Science Textbook Correlation to the
2018 Kindergarten Science Standards of Learning Curriculum Framework

Publisher:	**Text Grade K VA FOSS Comprehensive**	
Delta Education, LLC./School Specialty, Inc.	**Classroom Package**	**Copyright date 2018**
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2018 Kindergarten Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
K.2 The student will investigate and understand that pushes and pulls affect the motion of objects. Key ideas include	This SOL is covered in the Kindergarten FOSS module **– *Materials and Motion.***
a) pushes and pulls can cause an object to move;	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting Things to Move – Pushes and Pulls*, Investigation 4, Part 1, pp. 274-282 **ATE** *Getting Things to Move – Colliding Objects*, Investigation 4, Part 2, pp. 283-292 **ATE** *Getting Things to Move – Rolling Outdoors*, Investigation 4, Part 3, pp. 293-299 **ATE** *Getting Things to Move – Balloon Rockets*, Investigation 4, Part 4, pp. 300-305 **CT** *Pushes and Pulls*, pp. 47 – 59 (eBook) [Inv. 4.1] **CT** *Collisions*, pp. 60 – 68 (eBook) [Inv. 4.2]
b) pushes and pulls can change the direction of an object; and	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting Things to Move – Pushes and Pulls*, Investigation 4, Part 1, pp. 274-282 **ATE** *Getting Things to Move – Colliding Objects*, Investigation 4, Part 2, pp. 283-292 **ATE** *Getting Things to Move – Rolling Outdoors*, Investigation 4, Part 3, pp. 293-299 **ATE** *Getting Things to Move – Balloon Rockets*, Investigation 4, Part 4, pp. 300-305

	CT *Pushes and Pulls,* pp. 47 – 59 (eBook) [Inv. 4.1] **CT** *Collisions*, pp. 60 – 68 [Inv. 4.2]
c) changes in motion are related to the strength of the push or pull.	**FOSS Next Generation** *Materials and Motion* **ATE** *Getting Things to Move – Pushes and Pulls,* Investigation 4, Part 1, pp. 274-282 **ATE** *Getting Things to Move – Colliding Objects,* Investigation 4, Part 2, pp. 283-292 **ATE** *Getting Things to Move – Rolling Outdoors,* Investigation 4, Part 3, pp. 293-299 **ATE** *Getting Things to Move – Balloon Rockets,* Investigation 4, Part 4, pp. 300-305 **CT** *Pushes and Pulls,* pp. 47 – 59 (eBook) [Inv. 4.1] **CT** *Collisions*, pp. 60 – 68 (eBook) [Inv. 4.2]

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K.3 The student will investigate and understand that physical properties of an object can be described. Properties include	This SOL is covered in the Kindergarten FOSS module **– *Materials and Motion.***
a) colors	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood – Observing Wood,* Investigation 1, Part 1, pp.88-103 **ATE** *Getting to Know Paper – Paper Hunt,* Investigation 2, Part 1, pp. 164-173 **ATE** *Getting to Know Fabric – Feely Boxes and Fabric Hunt,* Investigation 3, Part 1, pp. 220-226 **CT** *What is Fabric Made From?,* pp. 19-31 (eBook) [Inv. 1.2] **CT** *Weave a Pattern,* Online Activity, www.fossweb.com [Inv. 1.2]
b) shapes and forms:	**FOSS Next Generation** *Materials and Motion* **ATE** *Getting to Know Wood – Observing Wood,* Investigation 1, Part 1, pp.88-103 **ATE** *Getting to Know Paper – Paper Hunt,* Investigation 2, Part 1, pp. 164-173 **ATE** *Getting to Know Fabric – Feely Boxes and Fabric Hunt,* Investigation 3, Part 1, pp. 220-226 **CT** *Clothing and Building Materials,* Video, fossweb.com [Inv 3.5]
c) textures and feel: and	**FOSS Next Generation** *Materials and Motion* **ATE** *Getting to Know Wood – Observing Wood,* Investigation 1, Part 1, pp.88-103 **ATE** *Getting to Know Paper – Paper Hunt,* Investigation 2, Part 1, pp. 164-173

	ATE *Getting to Know Fabric – Feely Boxes and Fabric Hunt,* Investigation 3, Part 1, pp. 220-226 **ATE** *Getting to Know Fabric – Taking Fabric Apart,* Investigation 3, Part 2, pp**. 227-233** **CT** *What is Fabric Made From?,* pp. 19-31 (eBook) [Inv. 3.5] **CT** *How Are Fabrics Used?,* pp. 32-40 (eBook) [Inv. 3.4]
d) relative sizes and weights of objects.	**FOSS Next Generation** *Materials and Motion* **ATE** *Getting to Know Wood – Observing Wood,* Investigation 1, Part 1, pp.88-103 **ATE** *Getting to Know Paper – Paper Hunt,* Investigation 2, Part 1, pp. 164-173 **ATE** *Getting to Know Fabric – Feely Boxes and Fabric Hunt,* Investigation 3, Part 1, pp. 220-226 **CT** *What is Fabric Made From?,* pp. 19-31 (eBook) [Inv. 3.2] **CT** *How Are Fabrics Used?,* pp. 32-40 (eBook) [Inv. 3.4] **CT** *Clothing and Building Materials,* Video, fossweb.com [Inv. 3.5]

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K.4 The student will investigate and understand that water is important in our daily lives and has properties. Key ideas include	This SOL is covered in the Kindergarten FOSS modules **– *Materials and Motion, Trees and Weather,*** and ***Animals Two by Two.***
a) water has many uses;	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood,* Investigation 1, Parts 2-3, and 5-6 pp. 104-121 and 128-141 **ATE** *Getting to Know Paper,* Investigation 2, Parts 3-5, pp. 181-202 **ATE** *Getting to Know Fabric-Water and Fabric,* Investigation 3, Part 3, pp. 234-243 **CT** *Land, Air, and Water,* pp. 41-45 (eBook) [Inv. 3.5] **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees – Adopt Schoolyard Trees,* Investigation 1, Part 5, pp. 105-113 (Landform Cards) **CT** *Where Do Tress Grow?* pp. 3-13 (eBook) [Inv. 1.5] **CT** *What Do Plants Need?,* pp. 14-19 (eBook) [Inv. 1.6] **CT** *Weather,* pp. 32-46 (eBook) [Inv. 3.3]
b) water can be found in many places;	**FOSS Next Generation *Materials and Motion*** **CT** *Land, Air, and Water,* pp. 41-45 [Inv. 3.5] **FOSS Next Generation *Trees and Weather***

	ATE *Observing Trees – Adopt Schoolyard Trees,* Investigation 1, Part 5, pp. 105-113 (Landform Cards) **CT** *Where Do Trees Grow,?* pp. 3-13 (eBook) [Inv. 1.5] **CT** *What Do Plants Need?,* pp. 14-19 (eBook) [Inv. 1.6] **CT** *Weather,* pp. 32-46 (eBook) [Inv. 3.3] **CT** *My Apple Tree,* pp. 47-50 (eBook) [Inv. 4.2] **CT** *Orange Trees,* pp. 51-56 (eBook) [Inv. 4.4] **CT** *Maple Trees,* pp. 57-60 (eBook) [Inv. 4.9]
c) water occurs in different phases; *Students are not responsible for understanding water as a gas.*	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Paper – Paper Mache,* Investigation 2, Part 5, pp. 196-202 **ATE** *Getting to Know Fabric – Water and Fabric,* Investigation 3, Part 3, pp. 234-237 **CT** *Land, Air, and Water,* pp. 41-45 (eBook) [Inv. 3.5] **CT** *Clothing and Building Materials* (7:36), Video, fossweb.com [Inv. 3.5] **FOSS Next Generation *Trees and Weather*** **CT** *Where Do Trees Grow?,* pp. 6, 8, 9,11 (eBook) [Inv. 1.5] **CT** *Up in the Sky,* pp. 28, 29, 31 (eBook) [Inv. 3.1] **CT** *Weather,* pp. 32-46 (eBook) [Inv. 3.3] **CT** *Maple Trees,* pp. 57-60 (eBook) [Inv. 4.9]
d) water flows downhill.	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood – Wood and Water,* Investigation 1, Part 2, pp. 104-111 **FOSS Next Generation *Animals Two by Two*** **CT** *Fish Live in Many Places,* pp. 11, 18 (eBook) [Inv. 1.4] **CT** *Living and Nonliving,* pp. 67, 71, 72 (eBook) [Inv. 4.4] **FOSS Next Generation *Trees and Weather*** **CT** *Where Do Trees Grow?,* p. 6 (eBook) [Inv. 1.5] **CT** *Up in the Sky,* p. 31 (eBook) [Inv. 3.1]

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K.5 The students will investigate and understand that senses allow humans to seek, find, take in, and react or respond to different information. Key ideas include	This SOL is covered in the Kindergarten FOSS modules **– *Materials and Motion, Trees and Weather,*** and ***Animals Two by Two.***
a) the five basic senses correspond to specific human body structures; and	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood – Observing Wood,* Investigation 1, Part 1, pp.88-103 **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Leaves – Leaf Walk,* Investigation 2, Part 1, pp. 136-141 **CT** *How Do We Learn?* pp. 2-16 [Inv. 2.1]

b) senses are used in our daily lives.	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood – Observing Wood,* Investigation 1, Part 1, pp.88-103 **ATE** *Getting to Know Paper – Paper Hunt,* Investigation 2, Part 1, pp. 164-173 **ATE** *Getting to Know Fabric – Feely Boxes and Fabric Hunt,* Investigation 3, Part 1, pp. 220-226 **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees* – Investigation 1, Parts 1-2, pp. 80-96 **ATE** *Observing Trees – Adopt Schoolyard Trees*, Investigation 1, Part 5, pp. 105-113 **ATE** *Observing Leaves* – Investigation 2, Parts 1-2, pp. 136-147 **ATE** *Trees through the Seasons* – Investigation 4, Parts 3, 6, and 9, pp. 224-228, 239-243, 252-257 **FOSS Next Generation *Animals Two by Two*** **ATE** *Goldfish and Guppies – Comparing Schoolyard Birds,* Investigation 1, Part 5, pp. 104-114

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K.6 The student will investigate and understand that there are differences between living organisms and nonliving objects. Key ideas include	This SOL is covered in the Kindergarten FOSS modules –***Trees and Weather,*** and ***Animals Two by Two***
a) all things can be classified as living or nonliving; and	**FOSS Next Generation *Animals Two by Two*** **ATE** *Goldfish and Guppies,* Investigation 1, Parts 1-5, pp. 78-114 **ATE** *Water and Land Snails,* Investigation 2, Parts 1-3 pp. 130-152 **ATE** *Big and Little Worms,* Investigation 3, Parts 1-3, pp. 168-189 **ATE** *Pill Bugs and Sow Bugs,* investigation 4, Parts 1-4, pp. 202-230 **CT** *Living and Nonliving,* pp. 67 – 86 (eBook) [Inv. 4.4] **CT** *Seashore Surprises,* Video www.fossweb.com [Inv. 2.2] **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees* - Investigation 1, Parts 1 and 6, pp. 80-91, 114-123 **ATE** *Trees Through the Seasons* - Investigation 4, Parts 1-9 pp. 216-257
b) living organisms have certain characteristics that distinguish them from nonliving objects.	**FOSS Next Generation *Animals Two by Two*** **ATE** *Goldfish and Guppies,* Investigation 1, Parts 1-5, pp. 78-114 **ATE** *Water and Land Snails,* Investigation 2, Parts 1-3 pp. 130-152 **ATE** *Big and Little Worms,* Investigation 3, Parts 1-3, pp. 168-189 **ATE** *Pill Bugs and Sow Bugs,* investigation 4, Parts 1-4, pp. 202-230

	CT *Living and Nonliving*, pp. 67 – 86 (eBook) [Inv. 4.4] **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees* - Investigation 1, Parts 1 and 6, pp. 80-91, 114-123 **ATE** *Trees Through the Seasons* - Investigation 4, Parts 1-9 pp. 216-257 **CT** *Once There Was a Tree*, Video, www.fossweb.com [Inv. 2.5]

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K.7 The student will investigate and understand that plants and animals have basic needs and life processes. Key ideas include	This SOL is covered in the Kindergarten FOSS modules – ***Trees and Weather,*** and ***Animals Two by Two***
a) living things need adequate food, water, shelter, air, and space to survive;	**FOSS Next Generation *Animals Two by Two*** **ATE** *Goldfish and Guppies,* Investigation 1, Parts 2, 4, and 5, pp. 86-90, 96-114 **ATE** *Big and Little Worms,* Investigation 3, Parts 1 and 2, pp. 168-181 **ATE** *Pill Bugs and Sow Bugs, I*nvestigation 4, Parts 1, 3, and 4, pp. 202-207, 215-230 **CT** *Fish Same and Different,* p. 5 (eBook) [Inv. 1.4] **CT** *Birds Outdoors,* pp. 22-25 (eBook) [Inv. 1.5] **CT** *Worms in Soil,* pp. 37-47 (eBook) [Inv. 3.3] **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees,* Investigation 1, Parts 1-2, and 5-6, pp. 80-96, 105-123 **CT** *What Do Plants Need? P.* pp. 14-19 (eBook) [Inv. 1.6]
b) plants and animals have life cycles; and *Students are not expected to recognize the different stages or sequences of specific life cycles.*	**FOSS Nest Generation *Animals Two by Two*** **CT** *Worms in Soil,* p. 44 (eBook) [Inv. 3.3] **CT** *Birds Outdoors,* p. 26 (eBook) [Inv. 1.5] **CT** *Living and Nonliving,* pp. 79-80 (eBook) [Inv. 4.4] **CT** *Seashore Surprises - Chapter 1,* Video www.fossweb.com [Inv. 2.2]

