Publisher: Twig Education

Program Title: Twig Science

Components: Twig Science Teacher Editions (TE), Twig Science Student Twig Books (TB), Leveled Readers (LR) (On-, Above, Below and English Learner Levels), www.twigscience.com, www.twigsciencetools.com, www.twigsciencereporter.com

Standards Map for Kindergarten Through Grade Eight
Grade K – Next Generation Science Standards

K-LS1 From Molecules to Organisms: Structures and Processes

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Analyzing and Interpreting Data** Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. ▪ Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)	**KEY:** **M = Module** **DQ = Driving Question** **L = Lesson** **TE = Teacher Edition** **TB = Student Edition known as the Twig Book** **LR = Leveled Reader** **EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ2 L2 (TE pp. 44–49, TB pp.15-16) L3 (TE pp. 50–57, TB p.17) L4 (TE pp. 58–65, TB pp. 18–19) L7 (TE pp. 78–83, TB pp. 23–25) L9 (TE pp. 90–95, TB pp. 28–30) Key Resources L3 **Rain** audio clip; **Looking for Plants: Rain** video L4 **Looking for Plants: River** video L7 **Looking for Plants: Cave** video L9 **How Do Plants Survive?** video **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ3 L3 (TE pp. 124–129, TB p. 46) L5 (TE pp. 138–146, TB pp. 49–50)	**K-LS1-1.** **Use observations to describe patterns of what planets and animals (including humans) need to survive.** [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and that all living things need water.]	**KEY:** **M = Module** **DQ = Driving Question** **L = Lesson** **TE = Teacher Edition** **TB = Student Edition known as the Twig Book** **LR = Leveled Reader** **EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ2 L3 (TE pp. 50–57, TB p.17) L4 (TE pp. 58–65, TB pp. 18–19) L5 (TE pp. 66–71, TB p. 20) L6 (TE pp. 72–77, TB pp. 21–22) L7 (TE pp. 78–83, TB pp. 23–25) L8 (TE pp. 84–89, TB pp. 26–27) L9 (TE pp. 90–95, TB pp. 28–30) L10 (TE pp. 96–102, TB pp. 31–34) Key Resources L3 **Rain** audio clip L4 **Looking for Plants: Rain** video; **Looking for Plants: River** video L5 **Watering Plants** video L7 **Looking for Plants: Cave** video L9 **How Do Plants Survive?** video L10 **Plant Needs—Odd One Out** video **EXAMPLE TWO** **Grade K Module 1**

		Key Resources L3 **What Do Animals Eat?** video L5 **Sharing Water** video; **What Do Animals Need?** quiz; **Human Wants and Needs Images** handout **EXAMPLE THREE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L1 (TE pp. 152–157, TB pp. 53–55) L2 (TE pp. 158–163, TB pp. 56–57) Key Resources L2 **Life Under a Rock** video; **Where Do Animals Live?** quiz **EXAMPLE FOUR** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L1 (TE pp. 186–193, TB pp. 67–70) L2 (TE pp. 194–201, TB pp. 71–73) L3 (TE pp. 202–209, TB pp. 74–76) L4 (TE pp. 210–215, TB pp. 77–79) L5 (TE pp. 216–223, TB pp. 80–82) L6 (TE pp. 224–229, TB pp. 83–84) L7 (TE pp. 230–234, TB pp. 85–86) Key Resources L1 **Dung Beetle** video; **Adventure in the Desert** video L3 **Adventure in a Grassland** video; **Agama Lizard** video L5 **Who Lives Here?** Read-Aloud text L6 **Peregrine Falcon** video **EXAMPLE FIVE** **Grade K Module 1** **Leveled Reader: The Friendly Kakapo** All chapters (LR 2–29)		**My Big Nature Adventure** M1_DQ3 L3 (TE pp. 124–129, TB p. 46) L4 (TE pp. 130–137, TB pp. 47–48) L5 (TE pp. 138–146, TB pp. 49–50) Key Resources L3 **What Do Animals Eat?** video L5 **Sharing Water** video; **What Do Animals Need?** quiz; **Human Wants and Needs Images** handout **EXAMPLE THREE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L2 (TE pp. 158–163, TB pp. 56–57) Key Resources L2 **Life Under a Rock** video; **Where Do Animals Live?** quiz **EXAMPLE FOUR** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L1 (TE pp. 186–193, TB pp. 67–70) L3 (TE pp. 202–209, TB pp. 74–76) L8 (TE pp. 236–240, TB pp. 87–88) Key Resources L1 **Dung Beetle** video; **Adventure in the Desert** video L3 **Adventure in a Grassland** video; **Agama Lizard** video **EXAMPLE FIVE** **Grade K Module 1** **Leveled Reader: The Friendly Kakapo** All chapters (LR 2–29) Associated lessons (TE pp. 242–257, TB 99–105)

		Associated lessons (TE 256–271, TB 99–105)		
	Connections to Nature of Science **Scientific Knowledge is Based on Empirical Evidence** Scientists look for patterns and order when making observations about the world. (K-LS1-1)	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ2 L2 (TE pp. 44–49, TB pp. 15–16) L9 (TE pp. 90–95, TB pp. 28–30) Key Resources L9 **How Do Plants Survive?** video **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L8 (TE pp. 236–240, TB pp. 87–88) **EXAMPLE THREE** **Grade K Module 1** **Leveled Reader: The Friendly Kakapo** Chapter 2 (LR pp.14–21) Associated lesson (TE pp. 247–252, TB pp. 101–103) Chapter 3 (LR pp. 22–29) Associated lesson (TE pp. 253–257, TB pp. 104–105)		
DCI	**LS1.C: Organization for Matter and Energy Flow in Organisms** ▪ All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1)	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ2 L3 (TE pp. 50–57, TB p. 17) L4 (TE pp. 58–65, TB pp. 18–19) L5 (TE pp. 66–71, TB p. 20) L6 (TE pp. 72–77, TB pp. 21–22) L7 (TE pp. 78–83, TB pp. 23–25) L8 (TE pp. 84–89, TB pp. 26–27) L9 (TE pp. 90–95, TB pp. 28–30)		

		L10 (TE pp. 96–102, TB pp. 31–34) Key Resources L3 **Rain** audio clip; **Looking for Plants: Rain** video L4 **Looking for Plants: River** video L5 **Watering Plants** video L7 **Looking for Plants: Cave** video L9 **How Do Plants Survive?** video L10 **Plant Needs—Odd One Out** video **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ3 L1 (TE pp. 108–115, TB pp. 37–41) L2 (TE pp. 116–123, TB pp. 42–45) L3 (TE pp. 124–129, TB p. 46) L4 (TE pp. 130–137, TB pp. 47–48) L5 (TE pp. 138–146, TB pp. 49–50) Key Resources L3 **What Do Animals Eat?** video L5 **Sharing Water** video; **What Do Animals Need?** quiz **EXAMPLE THREE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L1 (TE pp. 152–157, TB pp. 53–55) L2 (TE pp. 158–163, TB pp. 56–57) L4 (TE pp. 172–178, TB pp. 59–64) **EXAMPLE FOUR** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L8 (TE pp. 236–240, TB pp. 87–88) **EXAMPLE FIVE** **Grade K Module 1**		

