab, Level A: Cards 70, 79, 80, 81 **Earth Science Lab, Level B:** Cards 70, 79, 80, 81

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
1. SIZE AND SCALE
S:ESS3:8:1.1 Define an astronomical unit as the distance from the Earth to the Sun.
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
1. SIZE AND SCALE
S:ESS3:8:1.2 Explain that special units of measure, such as light years and astronomical units, are used to calculate distances in space.
Earth Science Lab, Level A: Card 74 **Earth Science Lab, Level B:** Card 74

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
2. STARS AND GALAXIES
S:ESS3:8:2.1 Describe objects such as asteroids, comets, and meteors in terms of their characteristics and movement patterns.
Earth Science Lab, Level A: Card 73 **Earth Science Lab, Level B:** Card 73

Earth Space Science
ESS3-The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.
3. UNIVERSE
S:ESS3:8:3.1 Describe the universe as being comprised of billions of galaxies, each containing many billions of stars; and explain that there are vast distances separating these galaxies and stars from one another and from the Earth.
Earth Science Lab, Level A: Cards 75, 77 **Earth Science Lab, Level B:** Cards 75, 77

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:ESS4:8:1.1 Describe ways in which technology has increased our understanding of the world in which we live.
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:ESS4:8:1.2 Recognize the importance of technology as it relates to science, for purposes such as: access to space and other remote locations, sample collection and treatment, measurement, data collection, and storage, computation, and communication of information.
Earth Science Lab, Level A: Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88 **Earth Science Lab, Level B:** Cards 16, 20, 31, 37, 51, 54, 70, 79, 80, 81, 88

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:ESS4:8:2.1 Calculate temperature in degrees Celsius.
Earth Science Lab Teacher's Handbook: Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:ESS4:8:2.2 Perform calculations using metric measurements.
Earth Science Lab Teacher's Handbook: Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:ESS4:8:2.3 Describe how man used land-based light telescopes, radio telescopes, satellites, manned exploration, probes and robots to collect data.
Earth Science Lab, Level A: Cards 20, 51, 54, 70, 79, 80, 81 **Earth Science Lab, Level B:** Cards 20, 51, 54, 70, 79, 80, 81

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:8:3.1 Provide examples of how creative thinking and economic need has shaped the way people use natural materials, such as the use of metal ores, petroleum, and fresh water.
Life Science Lab, Level A: Cards 84, 87, 90 **Life Science Lab, Level B:** Cards 84, 87, 90 **Earth Science Lab, Level A:** Cards 5, 29, 35, 37, 42, 82, 85 **Earth Science Lab, Level B:** Cards 5, 29, 35, 37, 42, 82, 85

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:8:3.2 Explain how to test natural materials to measure and compare their properties.
Life Science Lab, Level A: Cards 84, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 3, 4, 5, 29, 82, 87 **Earth Science Lab, Level B:** Cards 3, 4, 5, 29, 82, 87

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:8:3.3 Explain how technologies can reduce the environmental impact of natural disasters.
Life Science Lab, Level A: Cards 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 16, 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 16, 37, 42, 59, 60, 61, 86

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. LOCAL AND GLOBAL: USES OF EARTH MATERIALS
S:ESS4:8:3.4 Identify the potential impact of converting forested land to uses such as farms, homes, factories, or tourist attractions.
Earth Science Lab, Level A: Card 85 **Earth Science Lab, Level B:** Card 85

Earth Space Science
ESS4-The growth of scientific knowledge in Earth Space Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
4. CAREER TECHNICAL EDUCATION CONNECTIONS
S:ESS4:8:4.1 Understand that some scientific jobs/careers involve the application of Earth Space science content knowledge and experience in specific ways that meet the goals of the job.
This concept is not covered at this level.