	FOSS Next Generation *Trees and Weather* **ATE** *Observing Trees - Adopt Schoolyard Trees,* Investigation 1, Part 5, pp. **ATE** *Trees Through the Seasons,* Investigation 4, Parts 1-9, pp. **CT** *Maple Trees,* pp. 58-60 (eBook) [Inv. 4.9]
c) offspring of plants and animals are similar but not identical to their parents or to one another.	**FOSS Next Generation *Animals Two by Two*** **ATE** *Pill Bugs and Sow Bugs -Animals Living Together,* Investigation 4, Part 4, pp. 224-230 **CT** *Animals All Around Us,* p. 65 (eBook) [Inv. 4.3] **CT** *Living and Nonliving,* pp. 69, 74-79 (eBook) [Inv. 4.4] **CT** *Find the Parent, Online Activity* www.fossweb.com [Inv. 4.4] **FOSS Next Generation *Trees and Weather*** **ATE** *Trees Through the Seasons - Fall: Visiting Adopted Trees,* Investigation 4, Part 3, pp. 224-228

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K.8 The student will investigate and understand that light influences temperature on Earth's surfaces and can cause shadows. Key ideas include *Students are not responsible for the term energy*	This SOL is covered in the Kindergarten FOSS modules – ***Materials and Motion,*** and ***Trees and Weather.***
a) the sun provides light and warms Earth's surface; *Students should measure temperature in relative measures such as warmer/cooler only.*	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Fabric – Building Structures*, Investigation 3, Part 6, pp. 251-260 **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Weather – Recording Temperature*, Investigation 3, Part 2, pp. 183-189 **CT** *Up in the Sky*, pp. 20-31 (eBook) [Inv. 3.1]
b) shadows can be produced when sunlight or artificial light is blocked by an object; and	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Fabric – Building Structures*, Investigation 3, Part 6, pp. 251-260 **FOSS Next Generation *Trees and Weather*** **CT** *Up in the Sky*, pp. 22, 23, 30-31 (eBook) [Inv. 3.1]

c) objects in shadows and objects in sunlight have different temperatures.	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Fabric – Building Structures*, Investigation 3, Part 6, pp. 251-260 **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Weather – Recording Temperature*, Investigation 3, Part 2, pp. 183-189

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K.9 The student will investigate and understand that there are patterns in nature. Key patterns include	This SOL is covered in the Kindergarten FOSS module **–*Trees and Weather.***
a) daily weather;	**FOSS Next Generation *Trees and Weather*** **ATE** *Observing Weather – Weather Calendar,* Investigation 3, Part 1, pp. 176-182 **ATE** *Observing Weather - Recording Temperature,* Investigation 3, Part 2, pp. 183-189 **ATE** *Observing Weather - Wind Direction,* Investigation 3, Part 3, pp. 190-202 **CT** *Up in the Sky,* pp. 20-31 (eBook) [Inv. 3.1] **CT** *Weather p,* pp. 32-46 (eBook) [Inv. 3.3] **CT** *Come a Tide,* Video www.fossweb.com [Inv. 3.3]
b) seasonal changes; and	**FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees – Adopt a Schoolyard Tree,* Investigation 1, Part 5, pp. 105-113 **ATE** *Observing Weather – Weather Calendar,* Investigation 3, Part 1, pp. 176-182 **ATE** *Trees Through the Seasons,* Investigation 4, Parts 1-9, pp. 216-257 **CT** *Weather,* pp. 32-46 (eBook) [Inv. 3.3] **CT** *Maple Trees,* pp. 58-60 (eBook) [Inv. 4.9] **CT** *Come a Tide,* Video www.fossweb.com [Inv. 3.3] **CT** *Summer,* Video www.fossweb.com [Inv. 4.9]
c) day and night.	**FOSS Next Generation *Trees and Weather*** **ATE** *Observing Weather - Recording Temperature,* Investigation 3, Part 2, pp. 182

	ATE *Trees Through the Seasons – Spring: Visiting Adopted Trees,* Investigation 4, Part 9, p. 256 **CT** *Up in the Sky*, pp. 20-31 (eBook) [Inv. 3.1] **CT** *Come a Tide,* Video, www.fossweb.com [Inv. 3.3]

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K.10 The student will investigate and understand that change occurs over time. Key ideas include	This SOL is covered in the Kindergarten FOSS modules **– *Materials and Motion, Trees and Weather,*** and ***Animals Two by Two.***
a) natural and human-made things change over time;	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood***,** Investigation 1, Parts, 2 and 4, pp. 104-111, 122-127 **ATE** *Getting to Know Paper*, Investigation 2, Parts, 3-5, pp. 181-202 **ATE** *Getting to Know Fabric*, Investigation 2, Parts, 3-6, pp. 234-260 **FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees – Adopt a Schoolyard Tree*, Investigation 1, Part 5, pp. 105-113 **ATE** *Observing Weather*, Investigation 3, Parts 1-3, pp. 176-202 **ATE** *Trees Through the Seasons*, Investigation 4, Parts 1-9, pp. 216-257 **CT** *Weather p*, pp. 32-46 (eBook) [Inv. 3.3] **FOSS Next Generation *Animals Two by Two*** **ATE** *Big and Little Worms – The Structure of Redworms*, Investigation 3, Part 1, pp. 168-173
b) living and nonliving things change over time;	**FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees – Adopt a Schoolyard Tree*, Investigation 1, Part 5, pp. 105-113 **ATE** *Trees Through the Seasons*, Investigation 4, Parts 1-9, pp. 216-257

	CT *Where Do Trees Grow?,* pp. 3-13 (eBook) [Inv. 1.5] **CT** *Weather,* pp. 32-46 (eBook) [Inv. 3.3] **CT** *My Apple Tree,* pp. 47-50 (eBook) [Inv. 4.2] **CT** *Maple Trees,* pp. 57-60 (eBook) [Inv. 4.9] **FOSS Next Generation *Animals Two by Two*** **CT** *Living and Nonliving,* pp. 74-80 (eBook)
c) changes can be observed and measured; and	**FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees - Observing Schoolyard Trees,* Investigation 1, Part 1, 80-91 **ATE** *Observing Trees – Adopt a Schoolyard Tree,* Investigation 1, Part 5, pp. 105-113 **ATE** *Trees Through the Seasons,* Investigation 4, Parts 1-9, pp. 216-257 **CT** *My Apple Tree,* pp. 47 – 50 (eBook) [Inv. 4.2] **CT** *Orange Trees,* pp. 51 – 56 (eBook) [Inv. 4.4] **CT** *Maple Trees,* pp. 57 – 60 (eBook) [Inv. 4.9]
d) changes may be fast or slow.	**FOSS Next Generation *Trees and Weather*** **ATE** *Observing Trees - Observing Schoolyard Trees,* Investigation 1, Part 1, 80-91 **ATE** *Observing Trees – Adopt a Schoolyard Tree,* Investigation 1, Part 5, pp. 105-113 **ATE** *Trees Through the Seasons,* Investigation 4, Parts 1-9, pp. 216-257 **CT** *Once There Was a Tree,* Video, www.fossweb.com [Inv. 4.6]

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K.11 The student will investigate and understand that humans use resources. Key ideas include	This SOL is covered in the Kindergarten FOSS modules **– *Materials and Motion,*** and ***Trees and Weather.***
a) some materials and objects can be used over and over again;	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Fabric - Reuse and Recycle Resources,* Investigation 3, Part 5, pp.244-250 **CT** *Recycling Center,* Online Activity, fossweb.com [Inv. 1.5] **CT** *Environmental Health – Chapter 8,* Video, fossweb.com [Inv. 1.5]
b) materials can be recycled; and	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Wood - Sawdust and Shavings,* Investigation 1, Part 5, pp. 128-134 **ATE** *Getting to Know Paper - Paper Recycling,* Investigation 2, Part 4, pp. 188-195 **ATE** *Getting to Know Paper- Papier-Mache,* Investigation 2, Part 5, pp. 196-202 **ATE** *Getting to Know Fabric - Reuse and Recycle Resources,* Investigation 3, Part 5, pp.244-250 **CT** *Land, Air, and Water,* pp. 41 – 45 (eBook) [Inv 3.5] **CT** *Recycling Center,* Online Activity, fossweb.com [Inv. 3.5] **CT** *Environmental Health – Chapter 8,* Video, fossweb.com [Inv. 3.5] **FOSS Next Generation *Trees and Weather*** **CT** *Once There was a Tree,* Video, fossweb.com [Inv. 4.6]

c) choices we make impact the air, water, land and living things.	**FOSS Next Generation *Materials and Motion*** **ATE** *Getting to Know Fabric - Reuse and Recycle Resources*, Investigation 3, Part 5, pp.244-250 **CT** *Land, Air, and Water*, pp. 41 – 45 (eBook) [Inv. 3.5] **CT** *Environmental Health*, Video, fossweb.com [Inv. 3.5] **CT** *Recycling Center*, Online Activity, fossweb.com [Inv. 3.5] **FOSS Next Generation *Animals Two by Two*** **CT** *Seashore Surprises - Chapter 3*, Video www.fossweb.com [Inv. 2.2]

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1.2 The student will investigate and understand that objects can move in different ways. Key ideas include	This SOL is covered in the Grade 1 FOSS module – ***Sound and Light.*** This SOL is covered in the Grade 1 ***Sound and Light (AVA*).*** *To enhance the **FOSS Sound and Light** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Sound and Light** module.
a) objects may have straight, circular, spinning, and back-and-forth motions; and	**FOSS Next Generation *Sound and Light*** **ATE** *Sound and Vibrations* - Investigation 1, Parts 1-3, pp. 84 – 117 **CT** *Vibrations and Sound,* pp. 3 – 7 (eBook) [Inv. 1.1] **CT** *Listen to This,* pp. 8 – 14 (eBook) [Inv. 1.2] **CT** *Animals Ears and Hearing,* pp. 15 – 23 (eBook) [Inv. 2.1] **CT** *Guitar String Pitch,* Multimedia Activity, fossweb.com [Inv. 2.2] **FOSS Next Generation *Sound and Light (AVA)*** **ATE** *Changing Sound – AVA: Force, Motion, and Energy*, Inv. 2, Part 4 (after), pp. 3-5 **CT** *Pushes and Pulls*, pp. 47-59 (eBook) [end Inv. 2.4]

b) objects may vibrate and produce sound.	**FOSS Next Generation *Sound and Light*** **ATE** *Sound and Vibrations* - Investigation 1, Parts 1-3, pp. 84 – 117 **ATE** *Changing Sound* - Investigation 2; Parts 1-4, pp. 132 – 165 **CT** *Vibrations and Sound,* pp. 3 – 7 (eBook) [Inv. 1.1] **CT** *Listen to This,* pp. 8 – 14 (eBook) [Inv. 1.2] **CT** *Strings in Motion,* pp. 24 – 32 (eBook) [Inv. 2.2] **CT** *Guitar String Pitch,* Online Activity, fossweb.com [Inv. 2.2] **CT** *Sorting Sounds,* Online Activity, fossweb.com [Inv. 1.3] **CT** *All about Sound,* Video, fossweb.com [Inv. 2.3]

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1.3 The student will investigate and understand that objects are made from materials that can be described by their physical properties. Key ideas include	This SOL is covered in the Grade 1 FOSS module – ***Sound and Light.*** This SOL is covered in the Grade 1 ***Sound and Light (AVA*).*** *To enhance the **FOSS Sound and Light** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Sound and Light** module
a) objects are made of one or more materials with different physical properties and can be used for a variety of purposes;	**FOSS Next Generation *Sound and Light (AVA)*** **ATE** *Light and Shadows – AVA: Matter,* Investigation 2, Part 3 (after), pp. 7-17 **ATE** *Light and Shadows – AVA: Matter,* Investigation 2, Part 3 (after), pp. 7-17 **CT** *Solid Objects and Materials*, pp. 12-21 (eBook) [end Inv. 3.3] **CT** *The Story of the Box,* pp. 13-18 (eBook) [end Inv. 1.3] **CT** *What is Fabric Made From,* pp.19-31 (eBook) [end Inv. 1.3] **CT** *How Are Fabrics Used,* pp. 32-40 (eBook) [end Inv. 1.3] **CT** *Clothing and Building Materials*, Video, fossweb.com [Inv.3.3]
b) when a material is changed in size most physical properties remain the same; and	**FOSS Next Generation *Sound and Light (AVA)*** **ATE** *Light and Shadows – AVA: Matter,* Investigation 2, Part 3 (after), pp. 7-17 **CT** *Solid Objects and Materials*, pp. 12-21 (eBook) [end Inv. 3.3] **CT** *The Story of the Box,* pp. 13-18 (eBook) [end Inv. 1.3] **CT** *What is Fabric Made From,* pp.19-31 (eBook) [end Inv. 1.3] **CT** *How Are Fabrics Used,* pp. 32-40 (eBook) [end Inv. 1.3] **CT** *Clothing and Building Materials*, Video, fossweb.com [Inv.3.3]

c) the type and amount of material determine how much light can pass through an object.	**FOSS Next Generation *Sound and Light*** **ATE** *Light and Shadows – Light and Materials*, Investigation 3, Part 3, pp. 193 – 201 **CT** *All about Light*, Video, fossweb.com [Inv. 3.3]

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
1.4 The student will investigate and understand that plants have basic life needs and functional parts that allow them to survive. Key ideas include	This SOL is covered in the Grade 1 FOSS module – ***Plants and Animals.***
a) plants need nutrients, air, water, light, and a place to grow;	**FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds* - Investigation 1, Parts 1-4, pp. 80-125 **ATE** *Terrariums - Setting Up Terrariums* Investigation 3, Parts 1-3, pp. 176-217 **CT** *What Do Plants Need?* pp. 3 – 9 (eBook) [Inv. 1.1] **CT** *How Plants Grow,* Video, fossweb.com [Inv. 1.3]
b) structures of plants perform specific functions; and	**FOSS Next Generation *Plants and Animals*** **ATE** *Stems* - Investigation 2, Parts 1-3, pp. 138-159 **ATE** *Growth and Change* - Investigation 4, Parts 1-3, pp. 232-256 **CT** *Plants and Animals around the World, pp. 34 – 56* (eBook) [Inv. 3.2] **CT** *How Plants Live in Different Places,* Video, fossweb.com [Inv. 3.3] **CT** *Watch It Grow!*, Video fossweb.com [Inv. 4.2]
c) plants can be classified based on a variety of characteristics.	**FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds – Variation in Plants and Animals,* Inv. 1, Part 4, pp. 117-125 **CT** *Variation,* pp. 20-26 (eBook) [Inv. 1.4]