		Leveled Reader: The Friendly Kakapo Chapter 1 (LR pp. 2–13) Associated lesson (TE pp. 242–246, TB pp. 99–100)		
CCC	**Patterns** ▪ Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1)	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ2 L1 (TE pp. 38–43, TB pp. 13–14) L2 (TE pp. 44–49, TB pp. 15–16) L4 (TE pp. 58–65, TB pp. 18–19) L7 (TE pp. 78–83, TB pp. 23–25) L8 (TE pp. 84–89, TB pp. 26–27) L9 (TE pp. 90–95, TB pp. 28–30) L10 (TE pp. 96–102, TB pp. 31–34) **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ3 L3 (TE pp. 124–129, TB p. 46) L5 (TE pp. 138–146, TB pp. 49–50) Key Resources L3 **What Do Animals Eat?** video, L5 **Sharing Water** video; **What Do Animals Need?** quiz **EXAMPLE THREE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L8 (TE pp. 236–240, TB pp. 87–88) **EXAMPLE FOUR** **Grade K Module 1** **Leveled Reader: The Friendly Kakapo**		

		Chapter 1 (LR pp. 2–13) Associated lesson (TE pp. 242–246, TB pp. 99–100) Chapter 3 (LR pp. 22–29) Associated lesson (TE pp. 253–257, TB pp. 104–105)		

K-ESS2 Earth's Systems

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Analyzing and Interpreting Data** Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. ▪ Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L2 (TE pp. 14–19, TB pp. 13–14) L5 (TE pp. 32–37, TB pp. 18–19) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) Key Resources L2 **My Favorite Weather** Prior-Knowledge Read-Aloud text; **Weather Forecast** video; **Weather Symbols** visual; **Snow—Big Reveal** video **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ2 L1 (TE pp. 72–77, TB pp. 31–32) L3 (TE pp. 84–89, TB pp. 34–37) Key Resources L1 **What Is the Weather Like?** video	**K-ESS2-1.** **Use and share observations of local weather conditions to describe patterns over time.** [Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.] [*Assessment Boundary: Assessment of quantitative observations is limited to whole numbers and relative measures such as warmer/cooler.*]	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L2 (TE pp. 14–19, TB pp. 13–14) Key Resources L2 **My Favorite Weather** Prior-Knowledge Read-Aloud text; **Weather Forecast** video; **Weather Symbols** visual; **Snow—Big Reveal** video **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ2 L1 (TE pp. 72–77, TB pp. 31–32) L2 (TE pp. 78–83, TB p. 33) L3 (TE pp. 84–89, TB pp. 34–37) L4 (TE pp. 90–95, TB pp. 38–39) L5 (TE pp. 96–101, TB pp. 40–41) L6 (TE pp. 102–107, TB pp. 42–44) Key Resources L1 **What Is the Weather Like?** video L2 **Weather Song** video (optional); **What Is the Weather Like?** video; **Kinds of Weather** Read-Aloud text

		EXAMPLE THREE **Grade K Module 3** **Be Prepared** M3_DQ3 L1 (TE pp. 114–119, TB pp. 47–48) L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52) L5 (TE pp. 138–143, TB pp. 55–56) L6 (TE pp. 144–148, TB pp. 57–58) Key Resources L5 **Weather Data Sheet; Weather Table** visual; **Meteorologists** video **EXAMPLE FOUR** **Grade K Module 3** **Be Prepared** M3_DQ4 L2 (TE pp. 160–165, TB pp. 71–75) Key Resources L2 **Severe Weather** video; **Severe Weather Symbols** visual **EXAMPLE FIVE** **Grade K Module 3** **Leveled Reader: What's the Weather?** Chapter 3 (LR pp. 20–29) Associated lesson (TE pp. 192–197)		**EXAMPLE THREE** **Grade K Module 3** **Be Prepared** M3_DQ3 L1 (TE pp. 114–119, TB pp. 47–48) L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52) L4 (TE pp. 132–137, TB pp. 53–54) L5 (TE pp. 138–143, TB pp. 55–56) L6 (TE pp. 144–148, TB pp. 57–58) Key Resources L5 **Weather Data Sheet; Weather Table** visual; **Meteorologists** video **EXAMPLE FOUR** **Grade K Module 3** **Leveled Reader: What's the Weather?** Chapter 2 (LR pp.10–19) Associated lesson (TE pp. 186–191) Chapter 3 (LR pp. 20–29) Associated lesson (TE pp. 192–197)
SEP	***Connections to Nature of Science*** **Scientific Knowledge is Based on Empirical Evidence** ▪ Scientists look for patterns and order when making observations about the world. (K-ESS2-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ2 L4 (TE pp. 90–95, TB pp. 38–39) L5 (TE pp. 96–101, TB pp. 40–41) L6 (TE pp. 102–107, TB pp. 42–44) **EXAMPLE TWO** **Grade K Module 3**		

		Be Prepared M3_DQ3 L1 (TE pp. 114–119, TB pp. 47–48) L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52) L5 (TE pp. 138–143, TB pp. 55–56) L6 (TE pp. 144–148, TB pp. 57–58) **EXAMPLE THREE** **Grade K Module 3** **Be Prepared** M3_DQ4 L1 (TE pp. 154–159, TB pp. 61–70) L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76)		
DCI	**ESS2.D: Weather and Climate** ▪ Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L2 (TE pp. 14–19, TB pp. 13–14) Key Resources L2 **My Favorite Weather** Prior-Knowledge Read-Aloud text; **Weather Forecast** video **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ2 L1 (TE pp. 72–77, TB pp. 31–32) L2 (TE pp. 78–83, TB p. 33) L3 (TE pp. 84–89, TB pp. 34–37) L4 (TE pp. 90–95, TB pp. 38–39) L5 (TE pp. 96–101, TB pp. 40–41) L6 (TE pp. 102–107, TB pp. 42–44) Key Resources L1 **What Is the Weather Like?** video		

		L2 **Kinds of Weather** Read-Aloud text **EXAMPLE THREE** **Grade K Module 3** **Be Prepared** M3_DQ3 L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52) L4 (TE pp. 132–137, TB pp. 53–54) L5 (TE pp. 138–143, TB pp. 55–56) L6 (TE pp. 144–148, TB pp. 57–58) Key Resources L5 **Meteorologists** video **EXAMPLE FOUR** **Grade K Module 3** **Be Prepared** M3_DQ4 L1 (TE pp. 154–159, TB pp. 61–70) L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) **EXAMPLE FIVE** **Grade K Module 3** **Leveled Reader: What's the Weather?** All chapters (LR pp. 2–29) Associated lessons (TE pp. 180–197)		
CCC	**Patterns** ▪ Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L2 (TE pp. 14–19, TB pp. 13–14) L4 (TE pp. 26–31, TB p. 17) Key Resources		