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
1. CLASSIFICATION
S:LS1:8:1.1 Recognize that similarities among organisms are found in anatomical features and patterns of development; and relatedness among organisms.
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 2 0, 21, 22, 25, 27, 28, 29, 20, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 2 0, 21, 22, 25, 27, 28, 29, 20, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
1. CLASSIFICATION
S:LS1:8:1.2 Describe or compare how different organisms have mechanisms that work in a coordinated way to obtain energy, grow, move, respond, provide defense, enable reproduction, or maintain internal balance (e.g., cells, tissues, organs, and systems). Categorize organisms into kingdoms that are currently recognized, according to shared characteristics.
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 2 0, 21, 22, 25, 27, 28, 29, 20, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 2 0, 21, 22, 25, 27, 28, 29, 20, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:8:2.1 Identify the functions of the human body's systems, including digestion, respiration, reproduction, circulation, excretion, movement, control, and coordination and protection from disease; and describe how they interact with one another.
Life Science Lab, Level A: Cards 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:8:2.2 Define a population and describe the factors that can affect it.
Life Science Lab, Level A: Cards 70, 71, 72, 73, 74, 75, 76 **Life Science Lab, Level B:** Cards 70, 71, 72, 73, 74, 75, 76

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:8:2.3 Explain why it is beneficial for an organisms to be able to regulate its internal environment while living in a constantly changing external environment.
Life Science Lab, Level A: Card 44 **Life Science Lab, Level B:** Card 44

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:8:2.4 Explain relationships between or among the structure and function of the cells, tissues, organs, and organ systems in an organism.
Life Science Lab, Level A: Cards 6, 7, 8, 9, 10, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 6, 7, 8, 9, 10, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity4, *Your Cardiovascular System,* pages 89-91

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
2. LIVING THINGS AND ORGANIZATION
S:LS1:8:2.5 Using data and observations about the biodiversity of an ecosystem, make predictions or draw conclusions about how the diversity contributes to the stability of the ecosystem.
Life Science Lab, Level A: Cards 70, 71, 72, 73, 74, 75, 76, 81, 82 **Life Science Lab, Level B:** Cards 70, 71, 72, 73, 74, 75, 76, 81, 82 **Earth Science Lab, Level A:** Card 89 **Earth Science Lab, Level B:** Card 89

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.1 Differentiate between asexual and sexual reproduction, and explain that in some kinds of organisms, all the genes come from one parent, while in organisms requiring two sexes to reproduce, typically half the genes come from each parent.
Life Science Lab, Level A: Cards 60, 61, 62, 63 **Life Science Lab, Level B:** Cards 60, 61, 62, 63

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.2 Explain that a species of sexually reproducing organisms is comprised of all the organisms that can mate to produce fertile offspring.
Life Science Lab, Level A: Cards 58, 61, 71 **Life Science Lab, Level B:** Cards 58, 61, 71

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.3 Explain that in sexual reproduction, a single specialized cell from a female merges with a specialized cell from a male in a process called fertilization.
Life Science Lab, Level A: Cards 58, 61 **Life Science Lab, Level B:** Cards 58, 61

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.4 Explain that the fertilized egg cell, carrying genetic information from each parent, multiplies to form the complete organism.
Life Science Lab, Level A: Cards 58, 61 **Life Science Lab, Level B:** Cards 58, 61

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.5 Explain how the basic tissues of an embryo form.
Life Science Lab, Level A: Cards 40, 58 **Life Science Lab, Level B:** Cards 40, 58

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.6 Compare and contrast sexual reproduction with asexual reproduction.
Life Science Lab, Level A: Cards 60, 61 **Life Science Lab, Level B:** Cards 60, 61

Life Science
LS1-All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
3. REPRODUCTION
S:LS1:8:3.7 Using data provided, select evidence that supports the concept that genetic information is passed on from both parents to offspring.
Life Science Lab, Level A: Cards 58, 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 58, 61, 62, 63, 64

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
1. ENVIRONEMNT
S:LS2:8:1.1 Explain how changes in environmental conditions can affect the survival of individual organisms and an entire species.
Life Science Lab, Level A: Cards 66, 67, 72, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 66, 67, 72, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 15, 17, 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 15, 17, 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
1. ENVIRONEMNT
S:LS2:8:1.2 Explain that in all environments, organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter, and that in any particular environment the growth and survival of organisms depend on the physical conditions.
Life Science Lab, Level A: Cards 72, 73, 74, 75, 76, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 72, 73, 74, 75, 76, 86, 87, 88, 89, 90