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
1.5 The student will investigate and understand that animals, including humans, have basic life needs that allow them to survive. Key ideas include	This SOL is covered in the Grade 1 FOSS module – ***Plants and Animals.***
a) animals need air, food, water, shelter, and space (habitat);	**FOSS Next Generation *Plants and Animals*** **ATE** *Terrariums - Setting Up Terrariums,* Investigation 3, Part 1, pp. 176 – 184 **ATE** *Terrariums - Animals in the Terrarium,* Investigation 3, Part 2, pp. 185 -198 **ATE** *Terrariums - Habitat Match,* Investigation 3, part 3, pp. 199 - 206 **CT** *What Do Animals Need?* pp. 27 – 33 (eBook) [Inv. 3.1] **CT** *Plants and Animals around the World,* pp. 34 – 56 [Inv. 3.2] **CT** *Animal Growth,* Video, fossweb.com [Inv. 3.4] **CT** *Habitat Sort,* Online Activity, fossweb.com [Inv. 3.3]
b) animals have different physical characteristics that perform specific functions; and	**FOSS Next Generation *Plants and Animals*** **ATE** *Terrariums - Setting Up Terrariums,* Investigation 3, Part 1, pp. 176 - 184 **ATE** *Terrariums - Animals in the Terrarium,* Investigation 3; Part 2, pp. 185 – 198 **ATE** *Terrariums - Habitat Match,* Investigation 3, Part 3, pp. 199 - 206 **CT** *Variation,* pp. 19 – 26 (eBook) [Inv. 1.4] **CT** *Learning from Nature,* pp. 57-70 (eBook) [Inv. 3.4] **CT** *How Plants Grow,* Video, fossweb.com [Inv. 1.3] **CT** *Animal Growth,* Video, fossweb.com [Inv. 1.4] **CT** *Habitat Sort,* Online Activity, fossweb.com [Inv. 3.3]

c) animals can be classified based on a variety of characteristics.	**FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds – Variation in Plants and Animals,* Inv. 1, Part 4, pp. 117-125 **CT** *Variation,* pp. 20-26 (eBook) [Inv. 1.4] **CT** *Sorting Animals by Structures,* Online Activity, fossweb.com [Inv. 3.3] **CT** *Habitat Sort,* Online Activity, fossweb.com [Inv. 3.3] **CT** *Animal Growth,* Video, fossweb.com [Inc. 3.4]

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
1.6 The student will investigate and understand that there is a relationship between the sun and Earth. Key ideas include	This SOL is covered in the Grade 1 FOSS module – ***Sound and Light.***
a) the sun is the source of energy and light that warms the Earth's land, air, and water; and	**FOSS Next Generation *Sound and Light*** **ATE** *Light and Shadow - Making Shadows,* Investigation 3, Part 1, pp. 178 - 183 **ATE** *Light and Shadows - Sun and Shadows,* Investigation 3, Part 2, pp. 184 - 192 **CT** *Playing in the Light,* pp. 38 – 45 (eBook) [Inv. 3.2] **CT** *Light and Shadows,* Video, fossweb.com [Inv. 3.2] **CT** *All about Light,* Video, fossweb.com [Inv. 3.3] **CT** *My Shadow,* Video, fossweb.com [Inv. 3.3]
b) the sun's relative position changes in the Earth's sky throughout the day.	**FOSS Next Generation *Sound and Light*** **ATE** *Light and Shadows - Making Shadows,* Investigation 3, Part 1, pp. 178 - 183 **ATE** *Light and Shadows - Sun and Shadows,* Investigation 3, Part 2, pp. 184 - 192 **CT** *Playing in the Light,* pp. 38 – 45 (eBook) [Inv. 3.2] **CT** *Light and Shadows,* Video, fossweb.com [Inv. 3.2] **CT** *All about Light,* Video, fossweb.com [Inv. 3.3] **CT** *My Shadow,* Video, fossweb.com [Inv. 3.3]

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1.7 The student will investigate and understand that there are weather and seasonal changes. Key ideas include	This SOL is covered in the Grade 1 FOSS module – ***Air and Weather.***
a) changes in temperature, light, and precipitation occur over time;	**FOSS Next Generation *Air and Weather*** **ATE** *Observing the Sky* - Investigation 2, Parts 1-3, pp. 146-185 **ATE** *Wind Explorations* - Investigation 3, Parts 1-5, pp. 202-232 **ATE** *Looking for Change* - Investigation 4, Parts 1-3, pp. 246 – 267 **CT** *What Is the Weather Today?* pp. 9 – 17 (eBook) [Inv. 2.2] **CT** *Water in the Air,* pp. 20 – 25 (eBook) [Inv. 2.3] **CT** *Changes in the Sky,* pp. 26 – 37 (eBook) [Inv. 2.4/4.2] **CT** *Understanding the Weather,* pp. 38 – 43 (eBook) [Inv. 3.4] **CT** *Wind Speed,* Online Activity, fossweb.com [Inv. 3.2]
b) there are relationships between daily weather and the season; and	**FOSS Next Generation *Air and Weather*** **ATE** *Looking for Change - Change over a Month,* Investigation 4, Part 1, pp. 246 – 251 **ATE** *Looking for Change - Daylight through the Year,* Investigation 4, Part 2, pp. 252 – 257 **ATE** *Looking for Change - Comparing the Seasons,* Investigation 4, Part *3,* pp. 258 - 267 **CT** *Changes in the Sky,* pp. 26 – 37 (eBook) [Inv. 2.4]

	CT *Seasons,* pp. 54 – 61 (eBook) [Inv. 4.3] **CT** *Getting through the Winter,* pp. 62 – 68 (eBook) [Inv. 4.3]
c) changes in temperature, light, and precipitation affect plants and animals, including humans.	**FOSS Next Generation *Air and Weather*** **CT** *What Is the Weather Today?* pp. 9-17 (eBook) [Inv. 2.2] **CT** *Changes in the Sky*, pp. 30-37 (eBook) [Inv. 2.4] **CT** *Resources,* pp. 44 – 53 (eBook) [Inv. 3.5] **CT** *Seasons,* pp. 54-61 (eBook) [Inv. 4.3] **CT** *Getting through the Winter,* pp. 62 – 68 (eBook) [Inv. 4.3] **FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds – Variation in Plants and Animals,* Inv. 1, Part 4, pp. 117-125 **ATE** *Terrariums – Squirrel Behavior,* Investigation 3, Part 4, pp. 207-217 **ATE** *Plant and Animal Growth,* Investigation 4, Part 3, pp. 248-256

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2018 Grade One Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
1.8 The student will investigate and understand that natural resources can be used responsibly. Key ideas include	This SOL is covered in the Grade 1 FOSS modules – ***Air and Weather, Plants and Animals,*** and ***Sound and Light.***
a) most natural resources are limited;	**FOSS Next Generation *Air and Weather*** **ATE** *Exploring Air – Air is There,* Investigation 1, Part 1, p.91 (step 14) **CT** *Resources,* pp. 44 – 53 (eBook) [Inv. 3.5] **FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds – Lawns,* Investigation 1, Part 1, p. 86 (step 18) **FOSS Next Generation *Sound and Light*** **ATE** *Sound and Vibrations – Making Sounds,* Investigation 1, Part 1, p. 88 (step 18)
b) human actions can affect the availability of natural resources; and	**FOSS Next Generation *Air and Weather*** **ATE** *Exploring Air – Air is There,* Investigation 1, Part 1, p.91 (step 14) **CT** *Resources,* pp. 44 – 53 (eBook) [Inv. 3.5] **FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds – Lawns,* Investigation 1, Part 1, p. 86 (step 18) **FOSS Next Generation *Sound and Light*** **ATE** *Sound and Vibrations – Making Sounds,* Investigation 1, Part 1, p. 88 (step 18)

c) reducing, reusing, and recycling are ways to conserve natural resources.	**FOSS Next Generation *Air and Weather*** **ATE** *Exploring Air – Air is There,* Investigation 1, Part 1, p.91 (step 14) **CT** *Resources,* pp. 44 – 53 (eBook) [Inv. 3.5] **FOSS Next Generation *Plants and Animals*** **ATE** *Grass and Grain Seeds – Lawns,* Investigation 1, Part 1, p. 86 (step 18) **FOSS Next Generation *Sound and Light*** **ATE** *Sound and Vibrations – Making Sounds,* Investigation 1, Part 1, p. 88 (step 18)

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Contact Mary Farrell	**603-579-3562**	**mary.farrell@schoolspecialty.com**

2018 Grade Two Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
2.2 The student will investigate and understand that different types of forces may cause an object's motion to change. Key ideas include	This SOL is covered in the Grade 2 FOSS module – ***Forces in Action.***
a) forces from direct contact can cause an object to move;	**FOSS Next Generation *Forces in Action*** **ATE** *Spinners* – Investigation 1, Parts 1-2, pp. 48-67 **ATE** *Rollers* – Investigation 2, Parts 1-3, pp. 80-101 **ATE** *Balance* – Investigation 4, Parts 1-3, pp. 146-164 **CT** *Push of Pull*, pp. 3-7 (eBook) [Inv. 1.1] **CT** *Things That Spin*, pp. 8-12 (eBook) [Inv. 1.2] **CT** *Rolling, Rolling, Rolling!* pp. 13-19 (eBook) [Inv. 2.1] **CT** *Make It Balance*, pp. 29-38 (eBook) [Inv. 4.3] **CT** *Roller Coaster Builder,* Online Activity, fossweb.com [Inv. 2.2]

b) some forces, including gravity and magnetism, can cause objects to move from a distance; and	**FOSS Next Generation *Forces in Action*** **ATE** *Forces at a Distance,* Investigation 3, Parts 1-3, pp. 116-134 **ATE** *Balance* – Investigation 4, Parts 1-3, pp. 146-164 **CT** *Push of Pull,* p. 5 (eBook) [Inv. 1.1] **CT** *Move It but Don't Touch It,* pp. 20-24 (eBook) [Inv. 3.1] **CT** *Magnets at Work,* pp. 25-28 (eBook) [Inv. 3.2] **CT** *Make It Balance,* pp. 29-38 (eBook) [Inv. 4.3]
c) forces have applications in our lives.	**FOSS Next Generation *Forces in Action*** **ATE** *Spinners* – Investigation 1, Parts 1-2, pp. 48-67 **CT** *Push of Pull,* pp. 3-7 (eBook) [Inv. 1.1] **CT** *Things That Spin,* pp. 8-12 (eBook) [Inv. 1.2] **CT** *Rolling, Rolling, Rolling!* pp. 13-19 (eBook) [Inv. 2.1] **CT** *Move It but Don't Touch It,* pp. 20-24 (eBook) [Inv. 3.1] **CT** *Magnets at Work,* pp. 25-28 (eBook) [Inv. 3.2] **CT** *Make It Balance,* pp. 29-38 (eBook) [Inv. 4.3] **CT** *Roller Coaster Builder,* Online Activity, fossweb.com [Inv. 2.2]

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
2.3 The student will investigate and understand that matter can exist in different phases. Key ideas include	This SOL is covered in the Grade 2 FOSS module – ***Solids and Liquids*** and ***Weather and Seasons.***
a) matter has mass and takes up space;	**FOSS Next Generation *Solids and Liquids*** **ATE** *Solids – Solid Objects,* Investigation 1, Part 1, pp. 80-94 **ATE** *Liquids – Liquids in a Bottle,* Investigation 2, Part 1, pp. 144-149 **ATE** *Bits and Pieces – Solids in Containers,* Investigation 3, Part 1, pp. 188-194 **CT** *Everything Matters,* pp. 3-11 (eBook) [Inv. 1.1] **CT** *All About Properties of Matter,* Video, fossweb.com [Inv. 2.2] **FOSS Next Generation *Weather and Seasons*** **CT** *States of Matter,* pp. 79-86 (eBook) [Inv. 3.2]
b) solids, liquids, and gases have different characteristics; and	**FOSS Next Generation *Solids and Liquids*** **ATE** *Solids* – Investigation 1, Parts 1-5, pp. 80-126 **ATE** *Liquids* - Investigation 2, Parts 1-4, pp. 144-174 **CT** *Solid Objects and Materials,* pp. 12-21 (eBook) [Inv. 1.2] **CT** *Liquids,* pp. 31-37 (eBook) [Inv. 2.3] **CT** *Comparing Solids and Liquids,* pp. 44-53 (eBook) [Inv. 3.5] **CT** *Properties of Materials,* Video, fossweb.com [Inv. 1.4]

	FOSS Next Generation *Weather and Seasons* **ATE** *Observing Weather – Measuring Rainfall*, Investigation 1, Part 4, pp. 89-96 **CT** *Water in the Air*, pp. 14-19 (eBook) [Inv. 1.4]
c) heating and cooling can change the phases of matter.	**FOSS Next Generation *Solids and Liquids*** **ATE** *Bits and Pieces* – Investigation 3, Parts 1-5, pp. 188-221 **ATE** *Solids, Liquids, and Water – Solids and Water,* Investigation 4, Part 1, pp. 236-246 **ATE** *Solids, Liquids, and Water – Liquids and Water,* Investigation 4, Part 2, pp. 247-254 **ATE** *Solids, Liquids, and Water – Changing Properties*, Investigation 4, Part 4, pp. 261-272 **ATE** *Solids, Liquids, and Water – Tea Time,* Investigation 4, Part 5, pp. 273-277 **CT** *Heating and Cooling,* pp. 62-67 (eBook) [Inv. 4.4] **CT** *Is Change Reversible?,* pp. 68-76 (eBook) [Inv. 4.4] **CT** *Change It!*, Online Activity, fossweb.com [Inv. 4.4]