		L2 **My Favorite Weather** Prior-Knowledge Read-Aloud text; **Weather Forecast** video **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ2 L1 (TE pp. 72–77, TB pp. 31–32) L2 (TE pp. 78–83, TB p. 33) L3 (TE pp. 84–89, TB pp. 34–37) L4 (TE pp. 90–95, TB pp. 38–39) L5 (TE pp. 96–101, TB pp. 40–41) L6 (TE pp. 102–107, TB pp. 42–44) Key Resources L1 **What Is the Weather Like?** video L2 **Kinds of Weather** Read-Aloud text **EXAMPLE THREE** **Grade K Module 3** **Be Prepared** M3_DQ3 L1 (TE pp. 114–119, TB pp. 47–48) L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52) L4 (TE pp. 132–137, TB pp. 53–54) L5 (TE pp. 138–143, TB pp. 55–56) L6 (TE pp. 144–148, TB pp. 57–58) Key Resources L5 **Meteorologists** video **EXAMPLE FOUR** **Grade K Module 3** **Leveled Reader: What's the Weather?** All chapters (LR pp. 2–29) Associated lessons (TE pp. 180–197)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Engaging in Argument from Evidence** Engaging in argument from evidence in K–2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s). ▪ Construct an argument with evidence to support a claim. (K-ESS2-2)	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ1 L9 (TE pp. 56–61, TB pp. 19–26) Key Resources L9 **Beaver Builders** video; **Beaver Claims** Read-Aloud text **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ2 L1 (TE pp. 72–77, TB p. 31) L4 (TE pp. 90–95, TB p. 36) Key Resources L4 **Leaf Litter** video; **Leaf System** visual **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L2 (TE pp. 120–125, TB pp. 51–53) L4 (TE pp. 134–139, TB p. 56) Key Resources L2 **How Is Paper Made?** video **EXAMPLE FOUR** **Grade K Module 4** **Leveled Reader: Animal Builders** Chapter 3 (LR pp. 22–29) Associated lesson (TE pp. 216–221, TB pp. 86–87)	**K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.** [Clarification Statement: Examples of plants and animals changing their environment could include how a squirrel digs in the ground to hide its food and tree roots can break concrete.]	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ1 L4 (TE pp. 26–31, TB pp. 11–12) L5 (TE pp. 32–37, TB pp. 13–14) L6 (TE pp. 38–43, TB p. 15) L7 (TE pp. 44–49, TB pp. 16–17) L8 (TE pp. 50–55, TB p. 18) L9 (TE pp. 56–61, TB pp. 19–26) L10 (TE pp. 62–66, TB pp. 27–28) Key Resources L4 **Earthworm Tunneling** video L5 **A Day in the Life of an Earthworm** video L7 **Beaver—Jigsaw Puzzle** video; **It's a Beaver!** video L9 **Beaver Builders** video; **Beaver Claims** Read-Aloud text L10 **Animals Can Change their Environment** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ2 L2 (TE pp. 78–83, TB pp. 32–34) L3 (TE pp. 84–89, TB p. 35) L4 (TE pp. 90–95, TB p. 36) L5 (TE pp. 96–101, TB pp. 37–44) L6 (TE pp. 102–106, TB pp. 45–46) Key Resources L4 **Leaf Litter** video; **Leaf System** visual L5 **Roots—Big Reveal** video; **Tree Roots** visual; **Roots Refrain** visual; **Roots, Good or Bad?** Read-Aloud text **EXAMPLE THREE** **Grade K Module 4** **I Can**

DCI	**ESS2.E: Biogeology** ▪ Plants and animals can change their environment. (K-ESS2-2)	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ1 L1 (TE pp. 8–13, TB pp. 3–8) L2 (TE pp. 14–19, TB p. 9) L3 (TE pp. 20–25, TB p. 10) L4 (TE pp. 26–31, TB pp. 11–12) L5 (TE pp. 32–37, TB pp. 13–14) L6 (TE pp. 38–43, TB p. 15) L7 (TE pp. 44–49, TB pp. 16–17) L8 (TE pp. 50–55, TB p. 18) L9 (TE pp. 56–61, TB pp. 19–26) L10 (TE pp. 62–66, TB pp. 27–28) Key Resources L4 **Earthworm Tunneling** video L5 **A Day in the Life of an Earthworm** video L7 **Beaver—Jigsaw Puzzle** video; **It's a Beaver!** video L9 **Beaver Builders** video, **Beaver Claims** Read-Aloud text L10 **Animals Can Change their Environment** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ2 L1 (TE pp. 72–77, TB p. 31) L2 (TE pp. 78–83, TB pp. 32–34) L3 (TE pp. 84–89, TB p. 35) L4 (TE pp. 90–95, TB p. 36) L5 (TE pp. 96–101, TB pp. 37–44) L6 (TE pp. 102–106, TB pp. 45–46) Key Resources L4 L**eaf Litter** video; **Leaf System** visual L5 **Roots—Big Reveal** video; **Tree Roots** visual; **Roots Refrain** visual; **Roots, Good or Bad?** Read-Aloud text		M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L2 (TE pp. 120–125, TB pp. 51–53) L3 (TE pp. 126–132, TB pp. 54–55) L4 (TE pp. 134–139, TB p. 56) L5 (TE pp. 140–145, TB pp. 57–58) L6 (TE pp. 146–150, TB pp. 59–60) Key Resources L2 **How Is Paper Made?** video L3 **Deforestation** visual; **Disappearing Forests** video L5 **Irrigation** video **EXAMPLE FOUR** **Grade K Module 4** **Leveled Reader: Animal Builders** All chapters (LR pp. 2–29) Associated lessons (TE pp. 204–221, TB pp. 81–87)

		EXAMPLE THREE **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L2 (TE pp. 120–125, TB pp. 51–53) L3 (TE pp. 126–132, TB pp. 54–55) L4 (TE pp. 134–139, TB p. 56) L5 (TE pp. 140–145, TB pp. 57–58) L6 (TE pp. 146–150, TB pp. 59–60) Key Resources L2 **How Is Paper Made?** video L3 **Deforestation** visual; **Disappearing Forests** video L5 **Irrigation** video		
DCI	**ESS3.C: Human Impacts on Earth Systems** ▪ Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2)	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L2 (TE pp. 120–125, TB pp. 51–53) L3 (TE pp. 126–132, TB pp. 54–55) L4 (TE pp. 134–139, TB p. 56) L5 (TE pp. 140–145, TB pp. 57–58) L6 (TE pp. 146–150, TB pp. 59–60) Key Resources L2 **How Is Paper Made?** video L3 **Deforestation** visual; **Disappearing Forests** video L5 **Irrigation** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ4 L1 (TE pp. 156–161, TB p. 63) L2 (TE pp. 162–167, TB pp. 64–66)		