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
1. ENVIRONEMNT
S:LS2:8:1.3 Using data and observations, predict outcomes when abiotic/biotic factors are changed in an ecosystem.
Life Science Lab, Level A: Cards 72, 73, 74, 75, 76, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 72, 73, 74, 75, 76, 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 15, 17, 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 15, 17, 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
2. FLOW OF ENERGY
S:LS2:8:2.1 Explain how food provides energy and materials for growth and repair of body parts.
Life Science Lab, Level A: Cards 1, 9, 45, 46, 76, 77 **Life Science Lab, Level B:** Cards 1, 9, 45, 46, 76, 77

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
2. FLOW OF ENERGY
S:LS2:8:2.2 Given a scenario, trace the flow of energy through an ecosystem, beginning with the sun, through organisms in the food web, and into the environment (includes photosynthesis and respiration).
Life Science Lab, Level A: Cards 9, 16, 17, 76, 77 **Life Science Lab, Level B:** Cards 9, 16, 17, 76, 77 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:8:3.1 Identify autotrophs as producers who may use photosynthesis, and describe this as the basis of the food web.
Life Science Lab, Level A: Card 14 **Life Science Lab, Level B:** Card 14

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:8:3.2 Explain the process of respiration and differentiate between it and photosynthesis.
Life Science Lab, Level A: Cards 9, 17 **Life Science Lab, Level B:** Cards 9, 17

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:8:3.3 Know that all organisms, including humans, are part of, and depend on, two main interconnected global food webs: one which includes microscopic ocean plants, and the other which includes land plants.
Life Science Lab, Level A: Cards 76, 77, 81, 82 **Life Science Lab, Level B:** Cards 76, 77, 81, 82 **Earth Science Lab, Level A:** Card 89 **Earth Science Lab, Level B:** Card 89

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:8:3.4 Describe how matter is recycled within ecosystems and explain that the total amount of matter remains the same, though its forms and location change.
Life Science Lab, Level A: Cards 13, 74, 75, 76, 77, 78 **Life Science Lab, Level B:** Cards 13, 74, 75, 76, 77, 78

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:8:3.5 Identify carbon, hydrogen, oxygen, nitrogen, and phosphorus as common elements of living matter.
Life Science Lab, Level A: Card 4 **Life Science Lab, Level B:** Card 4

Life Science
LS2-Energy flows and mater recycles through an ecosystem.
3. RECYCLING OF MATERIALS
S:LS2:8:3.6 Given an ecosystem, trace how matter cycles among and between organisms and the physical environment (includes water, oxygen, food web, decomposition and recycling, but not carbon cycle nor nitrogen cycle).
Life Science Lab, Level A: Cards 13, 74, 75, 76, 77 **Life Science Lab, Level B:** Cards 13, 74, 75, 76, 77

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
1. CHANGE
S:LS3:8:1.1 Describe the type of impact certain environmental changes, including deforestation, invasive species, increased erosion, and pollution containing toxic substances, could have on local environments.
Life Science Lab, Level A: Cards 67, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 67, 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab, Level A:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab, Level B:** Cards 37, 42, 59, 60, 61, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
2. EVIDENCE OF EVOLUTION
S:LS3:8:2.1 Describe how the fossil record provides geologic evidence verifying the existence of life forms, and explains how this evidence provides documented proof of their appearance, diversification and extinction.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 33, 34 **Earth Science Lab, Level B:** Cards 33, 34

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
2. EVIDENCE OF EVOLUTION
S:LS3:8:2.2 Explain the concept of extinction and describes its importance in biological evolution.
Life Science Lab, Level A: Cards 65, 66, 67 **Life Science Lab, Level B:** Cards 65, 66, 67

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
2. EVIDENCE OF EVOLUTION
S:LS3:8:2.3 Use a model, classification system, or dichotomous key to illustrate, compare, or interpret possible relationships among groups of organisms (e.g., internal and external structures, anatomical features).
Life Science Lab, Level A: Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab, Level B:** Cards 2, 3, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 **Life Science Lab Teacher's Handbook:** Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:8:3.1 Recognize that hereditary information is contained in genes, which are located in the chromosomes of each cell; and explain that inherited traits can be determined by either one of many genes, and that a single gene can influence more than one trait, such as eye and hair color.
Life Science Lab, Level A: Cards 62, 63, 64 **Life Science Lab, Level B:** Cards 62, 63, 64