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2018 Grade Two Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
2.4 The student will investigate and understand that plants and animals undergo a series of orderly changes as they grow and develop. Key ideas include	This SOL is covered in the Grade 2 FOSS module - ***Insects and Plants***
a) animals have life cycles; and	**FOSS Next Generation *Insects and Plants*** **ATE** *Mealworms*- Investigation 1, Parts 1-3, pp. 86-121 **ATE** *Milkweed Bugs*- Investigation 3, Parts 1-3, pp. 192-213 **ATE** *Silkworms* – Investigation 4, Parts 1-3, pp. 24-266 **ATE** *Butterflies*- Investigation 5, Parts 1-3 pp. 290-309 **CT** *Animals and Plants in Their Habitat*, pp. 15-16 (eBook) [Inv. 1.1] **CT** *Insect Life Cycles*, pp 46-54 (eBook) [Inv. 4.3] **CT** *Life Goes Around***,** pp. 55-68 (eBook) [Inv. 5.3]
b) plants have life cycles.	**FOSS Next Generation *Insects and Plants*** **ATE** *Brassica Seeds- Planting Brassica,* Investigation 2, Part 1, pp. 138-147 **ATE** *Brassica Seeds- Observing Brassica Growth,* Investigation 2, Part 2, pp. 148-159 **ATE** *Brassica Seeds- Plant Life Cycle,* Investigation 2, Part 3, pp. 160-168 **ATE** *Brassica Seeds- Planting Outdoors,* Investigation 2, Part 4, pp. 169-178 **CT** *Flowers and Seeds*, pp. 18-26 (eBook) [Inv. 2.3] **CT** *How Seeds Travel*, pp 28 (eBook) [Inv. 2.4] **CT** *How Plants Grow*, Video, fossweb.com [Inv. 2.2] **CT** *What is Pollination*, Video, fossweb.com [Inv. 2.2]

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2.5 The student will investigate and understand that living things are part of a system. Key ideas include	This SOL is covered in the Grade 2 FOSS module - ***Insects and Plants***
a) plants and animals are interdependent with their living and nonliving surroundings;	**FOSS Next Generation *Insects and Plants*** **ATE** *Mealworms-Mealworms,* Investigation 1, Part 1, pp. 86-101 **ATE** *Brassica Seeds - Planting Outdoors,* Investigation 2, Part 4, pp. 169-178 **ATE** *Milkweed Bugs - Habitats*, Investigation 3, Part 2, pp. 197-206 **ATE** *Milkweed Bugs - Insect Search,* Investigation 3, Part 4, pp. 214-228 **ATE** *Silkworms - Plant Eaters,* Investigation 4, Part 4, pp. 266-277 **ATE** *Butterflies - Flower Powder,* Investigation 5, Part 4, pp. 310-318 **CT** *Animals and Plants in Their Habitats*, pp. 3-17 (eBook) [Inv. 1.1] **CT** *How Seeds Travel*, pp. 27-34 (eBook) [Inv. 2.4]

b) an animal's habitat provides all of its basic needs; and	**FOSS Next Generation *Insects and Plants*** **ATE** *Mealworms-Mealworms,* Investigation 1, Part 1, pp. 86-101 **ATE** *Brassica Seeds- Planting Brassica,* Investigation 2, Part 1, pp. 138-147 **ATE** *Brassica Seeds- Planting Outdoors,* Investigation 2, Part 4, pp. 169-178 **ATE** *Milkweed Bugs-Habitats,* Investigation 3, Part 2, pp. 197-206 **ATE** *Milkweed Bugs-Insect Search,* Investigation 3, Part 4, pp.214-228 **ATE** *Silkworms-Silkworm Structures,* Investigation 4, Part 2, pp.246-257 **ATE** *Butterflies-Adult Butterflies,* Investigation 5, Part 3 pp. 300-309 **CT** *Animals and Plants in Their Habitats,* pp. 3-17 (eBook) [Inv. 1.1]
c) habitats change over time due to many influences.	**FOSS Next Generation *Insects and Plants*** **ATE** *Silkworms-Plant Eaters,* Investigation 4, Part 4, pp.266-277 **CT** *How Seeds Travel,* pp.27-34 (eBook) [Inv. 2.4] **CT** *All About Water Ecosystems,* Video, fossweb.com [Inv. 1.2]

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2.6 The student will investigate and understand that there are different types of weather on Earth. Key ideas include	This SOL is covered in the Grade 2 FOSS module – ***Weather and Seasons.***
a) different types of weather have specific characteristics;	**FOSS Next Generation *Weather and Seasons*** **ATE** *Observing Weather* - Investigation 1, Parts 1-6, pp. 52-96 **ATE** *Seasonal Change* - Investigation 3, Parts 1-2, pp. 160-174 **CT** *What is the Weather Today?,* pp. 3-11 (eBook) [Inv. 1.3] **CT** *Water in the Air,* pp. 14-19 (eBook) [Inv. 1.4] **CT** *Understanding the Weather,* pp. 20-25 (eBook) [Inv. 1.6] **CT** *Getting Through the Winter,* pp. 72-78 (eBook) [Inv. 3.2] **CT** *Wind Speed,* Online Activity, fossweb.com [Inv. 1.5] **CT** *What's the Weather?,* Online Activity, fossweb.com [Inv. 3.1]
b) measuring, recording, and interpreting weather data allows for identification of weather patterns; and	**FOSS Next Generation *Weather and Seasons*** **ATE** *Observing Weather* - Investigation 1, Parts 1-6, pp. 52-96 **ATE** *Seasonal Change* - Investigation 3, Parts 1-2, pp. 160-174 **CT** *What is the Weather Today?,* pp. 3-11 (eBook) [Inv. 1.3] **CT** *Water in the Air,* pp. 14-19 (eBook) [Inv. 1.4] **CT** *Understanding the Weather,* pp. 20-25 (eBook) [Inv. 1.6] **CT** *Cloud Catcher,* Online Activity, fossweb.com [Inv. 1.3] **CT** *Wind Speed,* Online Activity, fossweb.com [Inv. 1.5] **CT** *What's the Weather?,* Online Activity, fossweb.com [Inv. 3.1]

c) tracking weather allows us to prepare for the weather and storms.	**FOSS Next Generation *Weather and Seasons*** **ATE** *Seasonal Change* - Investigation 3, Parts 1-2, pp. 160-174 **CT** *Seasons*, pp. 64-71 (eBook) [Inv. 3.2] **CT** *Getting Through the Winter*, pp. 72-78 (eBook) [Inv. 3.2] **CT** *What's the Weather?,* Online Activity, fossweb.com [Inv. 3.1]

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
2.7 The student will investigate and understand that weather patterns and seasonal changes affect plants, animals, and their surroundings. Key ideas include	This SOL is covered in the Grade 2 FOSS modules – ***Insects and Plants,*** and ***Weather and Seasons***
a) weather and seasonal changes affect the growth and behavior of living things;	**FOSS Next Generation *Insects and Plants*** **ATE** *Brassica Seeds-Planting Outdoors,* Investigation 2, Part 4, pp. 169-178 **CT** *Animals and Plants in Their Habitats,* pp. 3-17 (eBook) [Inv. 1.1] **FOSS Next Generation *Weather and Seasons*** **ATE** *Seasonal Change – Comparing the Seasons,* Investigation 3, Part 2, pp. 165-174 **CT** *What is the Weather Today?,* pp. 3-11 (eBook) [Inv. 1.3] **CT** *Water in the Air,* pp. 14-19 (eBook) [Inv. 1.4] **CT** *Understanding the Weather,* pp. 20-25 (eBook) [Inv. 1.6] **CT** *Seasons,* pp. 64-71 (eBook) [Inv. 3.2] **CT** *Getting Through the Winter,* pp. 72-78 (eBook) [Inv. 3.2]
b) wind and weather can change the land; and	**FOSS Next Generation *Weather and Seasons*** **ATE** *Water, Land and Erosion-Screening River Rocks,* Investigation 2, Part 1, pp. **ATE** *Water, Land and Erosion-Exploring Clay and Landforms,* Investigation 2, Part 1, pp.

	CT *Where is Water Found?,* pp. 26-36 (eBook) [Inv. 2.1] **CT** *The Story of Sand,* pp. 37-43 (eBook) [Inv. 2.2] **CT** *Rocks Move,* pp. 44-45 (eBook) [Inv. 2.4] **CT** *Landforms,* pp. 46-52 (eBook) [Inv. 2.4] **CT** *Erosion,* pp. 53-63 (eBook) [Inv. 2.4] **CT** *All About Landforms,* Video, fossweb.com [Inv. 2.1]
c) changes can happen quickly or slowly over time.	**FOSS Next Generation *Weather and Seasons*** **ATE** *Water, Land and Erosion-Screening River Rocks,* Investigation 2, Part 1, pp. **ATE** *Water, Land and Erosion-Exploring Clay and Landforms,* Investigation 2, Part 1, pp. **CT** *The Story of Sand,* pp. 37-43 (eBook) [Inv. 2.2] **CT** *Rocks Move,* pp. 44-45 (eBook) [Inv. 2.4] **CT** *Landforms,* pp. 46-52 (eBook) [Inv. 2.4] **CT** *Erosion,* pp. 53-63 (eBook) [Inv. 2.4] **CT** *All About Landforms,* Video, fossweb.com [Inv. 2.1]

Science Textbook Correlation to the
2018 Grade Two Science Standards of Learning and Curriculum Framework

Publisher Delta Education, LLC./School Specialty, Inc. **Text Grade 2 VA FOSS Comprehensive Classroom Package**

2018 Grade Two Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
2.8 The student will investigate and understand that plants are important natural resources. Key ideas include	This SOL is covered in the Grade 2 FOSS modules – ***Insects and Plants,*** and ***Weather and Seasons.***
a) the availability of plant products affects the development of a geographic area;	**FOSS Next Generation *Insects and Plants*** **ATE** *Brassica Plants –Planting Outdoors, Home/School Connection*, Inv. 2, Part 4, p. 180 **CT** *Flowers and Seeds,* pp. 22-26 (eBook) [Inv. 2.3]
b) plants provide oxygen, homes, and food for many animals; and	**FOSS Next Generation *Insects and Plants*** **ATE** *Milkweed Bugs – Insect Search,* Investigation 3, Part 4, pp. 214-224 **ATE** *Silkworms – Plant Eaters,* Investigation 4, Part 3, pp. 267-275 **ATE** *Butterflies – Flower Power,* Investigation 5, Part 4, pp. 310-318 **CT** *Animals and Plants in Their Habitats,* pp. 3-17 (eBook) [Inv. 1.1] **CT** *How Seeds Travel,* pp. 32-33 (eBook) [Inv. 2.4] **CT** *So Many Kinds, So Many Places,* pp. 37-40 (eBook) [Inv. 3.2] **CT** *Insects Shapes and Colors,* pp. 41-45 (eBook) [Inv. 4.2] **CT** *What is Pollination,* Video, fossweb.com [Inv. 5.4]
c) plants can help reduce the impact of wind and water.	**FOSS Next Generation *Weather and Seasons*** **ATE** *Seasonal Change – Comparing the Seasons,* Investigation 3, Part 2, pp. 165-174

Science Textbook Correlation to the
2018 Grade Three Science Standards of Learning Curriculum Framework

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2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.2 The student will investigate and understand that the direction and size of force affects the motion of an object. Key ideas include	This SOL is covered in the Grade 3 FOSS module – ***Motion and Matter.*** This SOL is covered in the Grade 3 ***Motion and Mater (AVA*).*** *To enhance the **FOSS Motion and Matter** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Motion and Matter** module.
a) multiple forces may act on an object;	**FOSS Next Generation *Motion and Matter*** **ATE** *Forces*, Investigation 1, Parts 1-3, pp. 88-120 **ATE** *Patterns of Motion*, Investigation 2, Parts 1-4, pp. 132-167 **ATE** *Engineering* – Investigation 3, Parts 1-4, pp. 180-211 **CT** *Patterns of Motion*, pp. 16-17 (eBook) [Inv. 2.1] **CT** *Magnetism and Gravity*, pp. 3-7 (eBook) [Inv. 1.1] **CT** *Magnetic Poles*, Online Activity, fossweb.com [Inv. 1.1]
b) the net force on an object determines how an object moves;	**FOSS Next Generation *Motion and Matter*** **ATE** *Forces*, Investigation 1, Parts 1-3, pp. 88-120 **ATE** *Patterns of Motion*, Investigation 2, Parts 1-4, pp. 132-167 **ATE** *Engineering* – Investigation 3, Parts 1-4, pp. 180-211

	CT *Soap Box Derby*, pp. 34-37 (eBook) [Inv. 3.2] **CT** *How Engineers and Scientists Work Together*, pp. 40-41 (eBook) [Inv. 3.3] **CT** *Measurement Length and Measurement Logic*, Online Activity, fossweb.com [Inv. 3.2]
c) simple machines increase or change the direction of a force; and	**FOSS Next Generation *Motion and Matter (AVA)*** **ATE** *Engineering – AVA: Simple Machines, Investigation 3, Part 4 (after), pp. 7-18* **CT** *Simple Machines*, pp. 2-4 (eBook) [end Inv. 3.4] **CT** *Levers*, pp. 5-14 (eBook) [end Inv. 3.4] **CT** *Pulleys*, pp. 15-19 (eBook) [end Inv. 3.4] **CT** *Wheel and Axle*, pp. 20-21 (eBook) [end Inv. 3.4] **CT** *The Inclined Plane*, pp. 22-23 (eBook) [end Inv. 3.4] **CT** *The Wedge*, pp. 24-25 (eBook) [end Inv. 3.4] **CT** *The Screw*, pp. 26 (eBook) [end Inv. 3.4]
d) simple and compound machines have many applications.	**FOSS Next Generation *Motion and Matter (AVA)*** **ATE** *Engineering – AVA: Simple Machines, Investigation 3, Part 4 (after), pp. 7-18* **CT** *Levers*, pp. 5-14 (eBook) [end Inv. 3.4] **CT** *Pulleys*, pp. 15-19 (eBook) [end Inv. 3.4] **CT** *Wheel and Axle*, pp. 20-21 (eBook) [end Inv. 3.4] **CT** *The Inclined Plane*, pp. 22-23 (eBook) [end Inv. 3.4] **CT** *The Wedge*, pp. 24-25 (eBook) [end Inv. 3.4] **CT** *The Screw*, pp. 26 (eBook) [end Inv. 3.4] **CT** *Compound Machines*, pp. 27-29 (eBook) [end Inv. 3.4]