		L3 (TE pp. 168–173, TB pp. 67–68) L4 (TE pp. 174–178, TB pp. 69–70) Key Resources L2 **Recycled Object** visual; **Reduce, Reuse, Recycle** video; **Reduce, Reuse, Recycle Snap** game **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79) L4 (TE pp. 198–202, TB p. 80) Key Resources L1 **I Can** text (TB pp. 73–76)		
CCC	**Systems and System Models** ▪ Systems in the natural and designed world have parts that work together. (K-ESS2-2)	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ1 L1 (TE pp. 8–13, TB pp. 3–8) L2 (TE pp. 14–19, TB p. 9) L3 (TE pp. 20–25, TB p. 10) L4 (TE pp. 26–31, TB pp. 11–12) L5 (TE pp. 32–37, TB pp. 13–14) L8 (TE pp. 50–55, TB p. 18) L9 (TE pp. 56–61, TB pp. 19–26) **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ2 L1 (TE pp. 72–77, TB p. 31) L3 (TE pp. 84–89, TB p. 35) L4 (TE pp. 90–95, TB p. 36) L5 (TE pp. 96–101, TB pp. 37–44) L6 (TE pp. 102–106, TB pp. 45–46)		

		EXAMPLE THREE **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L2 (TE pp. 120–125, TB pp. 51–53) L3 (TE pp. 126–132, TB pp. 54–55) L4 (TE pp. 134–139, TB p. 56) L5 (TE pp. 140–145, TB pp. 57–58) L6 (TE pp. 146–150, TB pp. 59–60) Key Resources L5 **Irrigation** video		

K-ESS3 Earth and Human Activity

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Developing and Using Models** Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, storyboard) that represent concrete events or design solutions. ▪ Use a model to represent relationships in the natural world. (K-ESS3-1)	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L2 (TE pp. 158–163, TB pp. 56–57) Key Resources L2 **Life Under a Rock** video **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L2 (TE pp. 194–201, TB pp. 71–73) L4 (TE pp. 210–215, TB pp. 77–79) L6 (TE pp. 224–229, TB pp. 83–84)	**K-ESS3-1.** **Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.** [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and grasses need sunlight so they often grow in meadows. Plants, animals,	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L2 (TE pp. 158–163, TB pp. 56–57) L3 (TE pp. 164–171, TB p. 58) Key Resources L2 **Life Under a Rock** video L3 **Damselfly** video **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L1 (TE pp. 186–193, TB pp. 67–70)

		L8 (TE pp. 236–240, TB pp. 87–88) Key Resources L5 **Who Lives Here?** Read-Aloud text L6 **Peregrine Falcon** video	and their surroundings make up a system.]	L2 (TE pp. 194–201, TB pp. 71–73) L3 (TE pp. 202–209, TB pp. 74–76) L4 (TE pp. 210–215, TB pp. 77–79) L5 (TE pp. 216–223, TB pp. 80–82) L6 (TE pp. 224–229, TB pp. 83–84) L7 (TE pp. 230–234, TB pp. 85–86) L8 (TE pp. 236–240, TB pp. 87–88) Key Resources L1 **Dung Beetle** video; **Adventure in the Desert** video L3 **Adventure in a Grassland** video: **Agama Lizard** video L5 **Who Lives Here?** Read-Aloud text L6 **Peregrine Falcon** video **EXAMPLE THREE** **Grade K Module 1** **Leveled Reader: The Friendly Kakapo** All chapters (LR pp. 2–29) Associated lessons (TE pp. 242–257, TB 99–105)
DCI	**ESS3.A: Natural Resources** ▪ Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1)	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L2 (TE pp. 158–163, TB pp. 56–57) L3 (TE pp. 164–171, TB p. 58) Key Resources L2 **Life Under a Rock** video L3 **Damselfly** video **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L1 (TE pp. 186–193, TB pp. 67–70) L2 (TE pp. 194–201, TB pp. 71–73) L3 (TE pp. 202–209, TB pp. 74–76) L4 (TE pp. 210–215, TB pp. 77–79) L5 (TE pp. 216–223, TB pp. 80–82) L6 (TE pp. 224–229, TB pp. 83–84) L7 (TE pp. 230–234, TB pp. 85–86) L8 (TE pp. 236–240, TB pp. 87–88) Key Resources L1 **Dung Beetle** video; **Adventure in the Desert** video L3 **Adventure in a Grassland** video; **Agama Lizard** video L5 **Who Lives Here?** Read-Aloud text L6 **Peregrine Falcon** video **EXAMPLE THREE** **Grade K Module 1**		

		Leveled Reader: The Friendly Kakapo All chapters (LR pp. 2–29) Associated lessons (TE pp. 242–257, TB 99–105)		
CCC	**Systems and System Models** ▪ Systems in the natural and designed world have parts that work together. (K-ESS3-1)	**EXAMPLE ONE** **Grade K Module 1** **My Big Nature Adventure** M1_DQ4 L2 (TE pp. 158–163, TB pp. 56–57) L3 (TE pp. 164–171, TB p. 58) L4 (TE pp. 172–178, TB pp. 59–64) **EXAMPLE TWO** **Grade K Module 1** **My Big Nature Adventure** M1_DQ5 L1 (TE pp. 186–193, TB pp. 67–70) L2 (TE pp. 194–201, TB pp. 71–73) L3 (TE pp. 202–209, TB pp. 74–76) L4 (TE pp. 210–215, TB pp. 77–79) L5 (TE pp. 216–223, TB pp. 80–82) L6 (TE pp. 224–229, TB pp. 83–84)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		**Publisher Citations**	**Performance Expectation**	**Publisher Citations**
SEP	**Asking Questions and Defining Problems** Asking questions and defining problems in grades K–2 builds on prior experiences and progresses to simple descriptive questions that can be tested.	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ4 L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) Key Resources L3 **Blizzard** visual	**K-ESS3-2.** **Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*** [Clarification Statement: Emphasis is on local forms of severe weather.]	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ2 L4 (TE pp. 90–95, TB pp. 38–39) L5 (TE pp. 96–101, TB pp. 40–41) L6 (TE pp. 102–107, TB pp. 42–44) **EXAMPLE TWO** **Grade K Module 3** **Be Prepared**

	▪ Ask questions based on observations to find more information about the designed world. (K-ESS3-2)	**EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ3 L2 (TE pp. 120–124, TB p. 49) L5 (TE pp. 138–143, TB pp. 55–56)		M3_DQ3 L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52) L5 (TE pp. 138–143, TB pp. 55–56) Key Resources L3 **Weather Data** visual L5 **Meteorologists** video **EXAMPLE THREE** **Grade K Module 3** **Be Prepared** M3_DQ4 L1 (TE pp. 154–159, TB pp. 61–70) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) Key Resources L1 **Minneapolis Weather Forecast** visual L3 **Blizzard** visual **EXAMPLE FOUR** **Grade K Module 3** **Leveled Reader: What's the Weather?** All chapters (LR pp. 2–29) Associated lessons (TE pp. 180–197)
SEP	**Obtaining, Evaluating, and Communicating Information** Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information. ▪ Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. (K-ESS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ2 L2 (TE pp. 78–83, TB p. 33) L3 (TE pp. 84–89, TB pp. 34–37) L4 (TE pp. 90–95, TB pp. 38–39) L5 (TE pp. 96–101, TB pp. 40–41) L6 (TE pp. 102–107, TB pp. 42–44) Key Resources L2 **Kinds of Weather** Read-Aloud text **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ1 L10 (TE pp. 62–66, TB p. 28) Key Resources L10 **Under My Umbrella** Read-Aloud text **EXAMPLE THREE** **Grade K Module 3** **Be Prepared** M3_DQ3 L4 (TE pp. 132–137, TB pp. 53–54) **EXAMPLE FOUR** **Grade K Module 3** **Be Prepared** M3_DQ4		