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:8:3.2 Recognize that in any given environment the growth and survival of organisms depend on the physical conditions that exist; and explain that in all environments, organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter.
Life Science Lab, Level A: Cards 70, 71, 72, 73, 74, 75, 76, 77, 86 **Life Science Lab, Level B:** Cards 70, 71, 72, 73, 74, 75, 76, 77, 86

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:8:3.3 Explain how individual organisms with certain traits are more likely than others to survive and have offspring.
Life Science Lab, Level A: Cards 65, 66 **Life Science Lab, Level B:** Cards 65, 66

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:8:3.4 Recognize that humans are able to control some characteristics of plants and animals through selective breeding; and explain how this results in small differences between the parents and offspring, which can accumulate in successive generations so that decisions are very different from their ancestors.
Life Science Lab, Level A: Cards 65, 66 **Life Science Lab, Level B:** Cards 65, 66

Life Science
LS3-Groups of organisms show evidence of change over time (e.g., evolution, natural selection, structures, behaviors, and biochemistry).
3. NATURAL SELECTION
S:LS3:8:3.5 Cite examples supporting the concept that certain traits of organisms may provide a survival advantage in a specific environment and therefore, an increased likelihood to produce offspring.
Life Science Lab, Level A: Cards 65, 66 **Life Science Lab, Level B:** Cards 65, 66

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
1. BEHAVIOR
S:LS4:8:1.1 Recognizes that unlike human beings, behavior in insects and many other species is determined almost entirely by biological inheritance.
Life Science Lab, Level A: Cards 41, 43 **Life Science Lab, Level B:** Cards 41, 43

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
1. BEHAVIOR
S:LS4:8:1.2 Explain that organism's behavioral responses is a reaction to internal and or environmental stimuli, and that these responses may be determined by heredity or from past experience.
Life Science Lab, Level A: Cards 24, 36, 43, 83 **Life Science Lab, Level B:** Cards 24, 36, 43, 83

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
1. BEHAVIOR
S:LS4:8:1.3 Explain how all behavior is affected by both inheritance and experience.
Life Science Lab, Level A: Cards 24, 36, 43, 83 **Life Science Lab, Level B:** Cards 24, 36, 43, 83

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:8:2.1 Recognize that disease in organisms can be caused by intrinsic failures of the system or infection from other organisms.
Life Science Lab, Level A: Cards 47, 48, 49, 51, 53, 55, 57 **Life Science Lab, Level B:** Cards 47, 48, 49, 51, 53, 55, 57

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:8:2.2 Describe how viruses, bacteria, fungi, and parasites may affect the human body and provide examples of how they can interfere with normal body functions.
Life Science Lab, Level A: Cards 11, 12, 13, 15, 49, 51 **Life Science Lab, Level B:** Cards 11, 12, 13, 15, 49, 51

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:8:2.3 Describe the function of white blood cells and explain how they support the body's support system.
Life Science Lab, Level A: Card 48 **Life Science Lab, Level B:** Card 48

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
2. DISEASE
S:LS4:8:2.4 Use data and observations to support the concept that environmental or biological factors affect human body systems (biotic and abiotic).
Life Science Lab, Level A: Cards 45, 46, 49, 51 **Life Science Lab, Level B:** Cards 45, 46, 49, 51

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
3. HUMAN IDENTITY
S:LS4:8:3.1 Compare patterns of human development with those of other vertebrates.
Life Science Lab, Level A: Card 68 **Life Science Lab, Level B:** Card 68

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
3. HUMAN IDENTITY
S:LS4:8:3.2 Recognize that an organism can be described in terms of a combination of traits; and differentiate between inherited traits and those that result from interactions with the environment.
Life Science Lab, Level A: Cards 23, 24, 41, 43, 62, 63, 65 **Life Science Lab, Level B:** Cards 23, 24, 41, 43, 62, 63, 65