Science Textbook Correlation to the
2018 Grade Three Science Standards of Learning and Curriculum Framework

Publisher Delta Education, LLC./School Specialty, Inc. **Text Grade 3 VA FOSS Comprehensive Classroom Package**

2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.3 The student will investigate and understand how materials interact with water. Key ideas include	This SOL is covered in the Grade 3 FOSS module – ***Motion and Matter.*** This SOL is covered in the Grade 3 ***Motion and Mater (AVA*).*** *To enhance the **FOSS Motion and Matter** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Motion and Matter** module.
a) solids and liquids mix with water in different ways; and	**FOSS Next Generation *Motion and Matter*** **ATE** *Mixtures – Mixing Solids and Liquids*, Investigation 4, Part 1, pp. 224-232 **ATE** *Mixtures – Reactions*, Investigation 4, Part 2, pp. 234-242 **CT** *Measuring Volume and Mass*, Online Activity, fossweb.com [Inv. 4.1] **CT** *Measuring Volume*, Online Activity, fossweb.com [Inv. 4.1] **FOSS Next Generation *Motion and Matter (AVA)*** **ATE** *Mixtures – AVA: Home School Connection*, Investigation 4, Part 1 (end), p. 19
b) many solids dissolve more easily in hot water than in cold water.	**FOSS Next Generation *Motion and Matter*** **ATE** *Mixtures – Mixing Solids and Liquids*, Investigation 4, Part 1, pp. 224-232 **CT** *Mixtures*, pp. 46-50 (eBook) [Inv. 4.1] **FOSS Next Generation *Motion and Matter (AVA)*** **ATE** *Mixtures – AVA: Home School Connection*, Investigation 4, Part 1 (end), p. 19

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2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.4 The student will investigate and understand that adaptations allow organisms to satisfy life needs and respond to the environment. Key ideas include	This SOL is covered in the Grade 3 FOSS module – **Structures of Life** This SOL is covered in the Grade 3 ***Structures of Life (AVA*).*** *To enhance the **FOSS Structures of Life** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Structures of Life** module.
a) populations may adapt over time;	**FOSS Next Generation *Structures of Life*** **ATE** *Origin of Seeds – Seed Dispersal,* Investigation 1, Parr 4 pp. 130-140 **ATE** *Human Body - Owl Pellets,* Investigation 4, Part 2, pp. 305-314 **CT** *The Reason for Fruit,* pp. 3-7 (eBook) [Inv. 3.1] **CT** *Adaptations*, pp. 42-49 (eBook) [Inv. 3.2] **CT** *Barn Owls*, pp. 78-80 (eBook) [Inv. 4.2] **CT** *All About Animal Adaptations*, Video, fossweb.com [Inv. 3.2] **CT** *Walking Stick Survival,* Online Activity, fossweb.com [Inv. 3.2] **FOSS Next Generation *Structures of Life (AVA)*** **ATE** *Meet the Hissing Cockroach – AVA:* Investigation 3, Parts 1-5 pp. 439-449
b) adaptations may be behavioral or physical; and	**FOSS Next Generation *Structures of Life*** **ATE** *Origin of Seeds – Seed Dispersal,* Investigation 1, Parr 4 pp. 130-140 **ATE** *Human Body - Owl Pellets,* Investigation 4, Part 2, pp. 305-314 **CT** *The Reason for Fruit,* pp. 3-7 (eBook) [Inv. 3.1]

	CT *Adaptations*, pp. 42-49 (eBook) [Inv. 3.2] **CT** *Barn Owls*, pp. 78-80 (eBook) [Inv. 4.2] **CT** *All About Animal Adaptations*, Video, fossweb.com [Inv. 3.2] **CT** *Walking Stick Survival,* Online Activity, fossweb.com [Inv. 3.2] **FOSS Next Generation *Structures of Life (AVA)*** **ATE** *Meet the Hissing Cockroach – AVA:* Investigation 3, Parts 1-5 pp. 439-449
c) fossils provide evidence about the types of organisms that lived long ago as well as the nature of their environments.	**FOSS Next Generation *Structures of Life*** **ATE** *Human Body – Owl Pellets*, Investigation 4, Part 2, pp. 305-314 **ATE** *Human Body – Fingerprints*, Investigation 4, Part 4, p. 341 (step 23) **CT** *Fossils*, pp. 81-88 (eBook) [Inv. 4.2] **CT** *All about Fossils*, Video, fossweb.com [Inv. 4.2]

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2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.5 The student will investigate and understand that aquatic and terrestrial ecosystems support a diversity of organisms. Key ideas include	This SOL is covered in the Grade 3 FOSS module – ***Structures of Life.*** This SOL is covered in the Grade 3 ***Structures of Life (AVA*).*** *To enhance the **FOSS Structures of Life** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Structures of Life** module.
a) ecosystems are made of living and nonliving components of the environment; and	**FOSS Next Generation *Structures of Life*** **ATE** *Human Body - Owl Pellets*, Investigation 4, Part 2, pp. 305-314 **CT** *A Change in the Environment,* pp. 66-69 (eBook) [Inv. 3.5] **CT** *What Animals Eat*, pp. 71 (eBook) [Inv. 3.5] **FOSS Next Generation *Structures of Life (AVA)*** **ATE** *Meet the Hissing Cockroach – AVA: Food Chains*, Inv. 3, Part 5, pp. 450-461
b) relationships exist among organisms in an ecosystem.	**FOSS Next Generation *Structures of Life*** **ATE** *Owl Pellets*, Investigation 4, Part 2, pp. 305-314 **CT** *A Change in the Environment,* pp. 66-69 (eBook) [Inv. 3.5] **FOSS Next Generation *Structures of Life (AVA)*** **ATE** *Meet the Hissing Cockroach – AVA: Food Chains*, Inv. 3, Part 5, pp. 450-461

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2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.6 The student will investigate and understand that soil is important in ecosystems. Key ideas include	This SOL is covered in the Grade 3 – ***Water and Climate (AVA)*** *To enhance the **FOSS Water and Climate** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Water and Climate** module.
a) soil, with its different components, is important to organisms; and	**FOSS Next Generation *Water and Climate (AVA)*** **ATE** *Waterworks – AVA: Water in Earth Materials*, Inv. 5, Part 1 (before step 14), pp. 3-8 **CT** *The Story of Sand*, pp. 14-21 (eBook) [Inv. 5.1] **CT** *What is in Soil?*, pp. 44-47 (eBook) [Inv. 5.1] **CT** *Testing Soil*, pp. 48-49 (eBook) [Inv. 5.1] **CT** *All About Soil*, Video, fossweb.com [Inv. 5.1]
b) soil provides support and nutrients necessary for plant growth.	**FOSS Next Generation *Water and Climate (AVA)*** **ATE** *Waterworks – AVA: Water in Earth Materials*, Inv. 5, Part 1 (before step 14), pp. 3-8 **CT** *The Story of Sand*, pp. 14-21 (eBook) [Inv. 5.1] **CT** *What is in Soil?*, pp. 44-47 (eBook) [Inv. 5.1] **CT** *Testing Soil*, pp. 48-49 (eBook) [Inv. 5.1] **CT** *All About Soil*, Video, fossweb.com [Inv. 5.1]

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2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.7 The student will investigate and understand that there is a water cycle and water is important to life on Earth. Key ideas include	This SOL is covered in the Grade 3 FOSS module – ***Water and Climate.***
a) there are many reservoirs of water on Earth;	**FOSS Next Generation *Water and Weather*** **ATE** *Water Observations – Drops of Water*, Investigation 1, Part 1, pp. 86-96 **ATE** *Water Observations – Water in Nature*, Investigation 1, Part 4, pp. 119-127 **CT** *A Report from the Blue Planet*, pp. 3-5 (eBook) [Inv. 1.1] **CT** *Which Way Does It Go*?, pp. 8-9 (eBook) [Inv. 1.2] **CT** *Ice Is Everywhere*, pp. 24-29 (eBook) [Inv. 2.4] **CT** *Studying Weather*, p. 32 (eBook) [Inv. 3.1] **CT** *Water: A Vital Resource* pp. 63-67 (eBook) [Inv. 5.1] **CT** *Making Drinking Water Safe*, pp. 77-82 (eBook) [Inv. 5.2]
b) the energy from the sun drives the water cycle; and	**FOSS Next Generation *Water and Weather*** **ATE** *Weather and Water* – Investigation 3, Part 2, pp. 216-222 **ATE** *Weather and Water* – Investigation 3, Part 3, pp. 223-228 **ATE** *Weather and Water* – Investigation 3, Part 4, pp. 229-237 **ATE** *Weather and Water* – Investigation 3, Part 5, pp. 237-249 **CT** *Drying Up*, p. 38 (eBook) [Inv. 3.2] **CT** *The Water Cycle*, pp. 44-47 (eBook) [Inv. 3.5] **CT** *Water Cycle*, Online Activity, fossweb.com [Inv. 3.5]

c) the water cycle involves specific processes.	**FOSS Next Generation *Water and Weather*** **ATE** *Weather and Water* – Investigation 3, Parts 2-5, pp. 216-249 **ATE** *Waterworks – Water in Earth Materials*, Investigation 5, Parts 1-2, pp. 302-319 **CT** *Drying Up*, p. 38 (eBook) [Inv. 3.2] **CT** *Condensation*, pp. 41-43 (eBook) [Inv. 3.5] **CT** *The Water Cycle*, pp. 44-47 (eBook) [Inv. 3.5] **CT** *Evaporation Experiment*, Online Activity, fossweb.com [Inv. 3.4] **CT** *Water Cycle*, Online Activity, fossweb.com [Inv. 3.5]

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2018 Grade Three Science Standards of Learning and Curriculum Framework

Publisher Delta Education, LLC./School Specialty, Inc. **Text Grade 3 VA FOSS Comprehensive Classroom Package**

2018 Grade Three Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
3.8 The student will investigate and understand that natural events and humans influence ecosystems. Key ideas include	This SOL is covered in the Grade 3 FOSS modules – ***Structures of Life*** and ***Water and Climate.***
a) human activity affects the quality of air, water, and habitats;	**FOSS Next Generation *Structures of Life*** **CT** *The Most Important Seed and Changes in Ecosystems*, pp. 8-11 (eBook) [Inv. 1.2] **CT** *Being Environmentally Responsible*, pp. 40-41 (eBook) [Inv. 3.1] **CT** *A Change in the Environment*, pp. 66-69 (eBook) [Inv. 3.4] **FOSS Next Generation *Weather and Climate*** **ATE** *Water Observations – Water in Nature,* Investigation 1, Part 4, pp. 119-127 **CT** *Water Everywhere*, pp. 14-14 (eBook) [Inv. 1.4] **CT** *Water Coming into Our Homes/Leaving Our Homes*, pp. 64-65 (eBook) [Inv. 5.1] **CT** *City Runoff*, p. 66 (eBook) [Inv. 5.1] **CT** *Water Conservation*, p.67 (eBook) [Inv. 5.1]
b) water is limited and needs to be conserved;	**FOSS Next Generation *Weather and Climate*** **ATE** *Water Observations – Drops of Water*, Investigation 1, Part 1, p. 87 (step 5) **ATE** *Water Observations – Water in Nature,* Investigation 1, Part 4, pp. 119-127 **CT** *Water: A Vital Resource*, p. 63-67 (eBook) [Inv. 5.1] **CT** *City Runoff*, p. 66 (eBook) [Inv. 5.1]

	CT *Water Conservation*, p.67 (eBook) [Inv. 5.1] **CT** *Ellen Swallow Richards: An Early Ecologist*, pp. 73-76 (eBook) [Inv. 5.2] **CT** *Solar Disinfection System*, p. 78 (eBook) [Inv. 5.2]
c) fire, flood, disease, and erosion affect ecosystems; and	**FOSS Next Generation *Weather and Climate*** **CT** *Wetlands for Flood Control*, pp. 55-60 (eBook) [Inv. 4.3] **CT** *Water Conservation*, p. 67 (eBook) [Inv. 5.1] **CT** *Solar Disinfection* System, p. 78 (eBook) [Inv. 5.2] **CT** *Ceramic Water Filters*, pp. 79-80 [Inv. 5.2] **CT** *Removing Arsenic*, pp. 81-82 [Inv. 5.2] **CT** *Using the Energy of Water*, p. 83 (eBook) [Inv. 5.3]
d) soil is a natural resource and should be conserved.	**FOSS Next Generation *Weather and Climate*** **ATE** *Waterworks – Water in Earth Materials,* Investigation 5. Part 1, pp. 302-310 **ATE** *Waterworks – Water in Soil,* Investigation 5, Part 2, pp. 311-319 **CT** *Natural Resources*, pp. 68-72 (eBook) [Inv. 5.1] **CT** *Soil as a Natural Resource*, p. 70, (eBook) [Inv. 5.1] **CT** *Water Retention in Soils*, Online Activity, fossweb.com [Inv. 5.2]

Science Textbook Correlation to the
2018 Grade Four Science Standards of Learning Curriculum Framework

