# Correlation to Show Compatibility of *Integrated iScience – Course 3* with the Next Generation Science Standards Performance Expectations and Disciplinary Core Ideas

*iScience* provides optimal flexibility for the initial implementation of the Next Generation Science Standards (NGSS) into your curriculum. This correlation to the Performance Expectations and Disciplinary Core Ideas will help guide and inform your curriculum decisions as you transition the NGSS into your science instruction.

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Nature of Science • Scientific Problem Solving** | | |
| 1. Scientific Inquiry | | NOS4-NOS11 |
| 2. Measurement and Scientific Tools | ETS1.B (secondary to MS-PS1-6), ETS1.C (secondary to MS-PS1-6), ETS1.B (secondary to MS-PS3-3) | NOS12-NOS19 |
| 2. Case Study | ETS1.B (secondary to MS-PS1-6), ETS1.C (secondary to MS-PS1-6), ETS1.B (secondary to MS-PS3-3) | NOS20-NOS29 |
| **Chapter 1 • Describing Motion** | | |
| 1. Position and Motion | PS2.A (MS-PS2-2) | 8-14 |
| 2. Speed and Velocity | | 16-25 |
| 3. Acceleration | | 26-35 |
| **Chapter 2 • Laws of Motion** | | |
| 1. Gravity and Friction | MS-PS2-2, MS-PS2-4, PS2.B (MS-PS2-4) | 44-51 |
| 2. Newton's First Law | MS-PS2-2, PS2.A (MS-PS2-2) | 53-60 |
| 3. Newton's Second Law | MS-PS2-2, PS2.A (MS-PS2-2) | 61-68 |
| 4. Newton's Third Law | MS-PS2-1, PS2.A (MS-PS2-1) | 69-77 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 3 • Energy, Work, and Simple Machines** | | |
| 1. Types of Energy | MS-PS3-2, PS3.A (MS-PS3-1), PS3.A (MS-PS3-2) | 86-94 |
| 2. Energy Transformations and Work | MS-PS3-5, MS-PS3-2, PS3.B (MS-PS3-5), PS3.C (MS-PS3-2) | 96-103 |
| 3. Machines | MS-PS3-5, PS3.B (MS-PS3-5) | 104-113 |
| **Chapter 4 • Forces and Fluids** | | |
| 1. Sound | MS-PS4-1, MS-PS4-2, PS4.A (MS-PS4-1), PS4.A (MS-PS4-2) | 122-130 |
| 2. Light | MS-PS4-2, PS4.B (MS-PS4-2) | 132-139 |
| 3. Mirrors, Lenses, and The Eye | MS-PS4-2, PS4.B (MS-PS4-2) | 140-151 |
| **Chapter 5 • Thermal Energy** | | |
| 1. Thermal Energy, Temperature, and Heat | MS-PS1-4, PS3.A (secondary to MS-PS1-4), MS-PS3-4, PS3.A (MS-PS3-1), PS3.A (MS-PS3-2), PS3.A (MS-PS3-3)(MS-PS3-4), PS3.B (MS-PS3-3) | 164-171 |
| 2. Thermal Energy Transfers | MS-PS1-4, PS3.A (secondary to MS-PS1-4), MS-PS3-3, PS3.B (MS-PS3-4), PS3.B (MS-PS3-3) | 172-180 |
| 3. Using Thermal Energy | | 182-189 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 6 • States of Matter** | | |
| 1. Solids, Liquids, and Gases | MS-PS1-4, PS1.A (MS-PS1-2)(MS-PS1-3), PS1.A (MS-PS1-4), PS1.A (MS-PS1-1), PS2.B (MS-PS2-3) | 198-205 |