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
3. HUMAN IDENTITY
S:LS4:8:3.3 Describe the major changes that occur over time in human development from a single cell through embryonic development to new born (i.e., group of cells during the first trimester, organs form during the second, organs mature during the third).
Life Science Lab, Level A: Card 58 **Life Science Lab, Level B:** Card 58

Life Science
LS4-Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
3. HUMAN IDENTITY
S:LS4:8:3.4 Using data provided, select evidence that supports the concept that genetic information is passed on from both parents to offspring.
Life Science Lab, Level A: Cards 58, 61, 62, 63, 64 **Life Science Lab, Level B:** Cards 58, 61, 62, 63, 64

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:LS5:8:1.1 Explain how technology has influenced the course of history, and provide examples such as those that relate to agriculture, sanitation and medicine.
Life Science Lab, Level A: Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 5, 49, 59, 64, 69, 83, 87, 88, 89, 90

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:LS5:8:1.2 Provide examples of ways technology is used to protect the environment, such as using bacteria to clean water.
Life Science Lab, Level A: Cards 73, 83, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 73, 83, 87, 88, 89, 90 **Earth Science Lab, Level A:** Cards 35, 37, 42, 51, 54, 59, 60, 61, 85, 86 **Earth Science Lab, Level B:** Cards 35, 37, 42, 51, 54, 59, 60, 61, 85, 86

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:LS5:8:2.1 recognize and provide examples of how technology has enhanced the study of life sciences, as in the development of advanced diagnosing equipment improving medicine.
This concept is not covered at this level.

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:8:3.1 Explain the necessity of and purpose for the proper disposal of medical products.
This concept is not covered at this level.

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:8:3.2 Give examples of how increased understanding of biology has led to improvements in biotechnology, such as scientific methods for increasing the yield or the pest-resistance of important food crops.
Life Science Lab, Level A: Cards 45, 46, 47, 49, 51, 53, 55, 57 **Life Science Lab, Level B:** Cards 45, 46, 47, 49, 51, 53, 55, 57

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL) : MEDICAL TECHNOLOGY and BIOTECHNOLOGY
S:LS5:8:3.3 Describes ways biotechnology helps humans, including improved health and medicine.
Life Science Lab, Level A: Cards 45, 46, 47, 49, 51, 53, 55, 57, 64, 69 **Life Science Lab, Level B:** Cards 45, 46, 47, 49, 51, 53, 55, 57, 64, 69

Life Science
LS5-The growth of scientific knowledge in Life Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
CAREER TECHNICAL EDUCATION CONNECTIONS
S:LS5:8:4.1 Understand that some scientific jobs/careers involve the application of life science content knowledge and experience in specific ways that meet the goals of the job.
This concept is not covered at this level.

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.1Explain that atoms often combine to form a molecule or formula unit (crystal).
Physical Science Lab, Level A: Cards 3, 4 **Physical Science Lab, Level B:** Cards 3, 4

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.2 Recognize that elements can combine in a variety of ways to form compounds.
Physical Science Lab, Level A: Cards 10, 11, 31, 32 **Physical Science Lab, Level B:** Cards 10, 11, 31, 32

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.3 Differentiate between an atom and a molecule.
Physical Science Lab, Level A: Cards 3, 4 **Physical Science Lab, Level B:** Cards 3, 4

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.4 Differentiate between a mixture and a pure substance.
Physical Science Lab, Level A: Cards 10, 12, 13 **Physical Science Lab, Level B:** Cards 10, 12, 13

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.5 Identify methods used to separate mixtures, such as boiling, filtering, chromatography and screening.
Physical Science Lab, Level A: Cards 12, 13 **Physical Science Lab, Level B:** Cards 12, 13

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.6 Collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).
Physical Science Lab, Level A: Cards 9, 27, 28,2 9, 30 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
1. COMPOSITION
S:PS1:8:1.7 Given graphic data or written information, classify matter as atom/molecule or element/compound (not the structure of an atom).
Physical Science Lab, Level A: Cards 3, 4, 10, 11 **Physical Science Lab, Level B:** Cards 3, 4, 10, 11

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:8:2.1 Differentiate between volume and mass and define density.
Physical Science Lab, Level A: Card 2 **Physical Science Lab, Level B:** Card 2