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	Phone#	**E-mail**
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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.2 The student will investigate and understand that plants and animals have structures that distinguish them from one another and play vital roles in their ability to survive. Key ideas include	This SOL is covered in the Grade 4 FOSS modules – ***Environments, Living Systems*** and, This SOL is covered in the Grade 4 ***Environments (AVA*).*** *To enhance the **FOSS Environments** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Environments** module.
a) the survival of plants and animals depends on photosynthesis;	**FOSS Next Generation *Environments*** **ATE** *Ecosystems - Food Chains and Food Webs,* Investigation 2, Part 2, pp.175-189 **ATE** *Range of Tolerance – Plant Adaptations,* Investigation 4, Part 3, pp. 325-330 **CT** *What Is an Ecosystem?,* pp. 32-34 (eBook) [Inv. 2.2] **FOSS Next Generation *Living Systems*** **ATE** *Systems – Kelp Forest Food Web,* Investigation 1, Part 3, pp. 117-126 **ATE** *Nutrient Systems – Plant Nutrition,* Investigation 2, Part 2, pp. 166-176 **ATE** *Transport Systems – Plant Vascular Systems,* Investigation 3, Part 1, pp. 212-231 **CT** *Producers,* pp. 23-24 (eBook) [Inv. 2.2]

b) plants and animals have different structures and processes for obtaining energy; and	**FOSS Next Generation *Environments*** **ATE** *Ecosystems - Food Chains and Food Webs,* Investigation 2, Part 2, pp.175-189 **ATE** *Range of Tolerance – Plant Adaptations,* Investigation 4, Part 3, pp. 325-330 **FOSS Next Generation *Living Systems*** **ATE** *Nutrient Systems – Plant Nutrition,* Investigation 2, Part 2, pp. 166-176 **ATE** *Nutrient Systems – Animal Nutrition,* Investigation 2, Part 3, pp. 177-194 **ATE** *Transport Systems – Plant Vascular Systems,* Investigation 3, Part 1, pp. 212-231 **CT** *Plant Vascular System,* pp. 36-42 (eBook) [Inv. 3.1] **CT** *Plant Structure and Growth,* Video, fossweb.com [Inv. 3.1] **CT** *Plant Vascular System,* Online Activity, fossweb.com [Inv. 3.1]
c) plants and animals have different structures and processes for creating offspring.	**FOSS Next Generation *Environments*** **ATE** *Range of Tolerance – Plant Adaptations,* Investigation 4, Part 3, pp. 325-330 **FOSS Next Generation *Environments (AVA)*** **ATE** *Range of Tolerance* – AVA *Flowers and Pollinators,* Investigation 4, Part 1 pp.20-26 **CT** *Pollinator Game,* Online Activity, fossweb.com [Inv. 4.1] **CT** *Flowers and Pollinators,* p.14 (ePDF) [Inv. 4.1] **FOSS Next Generation *Living Systems*** **ATE** *Nutrient Systems – Plant Nutrition,* Investigation 2, Part 2, pp. 166-176 **ATE** *Transport Systems – Plant Vascular Systems,* Investigation 3, Part 1, pp. 212-231 **ATE** *Sensory Systems – Instincts and Learning,* Investigation 4, Part 3, pp. 300-307 **CT** *Monarch Migration,* pp. 70-73 (eBook) [Inv. 4.3]

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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.3 The student will investigate and understand that organisms, including humans, interact with one another and with the nonliving components in the ecosystem. Key ideas include	This SOL is covered in the Grade 4 FOSS modules – ***Environments*** and ***Living Systems.*** This SOL is covered in the Grade 4 ***Living Systems (AVA*).*** *To enhance the **FOSS Living Systems** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Living Systems** module.
a) interrelationships exist in populations, communities, and ecosystems;	**FOSS Next Generation *Environments*** **ATE** *Environmental Factors,* Investigation 1, Parts 1-3, pp. 92-146 **ATE** *Ecosystems,* Investigation 2, Parts 1-3, pp. 164-216 **ATE** *Brine Shrimp Hatching,* Investigation 3, Parts 1-4, pp. 234-274 **ATE** *Range of Tolerance,* Investigation 4, Parts 1-3, pp. 294-330 **CT** *Two Terrestrial Environments*, pp. 3-9 (eBook) [Inv. 1.1] **CT** *What is an Ecosystem?,* pp. 32-34 (eBook) [Inv. 2.2] **FOSS Next Generation *Living Systems*** **ATE** *Sensory Systems – Ecosystems,* Investigation 4, Part 4, pp. 308-317 **CT** *North Atlantic Ocean Ecosystem,* pp. 74-80 (eBook) [Inv. 4.4]
b) food webs show the flow of energy within an ecosystem;	**FOSS Next Generation *Environments*** **ATE** *Ecosystems* - Investigation 2, Parts 1-2, pp. 164-189 **CT** *What Is an Ecosystem?,* pp. 32-34 (eBook) [Inv. 2.2]

	CT *Food Chains and Food Webs*, pp. 35-41 (eBook) [Inv. 2.2] **FOSS Next Generation *Environments (AVA)*** **ATE** *Ecosystems* – AVA *Virginia Plants and Animals,* Investigation 2, Part 2, p. 11 **FOSS Next Generation *Living Systems*** **ATE** *Systems – Kelp Forest Food Web,* Investigation 1, Part 3, pp. 117-126 **ATE** *Systems – Recycling,* Investigation 1, Part 4, pp. 127-138 **ATE** *Nutrient Systems – Animal Nutrition*, Investigation 2, Part 3, pp.177-194 **FOSS Next Generation *Living Systems (AVA)*** **ATE** *Systems* **–** AVA: *Chesapeake Bay Food Web*, Investigation 1, Part 3, (step 18) pp. 3-5
c) changes in an organism's niche and habitat may occur at various stages in its life cycle; and	**FOSS Next Generation *Environments*** **ATE** *Environmental Factors,* Investigation 1, Parts 1-3, pp. 92-146 **FOSS Next Generation *Living Systems*** **ATE** *Systems – Recycling,* Investigation 1, Part 4, pp **ATE** *Nutrient Systems – Animal Nutrition*, Investigation 2, Part 3, pp. **FOSS Next Generation *Living Systems (AVA)*** **ATE** *Systems* **–** AVA: *Chesapeake Bay Food Web*, Investigation 1, Part 3, (step 18) pp. 3-5 **CT** *Chesapeake Bay Food Web*, Multimedia, fossweb.com [Inv. 1.3]
d) classification can be used to identify organisms.	**FOSS Next Generation *Living Systems (AVA)*** **ATE** *Transport Systems* – AVA: *Using Dichotomous Keys*, Inv. 3, Part 1, (step 12) pp. 7-9 **CT** *Dichotomous Tree Key*, Multimedia, fossweb.com [Inv. 3.1]

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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.4 The student will investigate and understand that weather conditions and phenomena affect ecosystems and can be predicted. Key ideas include	This SOL is covered in the Grade 4 FOSS module – ***Earth and Sun.*** This SOL is covered in the Grade 4 ***Earth and Sun (AVA*).*** *To enhance the **FOSS Earth and Sun** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Earth and Sun** module.
a) weather measurements create a record that can be used to make weather predictions;	**FOSS Next Generation *Earth and Sun*** **ATE** *Earth's Atmosphere - Local Weather*, Investigation 3, Part 3, pp. 274-287 **CT** *Weather Instruments*, pp. 92-94 (eBook) [Inv. 3.3] **CT** *All about Meteorology*, Video, www.fossweb.com [Inv. 3.3] **CT** *Weather Grapher*, Online Activity, www.fossweb.com [Inv. 3.3] **FOSS Next Generation *Earth and Sun (AVA)*** **ATE** *Earth's Atmosphere – AVA: Air Masses and Cloud Types*, Inv. 3, Part 3, (step 18) pp. 9-13 **CT** *Reading Weather Maps*, Multimedia, fossweb.com [Inv. 3.3] **CT** *Reading Weather Maps-Predict the Weather*, Multimedia, fossweb.com [Inv. 3.3] **CT** *Cloud Types*, Video, fossweb.com [Inv. 3.3]

b) common and extreme weather events affect ecosystems; and	**FOSS Next Generation *Earth and Sun*** **ATE** *Earth's Atmosphere - Local Weather*, Investigation 3, Part 3, pp. 274-287 **CT** *Severe Weather*, pp. 130-138 (eBook) [Inv. 5.3]
c) long term seasonal weather trends determine the climate of a region.	**FOSS Next Generation *Earth and Sun*** **ATE** *Earth's Atmosphere - Local Weather*, Investigation 3, Part 3, pp.274-287 **ATE** *Water Planet - Climate* Investigation 5, Part 4, pp. 412-423 **CT** *Earth's Climates*, pp. 139-143 (eBook) [Inv. 5.4] **CT** *Global Climate Change*, pp. 144-151 (eBook) [Inv. 5.4] **CT** *Climate Regions Map*, Online Activity, fossweb.com [Inv. 5.4]

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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.5 The student will investigate and understand that the planets have characteristics and a specific place in the solar system. Key ideas include	This SOL is covered in the Grade 4 FOSS module – ***Earth and Sun.***
a) planets rotate on their axes and revolve around the sun;	**FOSS Next Generation *Earth and Sun*** **ATE** *The Sun - Day and Night,* Investigation 1, Part 3, pp. 130-138 **CT** *Tutorial: Sun Tracking*, Online Activity, www.fossweb.com [Inv. 1.2] **CT** *Shadow Tracker*, Online Activity, www.fossweb.com [Inv. 1.2] **CT** *Sunrise and Sunset*, pp. 8-13 (eBook) [Inv. 1.3] **CT** *The Planets and the Solar System*, Video, www.fossweb.com [Inv. 2.4]
b) planets have characteristics and a specific order in the solar system; and	**FOSS Next Generation *Earth and Sun*** **ATE** *Planetary Systems - Night-Sky Observations,* Investigation 2, Part 1, pp. 172-185 **ATE** *Planetary Systems - The Solar System,* Investigation 2, Part 4, pp. 206-219 **CT** *The Night Sky*, pp. 16-18 (eBook) [Inv. 2.1] **CT** *Exploring the Solar System*, pp. 47-61 (eBook) [Inv. 2.4] **CT** *Why Doesn't Earth Fly Off Into Space?*, p. 65 (eBook) [Inv. 2.4] **CT** *The Planets and the Solar System*, Video, www.fossweb.com [Inv. 2.4]

c) the sizes of the sun and planets can be compared to one another.	**FOSS Next Generation *Earth and Sun*** **ATE** *Planetary Systems* **-** *Night-Sky Observations,* Investigation 2, Part 1, pp. 172-185 **CT** *Exploring the Solar System*, pp. 47-60 (eBook) [Inv. 2.4] **CT** *Planets of the Solar System*, p. 61 (eBook) [Inv. 2.4]

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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.6 The student will investigate and understand that there are relationships among Earth, the moon, and the sun. Key relationships include	This SOL is covered in the Grade 4 FOSS module – ***Earth and Sun.***
a) the motions of Earth, the moon, and the sun;	**FOSS Next Generation *Earth and Sun*** **ATE** *The Sun – Day and Night,* Investigation 1, Part 3, pp. 129-145 **ATE** *Planetary Systems – Phases of the Moon,* Investigation 2, Part 3, pp. 195-205 **ATE** *Planetary Systems - The Solar System,* Investigation 2, Part 4, pp. 206-219 **CT** *Sunrise and Sunset,* pp. 8-13 (eBook) [Inv. 1.3] **CT** *Changing Moon,* pp. 33-37 (eBook) [Inv. 2.3] **CT** *Lunar Cycle Diagram,* p. 42 (eBook) [inv. 2.3] **CT** *Exploring the Solar System,* pp. 47-60 (eBook) [Inv. 2.4] **CT** *The Planets and the Solar System,* Video, www.fossweb.com [Inv. 2.4]
b) the causes for Earth's seasons;	**FOSS Next Generation *Earth and Sun*** **ATE** *The Sun – Sun Tracking,* Investigation 1, Part 2, pp. 116-128 **CT** *Changing Shadows,* pp. 3-7 (eBook) [Inv. 1.2] **CT** *Shadows,* pp. 12-13 (eBook) [Inv. 1.3] **CT** *Constellations in Motion,* pp. 68-70 (eBook) [Inv. 2.5] **CT** *Earth's Atmosphere,* p. 85-91 (eBook) [Inv. 3.2] **CT** *Seasons,* Online Activity, www.fossweb.com [Inv. 1.3]

c) the causes for the four major phases of the moon and the relationship to the tide cycles; and	**FOSS Next Generation *Earth and Sun*** **ATE** *Planetary Systems - Phases of the Moon*, Investigation 2, Part 3, pp. 195-205 **CT** *The Night Sky*, pp. 14-15 (eBook) [Inv. 2.1] **CT** *Changing Moon*, pp. 33-37 (eBook) [Inv. 2.3] **CT** *Lunar Cycle*, pp. 38-42 (eBook) [Inv. 2.3] **CT** *Lunar Calendar*, Online Activity, www.fossweb.com [Inv. 2.3] **CT** *All About the Moon*, Video, www.fossweb.com [Inv. 2.3] **FOSS Next Generation *Earth and Sun (AVA)*** **ATE** *Planetary Systems – AVA: Tide Patterns*, Investigation 2, Part 3 (after step 18), pp. 3-7 **CT** *Tides*, Multimedia, fossweb.com [Inv. 2.3]
d) the relative size, position, age and makeup of Earth, the moon, and the sun.	**FOSS Next Generation *Earth and Sun*** **ATE** *Planetary Systems - How Big and How Far*, Investigation 2, Part 2, pp. 186-194 **ATE** *Planetary Systems - The Solar System*, Investigation 2, Part 4, pp. 206-219 **CT** *Comparing the Size of Earth and the Moon*, pp. 25 (eBook) **CT** *Apollo 11 Space Mission*, pp. 26-30 (eBook) **CT** *How Did Earth's Moon Form?,* pp. 31-32 (eBook) **CT** *Exploring the Solar System*, pp. 47-60 (eBook) **CT** *The Planets and the Solar System*, Video, www.fossweb.com

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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.7 The student will investigate and understand that the ocean environment has characteristics. Key characteristics include	This SOL is covered in the Grade 4 FOSS module – ***Living Systems*** This SOL is covered in the Grade 4 – ***Earth and Sun (AVA*)***, and ***Living Systems (AVA*).*** *To enhance the **FOSS Earth and Sun** and **Living Systems** modules and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. They are a companion to the **Earth and Sun** and **Living Systems** modules.
a) geology of the ocean floor;	**FOSS Next Generation *Living Systems (AVA)*** **ATE** *Sensory Systems* – AVA: *Ocean Physical Characteristics*, Investigation 4, Part 4, (Step 12) pp. 11-13 **CT** *Oceans*, Video, fossweb.com [Inv. 4.4]
b) physical properties and movement of ocean water; and	**FOSS Next Generation *Living Systems (AVA)*** **ATE** *Sensory Systems* – AVA: *Ocean Physical Characteristics*, Investigation 4, Part 4, (Step 12) pp. 11-13 **CT** *Oceans*, Video, fossweb.com [Inv. 4.4]
c) interaction of organisms in the ocean.	**FOSS Next Generation *Living Systems*** **ATE** *Sensory System – Ecosystems*, Investigation 4, Part 4, pp. 308-317 **CT** *North Atlantic Ocean Ecosystem,* pp. 74-80 (eBook) [Inv. 4.4] **CT** *Marine Ecosystems*, Video, fossweb.com [Inv. 4.4]

