

Table of Contents

UNIT 1

All About Plants

Module: Plant Structures and Functions



MODULE PLANNING RESOURCES

Three-Dimensional Learning	2A
Performance Expectations	2B
Disciplinary Core Idea Progressions	2C
Three-Dimensions at a Glance	2D
Module Planner	2E
Inquiry Activity Planner	2G
Inspire All Students	2I
Discover the Phenomenon	2
STEM Connection	4

Lesson 1: Plant Parts

LESSON PLANNING RESOURCES

Building to the Performance Expectations	8A
Lesson at a Glance	8C
Discover the Phenomenon	8
Inquiry Activity: Hands On Observe Plant Parts	10
Inquiry Activity: Hands On Plant Structures	18

Lesson 2: Functions of Plant Parts

LESSON PLANNING RESOURCES

Building to the Performance Expectations	26A
Lesson at a Glance	26C
Discover the Phenomenon	26
Inquiry Activity: Hands On Plants and Light	28
Inquiry Activity: Hands On Celery Stems	38
STEM Module Project	43
Engineering Challenge Build a Solar-Powered Light Stand	43
Module Wrap-Up	45

Module: Plant Parents and Their Offspring



MODULE PLANNING RESOURCES

Three-Dimensional Learning	46A
Performance Expectations	46B
Disciplinary Core Idea Progressions	46C
Three-Dimensions at a Glance	46D
Module Planner	46E
Inquiry Activity Planner	46G
Inspire All Students	46I
 Discover the Phenomenon	46
STEM Connection	48

Lesson 1: Plants and Their Parents

LESSON PLANNING RESOURCES

Building to the Performance Expectations	52A
Lesson at a Glance	52C
 Discover the Phenomenon	52
Inquiry Activity: Data Analysis Compare an Adult Plant and a Young Plant	54
Inquiry Activity: Simulation Plants Grow and Change	62
Inquiry Activity: Hands On Grow a Radish	64

Lesson 2: Plant Survival

LESSON PLANNING RESOURCES

Building to the Performance Expectations	70A
Lesson at a Glance	70C
 Discover the Phenomenon	70
Inquiry Activity: Simulation Plants and Shade	72
Inquiry Activity: Research Plant Survival	82
STEM Module Project	87
Engineering Challenge Design a Seed That Travels	87
Module Wrap-Up	89

Table of Contents

TEACHER RESOURCES

Glossary	EM2
Index	EM11
Study Guide Foldables®	EM14
Visual Kinesthetic Vocabulary® (VKV®)	EM16
Graphic Organizers	EM18–EM26

Teacher Notes



Table of Contents

UNIT 2

Animals and How They Communicate

Module: Animal Parents and Their Offspring



MODULE PLANNING RESOURCES

Three-Dimensional Learning	2A
Performance Expectations	2B
Disciplinary Core Idea Progressions	2C
Three Dimensions at a Glance	2D
Module Planner	2E
Inquiry Activity Planner	2G
Inspire All Students	2I
 Discover the Phenomenon	2
 STEM Connection	4

Lesson 1: Animal Structures

LESSON PLANNING RESOURCES

Building to the Performance Expectations	8A
Lesson at a Glance	8C
 Discover the Phenomenon	8
Inquiry Activity: Hands On Animal Parts	10
Inquiry Activity: Hands On Sort Animals	16

Lesson 2: Functions of Animal Structures

LESSON PLANNING RESOURCES

Building to the Performance Expectations	22A
Lesson at a Glance	22C
 Discover the Phenomenon	22
Inquiry Activity: Research Animals Move	24
Inquiry Activity: Simulation Explore Animal Structures	30

Lesson 3: Animals and Their Parents

LESSON PLANNING RESOURCES

Building to the Performance Expectations	36A
Lesson at a Glance	36C
Discover the Phenomenon	36
Inquiry Activity: Data Analysis Compare Birds and Their Offspring	38
Inquiry Activity: Data Analysis Dogs Change as They Grow	46

Lesson 4: Animal Behaviors

LESSON PLANNING RESOURCES

Building to the Performance Expectations	52A
Lesson at a Glance	52C
Discover the Phenomenon	52
Inquiry Activity: Hands On What Animals Do	54
Inquiry Activity: Research Animals and Their Young	64
STEM Module Project	69
Engineering Challenge Design Protective Gear for a Sport	69
Module Wrap-Up	71