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:8:2.2 Explain how different substances of equal volume usually have different weights.
Physical Science Lab, Level A: Cards 2, 57 **Physical Science Lab, Level B:** Cards 2, 57

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:8:2.3 Identify a molecule as the smallest part of a substance that retains it properties.
Physical Science Lab, Level A: Card 4 **Physical Science Lab, Level B:** Card 4

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:8:2.4 Investigate the relationships among mass, volume and density.
Physical Science Lab, Level A: Cards 2, 57 **Physical Science Lab, Level B:** Cards 2, 57

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:8:2.45 Given data about characteristic properties of matter (e.g., melting and boiling points, density, solubility) identify, compare, or classify difference substances.
Physical Science Lab, Level A: Cards 1, 2, 5, 6, 7, 14, 15, 16 **Physical Science Lab, Level B:** Cards 1, 2, 5, 6, 7, 14, 15, 16

Physical Science
PS1-All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size/amount of substance).
2. PROPERTIES
S:PS1:8:2.4.6 Represent or explain the relationship between or among energy, molecular motion, temperature, and states of matter.
Physical Science Lab, Level A: Cards 5, 6, 7, 42 **Physical Science Lab, Level B:** Cards 5, 6, 7, 42

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
1. CHANGE
S:PS2:8:1.1 Explain how substances react chemically with other substances to form new substances, known as compounds, and that in such recombinations, the properties of the new substances may be very different from those of the old.
Physical Science Lab, Level A: Cards 9, 27, 28,2 9, 30 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
1. CHANGE
S:PS2:8:1.2 Identify factors that affect reaction rates, such as temperature, concentration and surface area; and explain that dissolving substances in liquids often accelerates reaction rates.
Physical Science Lab, Level A: Cards 9, 27, 28,2 9, 30 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
1. CHANGE
S:PS2:8:1.3 Explain that oxidation involves combining oxygen with another substance, as in burning or rusting.
Physical Science Lab, Level A: Cards 9, 30 **Physical Science Lab, Level B:** Cards 9, 30

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
1. CHANGE
S:PS2:8:1.4 Explain that states of matter depend on the arrangement of the molecules and their motion.
Physical Science Lab, Level A: Cards 5, 6, 7, 42 **Physical Science Lab, Level B:** Cards 5, 6, 7, 42

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
1. CHANGE
S:PS2:8:1.5 Given a real-world example, show that within a system, energy transforms from one form to another (i.e., chemical, heat, electrical, gravitational, light, sound, mechanical).
Physical Science Lab, Level A: Cards 34, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 76, 78, 79, 80, 82, 83 **Physical Science Lab, Level B:** Cards 34, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 76, 78, 79, 80, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
2. CONSERVATION
S:PS2:8:2.1 Explain the law of conservation of energy.
Physical Science Lab, Level A: Card 37 **Physical Science Lab, Level B:** Card 37

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
2. CONSERVATION
S:PS2:8:2.2 Collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:8:3.1 Differentiate between kinetic energy, which is the energy of motion and potential energy, which depends on relative position.
Physical Science Lab, Level A: Cards 36, 37, 39, 40, 41, 42 **Physical Science Lab, Level B:** Cards 36, 37, 39, 40, 41, 42

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:8:3.2 Recognize the Sun is a major energy source for the Earth, and describes how it affects the planet's surface.
Physical Science Lab, Level A: Cards 44, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 44, 46, 47, 48, 49

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:8:3.3 Describe ways light can interact with matter, such as transmission (which includes refraction), absorption, and scattering (which includes reflection).
Physical Science Lab, Level A: Cards 82, 83, 84, 85, 86, 87, 88 **Physical Science Lab, Level B:** Cards 82, 83, 84, 85, 86, 87, 88

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:8:3.4 Explain that the human eye can only detect wavelengths of electromagnetic radiation within a narrow range; and explain that the differences of wavelengths within that range of visible light are perceived as differences in color.
Physical Science Lab, Level A: Card 89 **Physical Science Lab, Level B:** Card 89

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:8:3.5 Recognize that most chemical and nuclear reactions can involve the transfer of energy.
Physical Science Lab, Level A: Cards 9, 27, 28, 29, 30, 33, 34, 45 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29, 30, 33, 34, 45 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83