		L1 (TE pp. 154–159, TB pp. 61–70) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) Key Resources L3 **Predicting and Preparing for the Weather** Read-Aloud text		
DCI	**ESS3.B: Natural Hazards** ▪ Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ4 L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) Key Resources L2 **Severe Weather** video; **Severe Weather Symbols** visual L3 **Predicting and Preparing for the Weather** Read-Aloud text **EXAMPLE TWO** **Grade K Module 3** **Leveled Reader: What's the Weather?** All chapters (LR pp. 2–29) Associated lessons (TE pp. 180–197)		
DCI	**ETS1.A: Defining and Delimiting an Engineering Problem** ▪ Asking questions, making observations, and gathering information are helpful in thinking about problems. (secondary to K-ESS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L3 (TE pp. 20–25, TB pp. 15–16) L4 (TE pp. 26–31, TB p. 17) L6 (TE pp. 38–43, TB p. 20) Key Resources L1 **Weather** visual; **Be Prepared** video; **Weather Song** video		

		L4 **Where Does Rain Come From?** video		
CCC	**Cause and Effect** ▪ Events have causes that generate observable patterns. (K-ESS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L5 (TE pp. 32–37, TB pp. 18–19) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ4 L1 (TE pp. 154–159, TB pp. 61–70) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) **EXAMPLE THREE** **Grade K Module 3** **Leveled Reader: What's the Weather?** Chapter 3 (LR pp. 20–29) Associated lesson (TE pp. 192–197)		
CCC	***Connections to Engineering, Technology, and Applications of Science*** **Interdependence of Science, Engineering, and Technology** ▪ People encounter questions about the natural world every day. (K-ESS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) Key Resources L1 **Umbrellas** handout; **Weather** visual; **Be Prepared Trailer** video; **Weather Song** video **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ4		

		L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) L2 **Severe Weather** video; **Severe Weather Symbols** visual L3 **Predicting and Preparing for the Weather** Read-Aloud text		
CCC	***Connections to Engineering, Technology, and Applications of Science*** **Influence of Engineering, Technology, and Science on Society and the Natural World** ▪ People depend on various technologies in their lives; human life would be very different without technology. (K-ESS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) Key Resources L1 **Umbrellas** handout; **Weather** visual; **Be Prepared Trailer** video; **Weather Song** video **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ4 L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) Key Resources L2 **Severe Weather** video; **Severe Weather Symbols** visual L3 **Predicting and Preparing for the Weather** Read-Aloud text		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts	Publisher Citations	Performance Expectation	Publisher Citations

SEP	**Obtaining, Evaluating, and Communicating Information** Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information. ▪ Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3)	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L3 (TE pp. 126–132, TB pp. 54–55) L6 (TE pp. 146–150, TB pp. 59–60) L3 **Deforestation** visual; **Disappearing Forests** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ4 L1 (TE pp. 156–161, TB p. 63) L2 (TE pp. 162–167, TB pp. 64–66) L3 (TE pp. 168–173, TB pp. 67–68) L4 (TE pp. 174–178, TB pp. 69–70) Key Resources L2 **Recycled Object** visual; **Reduce, Reuse, Recycle** video; **Reduce, Reuse, Recycle Snap** game **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L3 (TE pp. 194–197, TB p. 79) L4 (TE pp. 198–202, TB p. 80)	**K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*** [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ3 L5 (TE pp. 140–145, TB pp. 57–58) Key Resources L5 **Irrigation** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ4 L1 (TE pp. 156–161, TB p. 63) L2 (TE pp. 162–167, TB pp. 64–66) L3 (TE pp. 168–173, TB pp. 67–68) L4 (TE pp. 174–178, TB pp. 69–70) Key Resources L2 **Recycled Object** visual; **Reduce, Reuse, Recycle** video; **Reduce, Reuse, Recycle Snap** game **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79) L4 (TE pp. 198–202, TB p. 80)
DCI	**ESS3.C: Human Impacts on Earth Systems** ▪ Things that people do to live comfortably can affect the world around them. But they can make	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L2 (TE pp. 120–125, TB pp. 51–53) L3 (TE pp. 126–132, TB pp. 54–55)		

	choices that reduce their impacts on the land, water, air, and other living things. (K-ESS3-3)	L4 (TE pp. 134–139, TB p. 56) L5 (TE pp. 140–145, TB pp. 57–58) L6 (TE pp. 146–150, TB pp. 59–60) Key Resources L5 **Irrigation** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ4 L1 (TE pp. 156–161, TB p. 63) L2 (TE pp. 162–167, TB pp. 64–66) L3 (TE pp. 168–173, TB pp. 67–68) L4 (TE pp. 174–178, TB pp. 69–70) Key Resources L2 **Recycled Object** visual; **Reduce, Reuse, Recycle** video; **Reduce, Reuse, Recycle Snap** game **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79) L4 (TE pp. 198–202, TB p. 80)		
	ETS1.B: Developing Possible Solutions ▪ Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ3 L5 (TE pp. 140–145, TB pp. 57–58) Key Resources L5 **Irrigation** video **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ4		

	people. (secondary to K-ESS3-3)	L4 (TE pp. 174–178, TB pp. 69–70) **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79) L4 (TE pp. 198–202, TB p. 80) **EXAMPLE FOUR** **Grade K Module 3** **Leveled Reader: What's the Weather?** Chapter 2 (LR pp.14–21) Associated lesson (TE pp. 210–215, TB pp. 83–85) Chapter 3 (LR pp. 22–29) Associated lesson (TE pp. 216–221, TB pp. 86–87)		
CCC	**Cause and Effect** ▪ Events have causes that generate observable patterns. (K-ESS3-3)	**EXAMPLE ONE** **Grade K Module 4** **I Can** M4_DQ4 L2 (TE pp. 162–167, TB pp. 64–66) L3 (TE pp. 168–173, TB pp. 67–68) L4 (TE pp. 174–178, TB pp. 69–70) **EXAMPLE TWO** **Grade K Module 4** **I Can** M4_DQ1 L5 (TE pp. 32–37, TB pp. 13–14) L6 (TE pp. 38–43, TB p. 15) L7 (TE pp. 44–49, TB pp. 16–17) L10 (TE pp. 62–66, TB pp. 27–28) Key Resources L5 **A Day in the Life of an**		