	FOSS Next Generation *Living Systems (AVA)* **ATE** *Systems* – AVA: *Chesapeake Bay Food Web*, Investigation 1, Part 3, (step 18) pp. 3-5 **ATE** *Sensory Systems* – AVA: *Ocean Physical Characteristics*, Inv. 4, Part 4, (Step 12) pp. 11-13 **CT** *Chesapeake Bay Food Web*, Multimedia **CT** *Oceans*, Video, fossweb.com [Inv. 4.4]

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2018 Grade Four Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
4.8 The student will investigate and understand that Virginia has important natural resources. Key resources include	This SOL is covered in the Grade 4 – ***Environments (AVA*)*** and ***Living Systems (AVA*).*** *To enhance the **FOSS Environments** and **Living Systems** modules and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. They are a companion to the **Earth and Sun** and **Living Systems** modules.
a) watersheds and water;	**FOSS Next Generation *Environments (AVA)*** **ATE** *Ecosystems* – AVA *Watersheds in Virginia*, Investigation 2, Part 1, pp. 7-10. **CT** *What is a Watershed*, Video, fossweb.com [end 2.1] **CT** *Where is Your Watershed?* Video, fossweb.com [end 2.1] **ATE** *Brine Shrimp Hatching* – AVA *Watershed Restoration Projects*, Investigation 3, Part 3, p. 18 **CT** *The Shrimp Club*, pp. 71-78 (eBook) [Inv. 3.3]
b) plants and animals;	**FOSS Next Generation *Environments (AVA)*** **ATE** *Environmental Factors* – AVA *Virginia Land Resources and Uses*, Investigation 1, Part 3, pp. 2-5.
c) minerals, rocks, and ores; and	**FOSS Next Generation *Environments (AVA)*** **ATE** *Environmental Factors* – AVA *Virginia Land Resources and Uses*, Investigation 1, Part 3 pp. 2-5.

	ATE *Ecosystems* – AVA *Protecting Natural Resources in Virginia*, Investigation 2, Part 3, pp. 13-17 **CT** *Natural Resources,* Video, fossweb.com [Inv. 2.3] **CT** *Twelve Invasive Species of High Concern in Virginia*, pp. 1-16 (ePDF) [Inv. 2.3]
d) forests, soil, and land.	**FOSS Next Generation *Environments (AVA)*** **ATE** *Environmental Factors* – AVA: *Virginia Land Resources and Uses,* Investigation 1, Part 3 pp. 2-5 **ATE** *Ecosystems* – AVA *Protecting Natural Resources in Virginia*, Investigation 2, Part 3, pp. 13-17 **CT** *Land Resources and Uses,* Multimedia, www.fossweb.com [end Inv.1.3] **CT** *Natural Resources,* Video, fossweb.com [Inv. 2.3] **CT** *Twelve Invasive Species of High Concern in Virginia*, pp. 1-16 (ePDF) [Inv. 2.3]

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2018 Grade Five Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
5.2 The student will investigate and understand that energy can take many forms. Key ideas include	This SOL is covered in the Grade 5 FOSS module – ***Energy.***
a) energy is the ability to do work or to cause change;	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits* - Investigation 1, Parts 1-2, pp. 114-147 **ATE** *The Force of Magnetism* – Investigation 2, Parts 1-2, pp. 188-211 **ATE** *Electromagnets* –Investigation 3, Parts 1-2, pp. 242-260 **ATE** *Waves – Forms of Waves*, Investigation 5, Part 1, pp. 342-357 **CT** *When Magnet Meets Magnet*, pp. 30-36, (eBook) [Inv. 2.2] **CT** *Bowling, Force and Energy***,** pp. 78-82, (eBook) [4.3]
b) there are many different forms of energy;	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits* - Investigation 1, Parts 1-2, pp. 114-147 **ATE** *Electromagnets* –Investigation 3, Parts 1-2, pp. 242-260 **ATE** *Energy Transfer* – Investigation 4, Part 1-3, pp. 288-322 **ATE** *Waves – Forms of Waves***,** Investigation 5, Part 1, pp. 342-357 **CT** *Energy Sources*, pp. 8-12 (eBook) [Inv. 1.2] **CT** *Energy*, pp. 65-73 (eBook) [Inv. 4.1] **CT** *Force and Energy*, pp. 79-82 (eBook) [Inv. 4.3] **CT** *Potential and Kinetic Energy at Work*, pp. 83-85 (eBook) [Inv. 4.3]

c) energy can be transformed; and	**Next Generation FOSS *Energy*** **ATE** *Electromagnets – Changing the Strength*, Investigation 3, Part 2, pp. 252-260 **ATE** *Energy Transfer – Presence of Energy*, Investigation 4, Part 1, pp. 288-297 **ATE** *Energy Transfer – Rolling Balls Down Slopes*, Investigation 4, Part 2, pp. 298-306 **ATE** *Waves – Engineering with Solar Cells*, Investigation 5, Part 3, pp. 373-385 **CT** *Energy Sources*, pp. 8-12 (eBook) [Inv. 1.2] **CT** *Engineering a Solar Lighting System*, pp. 25-29 (eBook) [Inv. 1.4] **CT** *Electromagnets Everywhere*, pp. 49-57, (eBook), [Inv. 3.2] **CT** *Energy*, pp. 65-73, (eBook), [Inv. 4.1]
d) energy is conserved.	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits - Lighting the Bulb*, Investigation 1, Part 1, pp. 114-129 **ATE** *Energy Transfer – Presence of Energy*, Investigation 4, Part 1, pp. 288-297 **CT** *Energy*, pp. 65-73, (eBook), [Inv. 4.1

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2018 Grade Five Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
5.3 The student will investigate and understand that there is a relationship between force and energy of moving objects. Key ideas include	This SOL is covered in the Grade 5 FOSS module – ***Energy.***
a) moving objects have kinetic energy;	**The Next Generation FOSS *Energy*** **ATE** *Energy Transfer – Rolling Balls Down Slopes*, Investigation 4, Part 2, pp. 298-306 **ATE** *Energy Transfer – Collisions*, Investigation 4, Part 3, pp. 307-322 **CT** *Bowling*, p. 78 (eBook) [Inv. 4.3] **CT** *Force and Energy*, pp. 79-82, (eBook) [4.3] **CT** *Potential and Kinetic Energy at Work*, pp. 83-85, (eBook) [4.3]
b) motion is described by an object's direction and speed;	**The Next Generation FOSS *Energy*** **ATE** *Energy Transfer – Rolling Balls Down Slopes*, Investigation 4, Part 2, pp. 298-306 **CT** *Tutorial: Creating Graphs*, Online Activity, fossweb.com [Inv. 3.2] **CT** *Tutorial: Interpreting Graphs*, Online Activity, fossweb.com [Inv. 3.2] **CT** *What Causes Change of Motion?*, pp. 74-77 (eBook) [Inv. 4.2] **CT** *Soccer*, Video, fossweb.com [Inv. 4.2] **CT** *Ball on Table*, Video, fossweb.com [Inv. 4.2] **CT** *Wagon*, Video, fossweb.com [Inv. 4.2]

c) changes in motion are related to net force and mass;	**The Next Generation FOSS *Energy*** **ATE** *Energy Transfer – Collisions*, Investigation 4, Part 2, pp. 298-306 **ATE** *Energy Transfer – Collisions*, Investigation 4, Part 3, pp. 307-322 **CT** *Tutorial: Interpreting Graphs*, Online Activity, fossweb.com [Inv. 3.2] **CT** *What Causes Change of Motion?*, pp. 74-77 (eBook) [Inv. 4.2] **CT** *Potential and Kinetic Energy at Work*, pp. 83-85, (eBook) [4.3]
d) when objects collide, the contact forces transfer energy and can change objects' motion; and	**The Next Generation FOSS *Energy*** **ATE** *Energy Transfer – Collisions*, Investigation 4, Part 3, pp. 307-322 **CT** *Tutorial: Creating Graphs*, Online Activity, fossweb.com [Inv. 3.2] **CT** *Tutorial: Interpreting Graphs*, Online Activity, fossweb.com [Inv. 3.2] **CT** *Potential and Kinetic Energy at Work*, pp. 83-85, (eBook) [4.3] **CT** *All About Transfer of Energy*, Video, fossweb.com [Inv. 4.3]
e) friction is a force that opposes motion.	**The Next Generation FOSS *Energy*** **ATE** *Energy Transfer – Rolling Balls Down Slopes*, Investigation 4, Part 2, pp. 298-306 **ATE** *Energy Transfer – Collisions*, Investigation 4, Part 3, pp. 307-322 **CT** *What Causes Change of Motion*, pp. 74-77 (eBook) [Inv. 4.2]

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2018 Grade Five Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
5.4 The student will investigate and understand that electricity is transmitted and used in daily life. Key ideas include	This SOL is covered in the Grade 5 FOSS module – ***Energy.*** This SOL is covered in the Grade 5 ***Energy (AVA*).*** *To enhance the **FOSS Energy** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Energy** module.
a) electricity flows easily through conductors but not insulators;	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits – Conductors and Circuits*, Investigation 1, Part 2, pp. 130-147 **CT** *Tutorial: Conductors and Insulators*, Online Activity fossweb.com [Inv. 1.2] **CT** *Conductor Detector*, Online Activity fossweb.com [Inv. 1.2] **CT** *D-cell Orientation*, Online Activity fossweb.com [Inv. 1.2] **CT** *Virtual Investigation: What Sticks and What Conducts?* Online Activity fossweb.com [Inv. 2.1]
b) electricity flows through closed circuits;	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits - Lighting the Bulb*, Investigation 1, Part 1, pp. 114-129 **ATE** *Energy and Circuits – Conductors and Circuits*, Investigation 1, Part 2, pp. 130-147 **CT** *Lighting a Bulb*, Online Activity fossweb.com, [Inv. 1.1] **CT** *Flow of Electricity*, Online Activity fossweb.com [Inv. 1.1] **CT** *Tutorial: Simple Circuits*, Online Activity fossweb.com [Inv. 1.1] **CT** *Turn on the Switch*, Online Activity fossweb.com [Inv.1.1]

	CT *Tutorial: Series and Parallel Circuits*, Online Activity fossweb.com [Inv. 1.3] **CT** *D-cell Orientation*, Online Activity, fossweb.com [Inv. 1.3]
c) static electricity can be generated by rubbing certain materials together;	**Next Generation FOSS *Energy (AVA)*** **ATE** *The Force of Magnetism – AVA: Static Electricity*, Investigation 2, Part 3 (after), pp. 3-10 **CT** *Making Static*, pp. 1-2 (eBook) [end Inv. 2.3]
d) electrical energy can be transformed into radiant, mechanical, and thermal energy; and	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits – Lighting the Bulb*, Investigation 1, Part 1, (step 15), p. 125 (A class energy transfer chart is created and used throughout the ***Energy*** module – pp. 125, 131, 137, 292, 296, and 379.) **ATE** *Energy and Circuits - Lighting the Bulb*, Investigation 1, Part 1, pp. 114-129 **ATE** *Energy and Circuits – Conductors and Circuits*, Investigation 1, Part 2, pp. 130-147 **ATE** *Energy Transfer – Presence of Energy*, Investigation 4, Part 1, pp. 288-297 **ATE** *Waves – Engineering with Solar Cells*, Investigation 5, Part 3, pp. 373-385 **CT** *All about the Transfer of Energy*, Online Video fossweb.com [Inv. 4.3]
e) a current flowing through a wire creates a magnetic field.	**Next Generation FOSS *Energy*** **ATE** *Electromagnets* – Investigation 3, Parts 1-3, pp. 242-272 **CT** *Using Magnetic Fields*, pp. 47-48 (eBook) [Inv. 3.2] **CT** *Electromagnets Everywhere*, pp. 49-57 (eBook) [Inv. 3.2] **CT** *Electricity Creates Magnetism*, pp. 44-46 (eBook) [Inv. 3.1] **CT** *Tutorial: Electromagnets*, Online Activity, fossweb.com [Inv. 3.2] **CT** *Virtual Investigation: Electromagnet Experiments*, Online Activity, fossweb.com [Inv. 3.2] **CT** *Virtual Electromagnet*, Online Activity, fossweb.com [Inv. 3.2] **CT** *Kitchen Magnets*, Online Activity, fossweb.com [Inv. 3.2]