Physical Science
PS2-Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.
3. ENERGY
S:PS2:8:3.6 Use data to draw conclusions about how heat can be transferred (convection, conduction, radiation).
Physical Science Lab, Level A: Cards 42, 43, 44 **Physical Science Lab, Level B:** Cards 42, 43, 44

Physical Science
PS3-The motion of an object is affected by force.
1. FORCES
S:PS3:8:1.1 Explain that the force of gravity gets stronger the closer one gets to an object and decreases the further away one gets from it.
Physical Science Lab, Level A: Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Physical Science
PS3-The motion of an object is affected by force.
1. FORCES
S:PS3:8:1.2 Recognize the general concepts related to gravitational force.
Physical Science Lab, Level A: Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Physical Science
PS3-The motion of an object is affected by force.
1. FORCES
S:PS3:8:1.3 Use data to determine or predict the overall (net) effect of multiple sources (e.g., friction, gravitational, magnetic) on the position, speed, and direction of motion of objects.
Physical Science Lab, Level A: Cards 54, 55, 56, 57, 58, 59 **Physical Science Lab, Level B:** Cards 54, 55, 56, 57, 58, 59 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction*, pages 89-91

Physical Science
PS3-The motion of an object is affected by force.
2. MOTION
S:PS3:8:2.1 Explain that an object in motion that is unaffected by a force will continue to move at a constant speed and in a straight line.
Physical Science Lab, Level A: Card 55 **Physical Science Lab, Level B:** Card 55

Physical Science
PS3-The motion of an object is affected by force.
2. MOTION
S:PS3:8:2.2 Explain how the motion of an object can be described by its position, direction of motion, and speed; and illustrate how that motion can be measured and represented graphically.
Physical Science Lab, Level A: Cards 50, 51, 52, 53 **Physical Science Lab, Level B:** Cards 50, 51, 52, 53

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
1. DESIGN TECHNOLOGY
S:PS4:8:1.1 Understand that design features, such as size, shape, weight, and function, must be considered when designing new technology.
This concept is not covered at this level.

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
2. TOOLS
S:PS4:8:2.1 Demonstrate appropriate use of tools, such as rulers, calculators, balances, and graduated cylinders to measure and calculate volume and mass.
Physical Science Lab, Level A: Card 2 **Physical Science Lab, Level B:** Card 2

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL): ENERY, POWER, AND TRANSPORTATION
S:PS4:8:3.1 Explain how humans use natural resources, such as flowing water and burning coal, oil, or natural gas to generate electrical energy in power plants.
Life Science Lab, Level A: Card 84 **Life Science Lab, Level B:** Card 84 **Earth Science Lab, Level A:** Card 35 **Earth Science Lab, Level B:** Card 35 **Physical Science Lab, Level A:** Cards 38, 41, 42, 45, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 38, 41, 42, 45, 46, 47, 48, 49

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL): ENERY, POWER, AND TRANSPORTATION
S:PS4:8:3.2 Describe how natural resources, such as coal, oil and natural gas are tapped for use in power plants, and how alternative sources, such as solar, wind, water, nuclear are tapped for power; and compare the advantages and disadvantages of each source.
Physical Science Lab, Level A: Cards 34, 38, 42, 46, 47, 48, 49 **Physical Science Lab, Level B:** Cards 34, 38, 42, 46, 47, 48, 49

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
3. SOCIAL ISSUES (LOCAL AND GLOBAL): ENERY, POWER, AND TRANSPORTATION
S:PS4:8:3.3 Differentiate between durable goods, which are designed to operate for a long time, and non-durable goods, which are only intended to operate for a short period of time.
This concept is not covered at this level.

Physical Science
PS4-The growth of scientific knowledge in Physical Science has been advanced through the development of technology and is used (alone or in combination with other sciences) to identify, understand and solve local and global issues.
4. CAREER TECHNICAL EDUCATION CONNECTIONS
S:PS4:8:4.1 Understand that some scientific jobs/careers involve the application of physical science knowledge and experience in specific ways that meet the goals of the job.
This concept is not covered at this level.