Module: Communication



MODULE PLANNING RESOURCES

Three-Dimensional Learning	72A
Performance Expectations	72B
Disciplinary Core Idea Progressions	72C
Three Dimensions at a Glance	72D
Module Planner	72E
Inquiry Activity Planner	72G
Inspire All Students	72I
Discover the Phenomenon	72
STEM Connection	73

Lesson 1: Animal Communication

LESSON PLANNING RESOURCES

Building to the Performance Expectations	78A
Lesson at a Glance	78C
Discover the Phenomenon	78
Inquiry Activity: Hands On Animal Sounds	80
Inquiry Activity: Research Animal Messages	88

Table of Contents

Lesson 2: Sound

LESSON PLANNING RESOURCES

Building to the Performance Expectations	94A
Lesson at a Glance	94C
Discover the Phenomenon	94
Inquiry Activity: Hands On Feel Sound	96
Inquiry Activity: Simulation Instruments	104
Inquiry Activity: Hands On Make Vibrations	108
STEM Module Project	113
Engineering Challenge Design an Animal Sound Instrument	113
Module Wrap-Up	115

TEACHER RESOURCES

Glossary	EM2
Index	EM11
Study Guide Foldables®	EM14
Visual Kinesthetic Vocabulary®	EM16
Graphic Organizers	EM18–EM26

Teacher Notes



Table of Contents

UNIT 3

Light and Shadows

Module: See Objects



MODULE PLANNING RESOURCES

Three-Dimensional Learning	2A
Performance Expectations	2B
Disciplinary Core Idea Progressions	2C
Three-Dimensions at a Glance	2D
Module Planner	2E
Inquiry Activity Planner	2G
Inspire All Students	2I
Discover the Phenomenon	2
STEM Connection	4

Lesson 1: Light

LESSON PLANNING RESOURCES

Building to the Performance Expectations	8A
Lesson at a Glance	8C
Discover the Phenomenon	8
Inquiry Activity: Hands On Observe Light	10
Inquiry Activity: Demonstration Light Travels	16

Lesson 2: Light and Materials

LESSON PLANNING RESOURCES

Building to the Performance Expectations	22A
Lesson at a Glance	22C
Discover the Phenomenon	22
Inquiry Activity: Demonstration Explore Light	24
Inquiry Activity: Hands On Trace a Shadow	32

Lesson 3: Light Uses

LESSON PLANNING RESOURCES

Building to the Performance Expectations	38A
Lesson at a Glance	38C

Discover the Phenomenon	38
Inquiry Activity: Hands On Light and Mirrors	40
Inquiry Activity: Research Objects That Communicate	52
STEM Module Project	57
Engineering Challenge Design a Light Message	57
Module Wrap-Up	59

TEACHER RESOURCES

Glossary	EM2
Index	EM11
Study Guide Foldables®	EM14
Visual Kinesthetic Vocabulary® (VKV®)	EM16
Graphic Organizers	EM18–EM26

Teacher Notes



Table of Contents

UNIT 4

Sky Patterns

Module: Observe the Sky



MODULE PLANNING RESOURCES

Three-Dimensional Learning	2A
Performance Expectations	2B
Disciplinary Core Idea Progressions	2C
Three Dimensions at a Glance	2D
Module Planner	2E
Inquiry Activity Planner	2G
Inspire All Students	2I
Discover the Phenomenon	2
STEM Connection	4

Lesson 1: Objects in the Sky

LESSON PLANNING RESOURCES

Building to the Performance Expectations	8A
Lesson at a Glance	8C
Discover the Phenomenon	8
Inquiry Activity: Hands On Day and Night Sky	10
Inquiry Activity: Research Up in the Sky	18

Lesson 2: Day and Night Patterns

LESSON PLANNING RESOURCES

Building to the Performance Expectations	26A
Lesson at a Glance	26C
Discover the Phenomenon	26
Inquiry Activity: Hands On Sundial Patterns	28
Inquiry Activity: Hands On Moon Phases	34

Lesson 3: Patterns During the Year

LESSON PLANNING RESOURCES

Building to the Performance Expectations	40A
Lesson at a Glance	40C

Discover the Phenomenon	40
Inquiry Activity: Simulation Sunlight	42
Inquiry Activity: Data Analysis Seasons and the Sun	50
STEM Module Project	55
Science Challenge Seasonal Patterns	55
Module Wrap-Up	59

TEACHER RESOURCES

Glossary	EM2
Index	EM11
Study Guide Foldables®	EM14
Visual Kinesthetic Vocabulary® (VKV®)	EM16
Graphic Organizers	EM18–EM26

Teacher Notes