		Earthworm video L7 **Beaver—Jigsaw Puzzle** video; **It's a Beaver!** video L10 **Animals Can Change their Environment** video **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ2 L2 (TE pp. 78–83, TB pp. 32–34) **EXAMPLE FOUR** **Grade K Module 4** **I Can** M4_DQ3 L1 (TE pp. 114–119, TB pp. 49–50) L6 (TE pp. 146–150, TB pp. 59–60)		

K-PS2 Motion and Stability: Forces and Interactions

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Planning and Carrying Out Investigations** Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L1 (TE pp. 8–13, TB pp. 3–4) L2 (TE pp. 14–19, TB pp. 5–6) L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L5 (TE pp. 36–41, TB pp. 12–14) L8 (TE pp. 56–61, TB pp. 21–22) **EXAMPLE TWO** **Grade K Module 2**	**K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.** [Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L2 (TE pp. 14–19, TB pp. 5–6) L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L5 (TE pp. 36–41, TB pp. 12–14) L6 (TE pp. 42–47, TB pp. 15–17) Key Resources L2 **Let's Move!** Prior-Knowledge Read-Aloud text L3 **The Push and Pull Song** video; **What Makes Things Move?** video

	▪ With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)	**Marble Run Engineer** M2_DQ2 L1 (TE pp. 84–89, TB pp. 33–34) L2 (TE pp. 90–95, TB p. 35) L4 (TE pp. 102–107, TB p. 37) L5 (TE pp. 108–114, TB pp. 39–42) L6 (TE pp. 116–121, TB pp. 43–45) **EXAMPLE FOUR** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53)	each other.] [*Assessment Boundary: Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.*]	L4 **Exploring Forces** video L6 **Pushes and Pulls—Odd One Out** video **EXAMPLE TWO** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L1 (TE pp. 84–89, TB pp. 33–34) L2 (TE pp. 90–95, TB p. 35) L3 (TE pp. 96–101, TB p. 36) L4 (TE pp. 102–107, TB p. 37) L5 (TE pp. 108–114, TB pp. 39–42) L6 (TE pp. 116–121, TB pp. 43–45) Key Resources L2 **Engineering: Jetpack** video; **Follow the Marble** game L4 **Speed** video **EXAMPLE THREE** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L5 (TE pp. 158–163, TB pp. 63–66) Key Resources L5 **The Challenge** visual; **Engineer Design Steps** visual
SEP	***Connections to the Nature of Science*** **Scientific Investigations Use a Variety of Methods** ▪ Scientists use different ways to study the world. (K-PS2-1)	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L1 (TE pp. 84–89, TB pp. 33–34) L4 (TE pp. 102–107, TB p. 37) Key Resources L4 **Speed** video		
DCI	**PS2.A: Forces and Motion** ▪ Pushes and pulls can have different strengths and directions. (K-PS2-1) ▪ Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS2-1)	**EXAMPLE ONE** (for bullet point 1) **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L5 (TE pp. 36–41, TB pp. 12–14) L6 (TE pp. 42–47, TB pp. 15–17) L7 (TE pp. 48–55, TB pp. 18–20) L8 (TE pp. 56–61, TB pp. 21–22) L9 (TE pp. 62–69, TB pp. 23–28) L10 (TE pp. 70–75, TB pp. 29–30) Key Resources L2 **Let's Move!** Prior-Knowledge Read-Aloud text L3 **The Push and Pull Song** video; **What Makes Things Move?** video		

		L4 **Exploring Forces** video L6 **Pushes and Pulls—Odd One Out** video **EXAMPLE TWO** (for bullet point 1) **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L2 (TE pp. 90–95, TB p. 35) L3 (TE pp. 96–101, TB p. 36) L4 (TE pp. 102–107, TB p. 37) L5 (TE pp. 108–114, TB pp. 39–42) L6 (TE pp. 116–121, TB pp. 43–45) L7 (TE pp. 122–126, TB p. 46) **EXAMPLE THREE** (for bullet point 1) **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L5 (TE pp. 158–163, TB pp. 63–66) **EXAMPLE FOUR** (for bullet point 2) **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L2 (TE pp. 14–19, TB pp. 5–6) L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L5 (TE pp. 36–41, TB pp. 12–14) L6 (TE pp. 42–47, TB pp. 15–17) L7 (TE pp. 48–55, TB pp. 18–20) L8 (TE pp. 56–61, TB pp. 21–22) L9 (TE pp. 62–69, TB pp. 23–28) L10 (TE pp. 70–75, TB pp. 29–30)		

		EXAMPLE FIVE (for bullet point 2) **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L5 (TE pp. 158–163, TB pp. 63–66) **EXAMPLE SIX** **Grade K Module 2** **Leveled Reader: Pushes and Pulls** All chapters (LR pp. 2–29) Associated lessons (TE pp. 170–185, TB pp. 67–72)		
DCI	**PS2.B: Types of Interactions** ▪ When objects touch or collide, they push on one another and can change motion. (K-PS2-1)	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L5 (TE pp. 108–114, TB pp. 39–42) L6 (TE pp. 116–121, TB pp. 43–45) L7 (TE pp. 122–126, TB p. 46) **EXAMPLE TWO** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L5 (TE pp. 158–163, TB pp. 63–66)		
DCI	**PS3.C: Relationship Between Energy and Forces** ▪ A bigger push or pull makes things speed up or slow down more quickly. (secondary to K-PS2-1)	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L8 (TE pp. 56–61, TB pp. 21–22) L9 (TE pp. 62–69, TB pp. 23–28) L10 (TE pp. 70–75, TB pp. 29–30) **EXAMPLE TWO** **Grade K Module 2**		

		Marble Run Engineer M2_DQ2 L2 (TE pp. 90–95, TB p. 35) L4 (TE pp. 102–107, TB p. 37) L7 (TE pp. 122–126, TB p. 46) **EXAMPLE THREE** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L5 (TE pp. 158–163, TB pp. 63–66) **EXAMPLE FOUR** **Grade K Module 2** **Leveled Reader: Pushes and Pulls** All chapters (LR pp. 2–29) Associated lessons (TE pp. 170–185, TB pp. 67–72)		
CCC	**Cause and Effect** ▪ Simple tests can be designed to gather evidence to support or refute student ideas about causes. (K-PS2-1)	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L2 (TE pp. 14–19, TB pp. 5–6) L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L5 (TE pp. 36–41, TB pp. 12–14) L6 (TE pp. 42–47, TB pp. 15–17) L7 (TE pp. 48–55, TB pp. 18–20) L8 (TE pp. 56–61, TB pp. 21–22) L9 (TE pp. 62–69, TB pp. 23–28) L10 (TE pp. 70–75, TB pp. 29–30) Key Resources L2 **Let's Move!** Prior-Knowledge Read-Aloud text L3 **The Push and Pull Song** video; **What Makes Things Move?** video L4 **Exploring Forces** video		