| 2. Changes in State | MS-PS1-4, MS-PS1-5, PS1.A (MS-PS1-2)(MS-PS1-3), PS1.A (MS-PS1-4), PS3.A (secondary to MS-PS1-4), MS-PS3-2, PS3.A (MS-PS3-2, PS3.A (MS-PS3-3)(MS-PS3-4)) | 207-216 |
| 3. The Behavior of Gases | PS1.A (MS-PS1-4) | 217-225 |
| **Chapter 7 • Understanding the Atom** | | |
| 1. Discovering Parts of an Atom | PS2.B (MS-PS2-5) | 234-245 |
| 2. Protons, neutrons, and Electrons-How Atoms Differ | | 247-257 |
| **Chapter 8 • Elements and Chemical Bonds** | | |
| 1. Electrons and Energy Levels | PS1.A (MS-PS1-1) | 266-273 |
| 2. Compounds, Chemical Formulas, and Covalent Bonds | MS-PS1-1, PS1.A (MS-PS1-1), PS1.B (MS-PS1-2)(MS-PS1-3)(MS-PS1-5) | 275-282 |
| 3. Ionic and Metallic Bonds | | 283-291 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 9 • Chemical Reactions and Equations** | | |
| 1. Understanding Chemical Reactions | MS-PS1-2, MS-PS1-3, MS-PS1-5, PS1.A (MS-PS1-1), PS1.B (MS-PS1-2)(MS-PS1-3)(MS-PS1-5), PS1.B (MS-PS1-5), PS1.B (MS-PS1-6) | 300-310 |
| 2. Types of Chemical Reactions | | 311-315 |
| 3. Energy Changes and Chemical Reactions | MS-PS1-6, PS1.B (MS-PS1-6) | 317-325 |
| **Chapter 10 • Mixtures, Solubility, and Acid/Base Solutions** | | |
| 1. Substances and Mixtures | | 334-340 |
| 2. Properties of Solutions | | 342-351 |
| 3. Acid and Base Solutions | | 352-361 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 11 • The Solar System** | | |
| 1. The Structure of the Solar System | MS-ESS1-2, ESS1.B (MS-ESS1-2) (MS-ESS1-3) | 374-380 |
| 2. The Inner Planets | MS-ESS1-3, ESS1.B (MS-ESS1-2) (MS-ESS1-3) | 382-389 |
| 3. The Outer Planets | MS-ESS1-3, ESS1.B (MS-ESS1-2) (MS-ESS1-3) | 390-396 |
| 4. Dwarf Planets and Other Objects | MS-ESS1-3, ESS1.B (MS-ESS1-2) (MS-ESS1-3) | 398-405 |
| **Chapter 12 • Stars and Galaxies** | | |
| 1. The View from Earth | ESS1.A (MS-ESS1-1) | 414-421 |
| 2. The Sun and Other Stars | | 422-428 |
| 3. Evolution of Stars | | 430-437 |
| 4. Galaxies and the Universe | MS-ESS1-2, ESS1.A (MS-ESS1-2) | 438-447 |
| **Chapter 13 • Minerals and Rocks** | | |
| 1. Minerals | | 460-468 |
| 2. Rocks | MS-ESS2-1, ESS2.A (MS-ESS2-1) | 470-477 |
| 3. The Rock Cycle | MS-ESS2-1, ESS2.A (MS-ESS2-1) | 478-485 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 14 • Plate Tectonics** | | |
| 1. The Continental Drift Hypothesis | MS-ESS2-3, ESS2.A (MS-ESS2-2), ESS2.B(MS-ESS2-3) | 494-500 |
| 2. Development of a Theory | MS-ESS2-3, ESS1.C (HS.ESS1.C GBE)(secondary to MS-ESS2-3) | 502-509 |
| 3. The Theory of Plate Tectonics | MS-ESS2-2, ESS1.C (HS.ESS1.C GBE)(secondary to MS-ESS2-3), ESS2.A (MS-ESS2-1), ESS2.A (MS-ESS2-2) | 510-521 |