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2018 Grade Five Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
5.5 The student will investigate and understand that sound can be produced and transmitted. Key ideas include	This SOL is covered in the Grade 5 FOSS modules – ***Energy*** and ***Sound Design.***
a) sound is produced when an object or substance vibrates;	**Next Generation FOSS *Energy*** **CT** *Waves; More about Sound*, pp. 86-99, (eBook) [Inv 5.1] **Next Generation FOSS *Sound Design*** **ATE** *Sound and Vibrations* – Investigation 1, Parts 1-3, pp. 50-83 **ATE** *Making and Moving Sounds – Energy Transfer,* Investigation 2, Parts 1-2, pp. 98-116 **CT** *Listen to This*, pp. 3-5 (eBook) [Inv. 1.1] **CT** *Moving Along in Compression Waves*, pp. 24-28 (eBook) [Inv. 2.2] **CT** *Sound Cards*, Online Activity, fossweb.com [Inv. 1.2/3.1] **CT** *Real World Science: Sound*, Video, fossweb.com [Inv. 2.2] **CT** *Sound Energy*, Video, fossweb.com [Inv. 2.3]

b) sound is the transfer of energy;	**Next Generation FOSS *Sound Design*** **ATE** *Making and Moving Sounds – Energy Transfer,* Investigation 2, Parts 1-3, pp. 98-123 **ATE** *Engineering Sound – Playing Musical Instruments,* Investigation 3, Part 1, pp. 138-146 **CT** *Listen to This,* pp. 3-5 (eBook) [Inv. 1.1] **CT** *Scoping Out Sound,* pp. 6-8 (eBook) [Inv. 1.2] **CT** *Moving Along in Compression Waves,* pp. 24-28 (eBook) [Inv. 2.2] **CT** *Sound in the Ocean,* pp. 35-41 (eBook) [Inv. 2.3] **CT** *Sound Off!,* pp. 42-45 (eBook) [Inv. 3.1] **CT** *Sound Energy,* Video, fossweb.com [Inv. 2.3]
c) different media transmit sound differently; and	**Next Generation FOSS *Sound Design*** **ATE** *Making and Moving Sounds – Energy Transfer,* Investigation 2, Part 2, pp. 107-116 **CT** *Your Source and Receiver,* pp. 14-17 (eBook) [Inv. 2.1] **CT** *A Trip to the Audiologist,* pp. 18-23 (eBook) [Inv. 2.1] **CT** *Moving Along in Compression Waves,* pp. 24-28 (eBook) [Inv. 2.2] **CT** *Bouncing Back,* pp. 33-34 (eBook) [Inv. 2.3] **CT** *Sound in the Ocean,* pp. 35-41 (eBook) [Inv. 2.3] **CT** *Real World Science: Sound,* Video, fossweb.com [Inv. 2.2] **CT** *Sound Energy,* Video, fossweb.com [Inv. 2.3]
d) sound waves have many uses and applications.	**Next Generation FOSS *Sound Design*** **ATE** *Engineering Sound – Playing Musical Instruments,* Investigation 3, Part 1, pp. **ATE** *Engineering Sound – Designing Musical Instruments,* Investigation 3, Part 2, pp. **CT** *Animal Babble,* pp. 29-32 (eBook) [Inv. 2.3] **CT** *Bouncing Back,* pp. 33-34 (eBook) [Inv. 2.3] **CT** *Sound in the Ocean,* pp. 35-41 (eBook) [Inv. 2.3] **CT** *Sound Off!,* pp. 42-45 (eBook) [Inv. 3.1] **CT** *Getting in Tune,* pp. 46-50 (eBook) [Inv. 3.1] **CT** *Lights1 Camera! Action!,* pp. 51-55 (eBook) [Inv. 3.2]

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2018 Grade Five Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
5.6 The student will investigate and understand that visible light has certain characteristics and behaves in predictable ways. Key ideas include	This SOL is covered in the Grade 5 FOSS module – ***Energy.***
a) visible light is radiant energy that moves in transverse waves;	**Next Generation FOSS *Energy*** (A class energy transfer chart is created and used throughout the ***Energy*** module – pp. 125, 131, 137, 292, 296, and 379.) **ATE** *Waves – Forms of Waves*, Investigation 5, Part 1, pp. 342-357 **ATE** *Waves – Light Travels*, Investigation 5, Part 2, pp. 358-372 **CT** *Waves*, pp. 86-90 (eBook) [Inv. 5.1] **CT** *Throw a Little Light on Sight; More Light on the Subject*, pp. 106-113 (eBook) [5.2] **CT** *More Light on the Subject*, pp. 111-113 (eBook) [Inv. 5.2] **CT** *All About Waves*, Video, fosseweb.com [Inv. 5.1]
b) the visible spectrum includes light with different wavelengths;	**Next Generation FOSS *Energy*** **ATE** *Waves – Light Travels*, Investigation 5, Part 2, pp. 358-372 **CT** *Light Interactions*, pp. 100-105 (eBook) [Inv. 5.2] **CT** *More Light on the Subject*, pp. 111-113 (eBook) [Inv. 5.2]

	CT *All About Light,* Video, fossweb.com [Inv. 5.2] **CT** *Colored Light,* Online Activity, fossweb.com (Inv. 5.2 **CT** *Virtual Investigation: Color,* Online Activity, fossweb.com [Inv. 5.2]
c) matter influences the path of light; and	**Next Generation FOSS *Energy*** **ATE** *Waves – Light Travels*, Investigation 5, Part 2, pp. 358-372 **CT** *Light Interactions*, pp. 100-105 (eBook) [Inv. 5.2] **CT** *More Light on the Subject,* pp. 111-113 (eBook) [Inv. 5.2] **CT** *All About Light,* Video, fossweb.com [Inv. 5.2] **CT** *Reflected Light,* Online Activity, fossweb.com [Inv. 5.2]
d) radiant energy can be transformed into thermal, mechanical, and electrical energy.	**Next Generation FOSS *Energy*** **ATE** *Energy and Circuits – Lighting the Bulb*, Investigation 1, Part 1, (step 15), p. 125 (A class energy transfer chart is created and used throughout the ***Energy*** module – pp. 125, 131, 137, 292, 296, and 379.) **CT** *Alternate Sources of Energy,* pp. 114-119 (eBook) [Inv. 5.3]

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2018 Grade Five Science Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and ATE for Annotated Teacher Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
5.7 The student will investigate and understand that matter has properties and interactions. Key ideas include	This SOL is covered in the Grade 5 FOSS module – ***Mixtures and Solutions.*** This SOL is covered in the Grade 5 ***Mixture and Solutions (AVA*).*** *To enhance the **FOSS Mixtures and Solutions** module and to provide state-specific experiences for Virginia students, **Activities for Virginia (AVAs)** have been created. It is a companion to the **Mixtures and Solutions** module. Throughout the Mixtures and Solutions, FOSS uses the work "particle" versus atoms.
a) matter is composed of atoms;	**FOSS Next Generation *Mixtures and Solutions*** **ATE** *Separating Mixtures – Separating a Salt Solution,* Investigation 1, Part 1, pp. 100-111 **ATE** *Separating Mixtures – Separating a Salt Solution,* Investigation 1, Part 2, pp. 112-122 **ATE** *Developing Models – Models for Change in Properties,* Investigation 2, Part 3, pp. 180-191 **CT** *Mixtures,* pp. 3-7 (eBook) [Inv.1.3] **CT** *Solutions Up Close,* pp. 26-27 (eBook) [Inv. 3.1] **CT** *Elements, Compounds, and Mixtures,* Multimedia, fossweb.com [Inv. 1.3] **FOSS Next Generation *Mixtures and Solutions (AVA)*** **ATE** *Developing Models – AVA: Phases of Matter,* Investigation 2, Part 3, (after step 11) p. 2

	CT *Particles in Solids, Liquids and Gas,* Video, fossweb.com [Inv. 2.3]
b) substances can be mixed together without changes in their physical properties; and	**FOSS Next Generation *Mixtures and Solutions*** **ATE** *Separating Mixtures – Mixing and Separating Mixtures,* Investigation 1, Parts 1-4, pp. 100-143 **ATE** *Developing Models – Models for Change in Properties,* Investigation 2, Part 3, pp. 180-191 **CT** *Mixtures,* pp. 3-7 (eBook) [Inv. 1.2] **CT** *Taking Mixtures Apart,* pp. 8-12 (eBook) [Inv. 1.3] **CT** *Tutorial: Mixtures,* Multimedia, fossweb.com [Inv. 1.3] **CT** *Tutorial: Solutions,* Multimedia, fossweb.com [Inv. 1.3] **CT** *Separating Mixtures,* Multimedia, fossweb.com [Inv. 1.3] **CT** *Virtual Investigation: Separating Mixtures,* Multimedia, fossweb.com [Inv. 1.3]
c) energy has an effect on the phases of matter.	**FOSS Next Generation *Mixtures and Solutions*** **ATE** *Developing Models – Models for Change in Properties,* Investigation 2, Part 3, pp. 180-191 **CT** *Solid to Liquid,* pp. 21-22 (eBook) [Inv. 2.3] **CT** *Liquid and Gas Changes,* pp. 23-25 (eBook) [Inv. 2.3] **CT** *Concentrated Solutions,* pp. 28-31 (eBook) [Inv. 3.2] **CT** *Tutorial: Conservation of Mass,* Multimedia, fossweb.com [Inv. 1.2] **CT** *Changes in Properties of Matter,* Multimedia, fossweb.com [Inv. 2.3] **FOSS Next Generation *Mixtures and Solutions (AVA)*** **ATE** *Developing Models – AVA: Phases of Matter,* Investigation 2, Part 3, (after step 11) p. 2 **CT** *Particles in Solids, Liquids and Gas,* Video, fossweb.com [Inv. 2.3]

Science Textbook Correlation to the
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5.8 The student will investigate and understand that Earth constantly changes. Key ideas include	This SOL is covered in the Grade 5 FOSS module – ***Soils, Rocks, and Landforms.***
a) Earth's internal energy causes movement of material within the Earth;	**FOSS Next Generation *Soils, Rocks, and Landforms*** **ATE** *Mapping Earth's Surface – Rapid Changes,* Investigation 3, Part 4, pp. 250-259 **CT** *Where Do Rocks Come From?,* p. 67 (eBook) [Inv. 4.3] **CT** *It Happens So Fast,* p. 46 (eBook) [Inv. 3.4] **CT** *Volcanoes,* Video, fossweb.com, [Inv. 3.2] **CT** *All About Earthquakes,* Online Video, fossweb.com, [Inv. 3.4**]**
b) plate tectonics describe movement of the crust;	**FOSS Next Generation *Soils, Rocks, and Landforms*** **ATE** *Mapping Earth's Surface – Rapid Changes,* Investigation 4, Part 4, pp. 250-259 **CT** *Landform Photo Album,* pp. 15-21 (eBook) [Inv. 2.2] **CT** *Landforms Formed by Crust Movements,* p. 22 (eBook) [Inv. 2.2] **CT** *It Happened So Fast,* pp. 38-49 (eBook) [Inv. 3.4] **CT** *Where Do Rocks Come From?,* p. 67 (eBook) [Inv. 4.3] **CT** *Volcanoes,* Video, fossweb.com [Inv.3.2] **CT** *All About Earthquakes,* Video, fossweb.com [Inv. 3.4 **CT** *Geolabs: Faulting and Folding,* Multimedia, fossweb.com

c) the rock cycle models the transformation of rocks;	**FOSS Next Generation *Soils, Rocks, and Landforms*** **ATE** *Natural Resources,* Investigation 4, Part 3, pp. 298-302 **CT** *Where Do Rocks Come From?,* pp. 67-71 (eBook) [Inv.4.3] **CT** *The Rock Cycle*, p. 72 (eBook) [Inv. 4.3] **CT** *Geolabs: Rock Database,* Multimedia, fossweb.com **CT** *Geolabs: Rock Types,* Multimedia, fossweb.com
d) processes such as weathering, erosion, and deposition change the surface of the Earth; and	**FOSS Next Generation *Soils, Rocks, and Landforms*** **ATE** *Soils and Weathering,* Investigation 1, Parts 2-3, pp. 110-133 **ATE** *Landforms-Erosion and Deposition,* Investigation 2, Parts 1-3, pp. 158-189 **ATE** *Mapping Earth's Surface – Rapid Changes,* Investigation 3, Part 4, pp. 250-259 **CT** *Weathering,* pp. 6-8; *Erosion and Deposition,* pp. 9-14; *Landforms Photo Album,* pp. 15-20 **CT** *Weathering and Erosion,* Streaming Video, www.fossweb.com [Inv. 1.3] **CT** *Weathering,* Virtual Investigation and Tutorial, www.fossweb.com [Inv. 1.4] **CT** *Stream Table-Geology Lab,* Multimedia, www.fossweb.com **CT** *Stream Table*, Virtual Investigation and Tutorial, www.fossweb.com
e) fossils and geologic patterns provide evidence of Earth's change.	**FOSS Next Generation *Soils, Rocks, and Landforms*** **ATE** *Landforms – Stream-Table Investigations,* Investigation 2, Part 4, pp. 170-182 **ATE** *Mapping Earth's Surface – Rapid Changes,* Investigation 3, Part 4, pp. 250-259 **CT** *Landform Photo Album,* pp. 15-21 (eBook) [Inv. 2.2] **CT** *Fossils Tell a Story*, pp. 23-26, (eBook), [Inv. 2.4] **CT** *Pieces of a Dinosaur Puzzle*, pp. 27-30, (eBook), [Inv. 2.4]

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5.9 The student will investigate and understand that the conservation of energy resources is important. Key ideas include	This SOL is covered in the Grade 5 FOSS modules – ***Energy,*** and ***Soils, Rocks, and Landforms.***
a) some sources of energy are considered renewable and others are not;	**New Generation FOSS *Energy*** **CT** *Energy Sources,* pp. 8-12 (eBook) [Inv. 1.2] **CT** *Engineering a Solar Lighting system,* pp. 25-29 (eBook) [Inv. 1.4] **CT** *Electromagnetics Everywhere,* pp. 49-57 (eBook) [Inv. 3.2] **New Generation FOSS *Soils, Rocks, and Landforms*** **ATE** *Natural Resources – Introduction to Natural Resources,* Inv. 4, Part 1, pp. 274-283 **ATE** *Natural Resources – Earth Materials in Use,* Inv. 4, Part 3, pp. 292-302 **CT** *Natural Resources,* Video, fossweb.com [Inv. 4.1] **CT** *Resources ID,* Online Activity, fossweb.com [Inv. 4.1] **CT** *Natural Resources,* Virtual Investigation, fossweb.com [Inv. 4.3]
b) individuals and communities have means of conserving both energy and matter; and	**New Generation FOSS *Energy*** (The ***Energy*** module – contains a set of four *Conservation* posters to display so you can show the importance of natural resources with students, pp. 18, 79) **CT** *Alternative Sources of Energy,* p. 119 (eBook) [Inv. 5.3] **CT** *Tutorial: Creating Graphs,* Online Activity, fossweb.com [Inv. 3.2] **CT** *Tutorial: Interpreting Graphs,* Online Activity, fossweb.com [Inv. 3.2]

c) advances in technology improve the ability to transfer and transform energy.	**New Generation FOSS *Energy*** **CT** *Engineering a Solar Lighting Solution*, pp. 25-29 (eBook) [Inv. 1.4] **CT** *Alternative Sources of Electricity*, pp. 114-118, (eBook) [Inv. 5.3]