		L6 **Change Direction** visual; **Pushes and Pulls—Odd One Out** video **EXAMPLE TWO** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L2 (TE pp. 90–95, TB p. 35) L3 (TE pp. 96–101, TB p. 36) L5 (TE pp. 108–114, TB pp. 39–42) L6 (TE pp. 116–121, TB pp. 43–45) L7 (TE pp. 122–126, TB p. 46) Key Resources L2 **Engineering: Jetpack** video; **Follow the Marble** game **EXAMPLE THREE** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L1 (TE pp. 132–139, TB pp. 49–52) L2 (TE pp. 140–145, TB p. 53) L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66) L6 (TE pp. 164–168, TB N/A) Key Resources L5 **The Challenge** visual; **Engineer Design Steps** visual **EXAMPLE FOUR** **Grade K Module 2** **Leveled Reader: Pushes and Pulls** All chapters (LR pp. 2–29) Associated lessons (TE pp. 170–185, TB pp. 67–72)		

Science and Engineering Practices Disciplinary Core Ideas	Publisher Citations	Performance Expectation	Publisher Citations

Crosscutting Concepts				
SEP	**Analyzing and Interpreting Data** Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. ▪ Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2)	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L2 (TE pp. 14–19, TB pp. 5–6) L4 (TE pp. 28–35, TB p. 11) L6 (TE pp. 42–47, TB pp. 15–17) L8 (TE pp. 56–61, TB pp. 21–22) **EXAMPLE TWO** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L2 (TE pp. 90–95, TB p. 35) L4 (TE pp. 102–107, TB p. 37) **EXAMPLE THREE** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L1 (TE pp. 132–139, TB pp. 49–52) L2 (TE pp. 140–145, TB p. 53) L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66)	**K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.*** [Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.] [*Assessment Boundary: Assessment does not include friction as a mechanism for change in speed.*]	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L3 (TE pp. 96–101, TB p. 36) L4 (TE pp. 102–107, TB p. 37) **EXAMPLE TWO** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66) L6 (TE pp. 164–168, TB N/A) **EXAMPLE THREE** **Grade K Module 2** **Leveled Reader: Pushes and Pulls** Chapter 3 (LR pp. 20–29) Associated lesson (TE pp. 181–185, TB pp. 70–72)
DCI	**PS2.A: Forces and Motion** ▪ Pushes and pulls can have different strengths and directions. (K-PS2-2) ▪ Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS2-2)	**EXAMPLE ONE** (for bullet points 1 and 2) **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L3 (TE pp. 20–27, TB pp. 7–10) L4 (TE pp. 28–35, TB p. 11) L5 (TE pp. 36–41, TB pp. 12–14) L6 (TE pp. 42–47, TB pp. 15–17) L7 (TE pp. 48–55, TB pp. 18–20) L8 (TE pp. 56–61, TB pp. 21–22) L9 (TE pp. 62–69, TB pp. 23–28) L10 (TE pp. 70–75, TB pp. 29–30) Key Resources L3 **The Push and Pull Song** video; **What Makes Things Move?** video L4 **Exploring Forces** video		

		L6 **Change Direction** visual; **Pushes and Pulls—Odd One Out** video **EXAMPLE TWO** (for bullet points 1 and 2) **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L2 (TE pp. 90–95, TB p. 35) L3 (TE pp. 96–101, TB p. 36) L4 (TE pp. 102–107, TB p. 37) L5 (TE pp. 108–114, TB pp. 39–42) L6 (TE pp. 116–121, TB pp. 43–45) L7 (TE pp. 122–126, TB p. 46) Key Resources L1 **Score 10 Tool** visual L2 **Engineering: Jetpack** video; **Follow the Marble** game L4 **Speed** video **EXAMPLE THREE** (for bullet points 1 and 2) **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L5 (TE pp. 158–163, TB pp. 63–66) **EXAMPLE FOUR** **Grade K Module 2** **Leveled Reader: Pushes and Pulls** All chapters (LR pp. 2–29) Associated lessons (TE pp. 170–185, TB pp. 67–72)		
DCI	**ETS1.A: Defining Engineering Problems** ▪ A situation that people want to change or create can be approached as a problem to be	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L1 (TE pp. 8–13, TB pp. 3–4) **EXAMPLE TWO** **Grade K Module 2**		

	solved through engineering. Such problems may have many acceptable solutions. (secondary to K-PS2-2)	**Marble Run Engineer** M2_DQ3 L1 (TE pp. 132–139, TB pp. 49–52) L2 (TE pp. 140–145, TB p. 53) L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66) L6 (TE pp. 164–168, TB N/A) Key Resources L1 **Make Your Marble Move** video		
CCC	**Cause and Effect** ▪ Simple tests can be designed to gather evidence to support or refute student ideas about causes. (K-PS2-2)	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ2 L3 (TE pp. 96–101, TB p. 36) L5 (TE pp. 108–114, TB pp. 39–42) **EXAMPLE TWO** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L2 (TE pp. 140–145, TB p. 53) L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66) L6 (TE pp. 164–168, TB N/A)		

K-PS3 Energy

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Planning and Carrying Out Investigations** Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L4 (TE pp. 26–31, TB p. 17) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23)	**K-PS3-1.** **Make observations to determine the effect of sunlight on Earth's surface.** [Clarification Statement: Examples of Earth's surface could include sand, soil, rocks, and water.]	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L4 (TE pp. 26–31, TB p. 17) L5 (TE pp. 32–37, TB pp. 18–19) L6 (TE pp. 38–43, TB p. 20)

	progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. ▪ Make observations (firsthand or from media) to collect data that can be used to make comparisons. (K-PS3-1)	Key Resources L4 **Thermometer** handout; **Hot or Cold** visual; **Where Does Rain Come From?** video	[*Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.*]	L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) L10 (TE pp. 62–66, TB p. 28) Key Resources L4 **Thermometer** handout; **Hot or Cold** visual; **Where Does Rain Come From?** video L8 **Sun's Rays** video L10 **Under My Umbrella** Read-Aloud text
SEP	***Connections to Nature of Science*** **Scientific Investigations Use a Variety of Methods** ▪ Scientists use different ways to study the world. (K-PS3-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ4 L3 (TE pp. 166–171, TB p. 76) Key Resources L3 **Predicting and Preparing for the Weather** Read-Aloud text		
DCI	**PS3.B: Conservation of Energy and Energy Transfer** ▪ Sunlight warms Earth's surface. (K-PS3-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) L4 (TE pp. 26–31, TB p. 17) L5 (TE pp. 32–37, TB pp. 18–19) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) L10 (TE pp. 62–66, TB p. 28) Key Resources L4 **Thermometer** handout; **Hot or Cold** visual; **Where Does Rain Come From?** video L8 **Sun's Rays** video L10 **Under My Umbrella** Read-Aloud text		

CCC	**Cause and Effect** ▪ Events have causes that generate observable patterns. (K-PS3-1)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L5 (TE pp. 32–37, TB pp. 18–19) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		**Publisher Citations**	**Performance Expectation**	**Publisher Citations**
SEP	**Constructing Explanations and Designing Solutions** Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. ▪ Use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. (K-PS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) L4 (TE pp. 26–31, TB p. 17) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) Key Resources L3 **Umbrella Top Template** handout L4 **Thermometer** handout; **Hot or Cold** visual; **Where Does Rain Come From?** video L8 **Sun's Rays** video	**K-PS3-2.** **Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.*** [*Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun.*]	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) Key Resources L3 **Umbrella Top Template** handout L8 **Sun's Rays** video
sDCI	**PS3.B: Conservation of Energy and Energy Transfer** ▪ Sunlight warms Earth's surface. (K-PS3-2	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) L4 (TE pp. 26–31, TB p. 17) L5 (TE pp. 32–37, TB pp. 18–19) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23)		