| **Chapter 15 • Earthquakes and Volcanoes** | | |
| 1. Earthquakes | MS-ESS2-2, MS-ESS3-2, ESS3.B (MS-ESS3-2) | 530-543 |
| 2. Volcanoes | MS-ESS2-2, ESS2.A (MS-ESS2-2), MS-ESS3-2, ESS3.B (MS-ESS3-2) | 544-555 |
| **Chapter 16 • Clues to Earth's Past** | | |
| 1. Fossils | MS-ESS1-4, ESS1.C (MS-ESS1-4) | 564-572 |
| 2. Relative-Age Dating | MS-ESS1-4, ESS1.C (MS-ESS1-4) | 574-581 |
| 3. Absolute-Age Dating | | 582-591 |
| **Chapter 17 • Geologic Time** | | |
| 1. Geologic History and the Evolution of Life | MS-ESS1-4, ESS1.C (MS-ESS1-4), ESS2.A (MS-ESS2-2) | 600-607 |
| 2. The Paleozoic Era | ESS1.C (MS-ESS1-4), ESS2.A (MS-ESS2-2) | 608-615 |
| 3. The Mesozoic Era | ESS1.C (MS-ESS1-4), ESS2.A (MS-ESS2-2) | 616-622 |
| 4. The Cenozoic Era | ESS2.A (MS-ESS2-2) | 624-633 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 18 • Interactions Within Ecosystems** | | |
| 1. Ecosystems | MS-LS2-1, MS-LS2-2, MS-LS2-4, LS2.A (MS-LS2-1), LS2.A (MS-LS2-2), LS2.C (MS-LS2-4) | 646-652 |
| 2. Energy and Matter | MS-LS1-6, MS-LS2-3, LS1.C (MS-LS1-6), LS2.B (MS-LS2-3) | 654-663 |
| 3. Humans and Ecosystems | ESS3.C (MS-ESS3-3) | 664-673 |
| **Chapter 19 • Biomes and Ecosystems** | | |
| 1. Land Biomes | LS2.C (MS-LS2-5) | 682-691 |
| 2. Aquatic Ecosystems | LS2.C (MS-LS2-5) | 692-700 |
| 3. How Ecosystems Change | MS-LS2-4, LS2.C (MS-LS2-4) | 702-709 |
| **Chapter 20 • Environmental Impacts** | | |
| 1. People and the Environment | ESS3.C (MS-ESS3-4) | 718-723 |
| 2. Impacts on Land | MS-ESS3-3, ESS3.C (MS-ESS3-3), MS-ESS3-4 ESS3.C (MS-ESS3-4) | 724-733 |
| 3. Impacts on Water | MS-ESS3-3, ESS3.C (MS-ESS3-3), MS-ESS3-4 ESS3.C (MS-ESS3-4) | 734-740 |
| 4. Impacts on the Atmosphere | MS-ESS3-3, ESS3.C (MS-ESS3-3), ESS3.D (MS-ESS3-5) | 742-751 |

| Lesson/Feature Title | Performance Expectations & Disciplinary Core Ideas | Pages |
|---|---|---|
| **Chapter 21 • Interactions of Human Body Systems** | | |
| 1. The Human Body | MS-LS1-3, LS1.A (MS-LS1-3) | 764-770 |
| 2. How Body Systems Interact | MS-LS1-3, MS-LS1-8, LS1.A (MS-LS1-3), LS1.D (MS-LS1-8) | 772-783 |
| **Chapter 22 • Heredity and How Traits Change** | | |
| 4. How are traits inherited? | MS-LS3-2, MS-LS4-5, LS1.B (secondary to MS-LS3-2), LS3.A (MS-LS3-2), LS3.B (MS-LS3-2), LS4.B (MS-LS4-5) | 792-799 |
| 5. Genetics After Mendel | MS-LS3-2, MS-LS4-5, LS3.A (MS-LS3-2), LS3.B (MS-LS3-2), LS4.B (MS-LS4-5) | 801-809 |
| 6. Adaptation and Evolution | MS-LS4-4, MS-LS4-6, MS-LS3-2, LS4.B (MS-LS4-4), LS4.C (MS-LS4-6), LS3.B (MS-LS3-2) | 810-819 |