		L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) L10 (TE pp. 62–66, TB p. 28)		
CCC	**Cause and Effect** ▪ Events have causes that generate observable patterns. (K-PS3-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L5 (TE pp. 32–37, TB pp. 18–19) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26)		

K–2 Engineering Design

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Asking Questions and Defining Problems** Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions. ▪ Ask questions based on observations to find more information about the natural and/or designed world(s). (K–2-ETS1-1) ▪ Define a simple problem that can be solved through the development of a new or	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L5 (TE pp. 158–163, TB pp. 63–66) **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ4 L2 (TE pp. 160–165, TB pp. 71–75) L3 (TE pp. 166–171, TB p. 76) L4 (TE pp. 172–177, TB pp. 77–78) **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ4	**K–2-ETS1-1.** **Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**	**EXAMPLE ONE** **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66) Key Resources L5 **The Challenge** visual, **Engineer Design Steps** visual **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L4 (TE pp. 26–31, TB p. 17) L6 (TE pp. 38–43, TB p. 20) L10 (TE pp. 62–66, TB p. 28) Key Resources

	improved object or tool. (K–2-ETS1-1)	L4 (TE pp. 174–178, TB pp. 69–70) **EXAMPLE FOUR** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78)		L1 **Umbrella/Weather** handout; **Weather** visual; **Be Prepared** video, **Weather Song** video L4 **Thermometer** handout; **Hot or Cold** visual; **Where Does Rain Come From?** video **EXAMPLE THREE** **Grade K Module 4** **I Can** M4_DQ4 L4 (TE pp. 174–178, TB pp. 69–70) **EXAMPLE FOUR** **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79)
DCI	**ETS1.A: Defining and Delimiting Engineering Problems** ▪ A situation that people want to change or create can be approached as a problem to be solved through engineering. (K–2-ETS1-1) ▪ Asking questions, making observations, and gathering information are helpful in thinking about problems. (K–2-ETS1-1) ▪ Before beginning to design a solution, it is important to clearly understand the problem. (K–2-ETS1-1)	**EXAMPLE ONE** (for bullet point 1) **Grade K Module 2** **Marble Run Engineer** M2_DQ1 L1 (TE pp. 8–13, TB pp. 3–4) **EXAMPLE TWO** (for bullet point 1) **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L3 (TE pp. 20–25, TB pp. 15–16) **EXAMPLE THREE** (for bullet point 1) **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79) **EXAMPLE FOUR** (for bullet point 2) **Grade K Module 2** **Marble Run Engineer** M2_DQ3 L1 (TE pp. 132–139, TB pp. 49–52)		

		L2 (TE pp. 140–145, TB p. 53) L3 (TE pp. 146–151, TB pp. 54–55) L5 (TE pp. 158–163, TB pp. 63–66) L6 (TE pp. 164–168, TB N/A) **EXAMPLE FIVE** (for bullet point 2) **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L4 (TE pp. 26–31, TB p. 17) L6 (TE pp. 38–43, TB p. 20) **EXAMPLE SIX** (for bullet point 2) **Grade K Module 4** **I Can** M4_DQ5 L1 (TE pp. 184–189, TB pp. 73–76) L2 (TE pp. 190–193, TB pp. 77–78) L3 (TE pp. 194–197, TB p. 79) **EXAMPLE SEVEN** (for bullet point 3) **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) **EXAMPLE EIGHT** **Grade K Module 4** **Leveled Reader: Animal Builders** Chapter 2 (LR pp.14–21) Associated lesson (TE pp. 210–215, TB pp. 83–85)		
Science and Engineering Practices **Disciplinary Core Ideas** **Crosscutting Concepts**		**Publisher Citations**	**Performance Expectation**	**Publisher Citations**

SEP	**Developing and Using Models** Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions. ▪ Develop a simple model based on evidence to represent a proposed object or tool. (K–2-ETS1-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ2 L1 (TE pp. 72–77, TB pp. 31–32) L3 (TE pp. 84–89, TB pp. 34–37) L4 (TE pp. 90–95, TB pp. 38–39) L6 (TE pp. 102–107, TB pp. 42–44) Key Resources L1 **What Is the Weather Like?** video L3 **More Weather Symbols** handout L4 **Nine Weather Symbols** handout **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) Key Resources L3 **Umbrella Top Template** handout	**K–2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) L10 (TE pp. 62–66, TB p. 28) Key Resources L3 **Umbrella Top Template** handout **EXAMPLE TWO** **Grade K Module 3** **Leveled Reader: What's the Weather?** Chapter 2 (LR pp.10–19) Associated lesson (TE pp. 186–191)
DCI	**ETS1.B: Developing Possible Solutions** ▪ Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K–2-ETS1-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L3 (TE pp. 20–25, TB pp. 15–16) L8 (TE pp. 50–55, TB pp. 24–26) L10 (TE pp. 62–66, TB p. 28) **EXAMPLE TWO** **Grade K Module 3** **Leveled Reader: What's the Weather?** Chapter 2 (LR pp.10–19) Associated lesson (TE pp. 186–191) Chapter 3 (LR pp. 20–29) Associated lesson (TE pp. 192–197)		

CCC	**Structure and Function** ▪ The shape and stability of structures of natural and designed objects are related to their function(s). (K–2-ETS1-2)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L3 (TE pp. 20–25, TB pp. 15–16) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) L10 (TE pp. 62–66, TB p. 28)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Analyzing and Interpreting Data** Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. ▪ Analyze data from tests of an object or tool to determine if it works as intended. (K–2-ETS1-3)	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L2 (TE pp. 14–19, TB pp. 13–14) L5 (TE pp. 32–37, TB pp. 18–19) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) **EXAMPLE TWO** **Grade K Module 3** **Be Prepared** M3_DQ3 L1 (TE pp. 114–119, TB pp. 47–48) L2 (TE pp. 120–124, TB p. 49) L3 (TE pp. 126–131, TB pp. 50–52)	**K–2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared** M3_DQ1 L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27) L10 (TE pp. 62–66, TB p. 28)
DCI	**ETS1.C: Optimizing the Design Solution**	**EXAMPLE ONE** **Grade K Module 3** **Be Prepared**		

	▪ Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K–2-ETS1-3)	M3_DQ1 L1 (TE pp. 8–13, TB pp. 7–12) L3 (TE pp. 20–25, TB pp. 15–16) L6 (TE pp. 38–43, TB p. 20) L7 (TE pp. 44–49, TB pp. 21–23) L8 (TE pp. 50–55, TB pp. 24–26) L9 (TE pp. 56–61, TB p. 27)		