Grade 3 Science Instructional Focus / Toolkit			
The Grade 3 Science Instructional Focus Toolkit has been created to assist teachers in identifying activities that are well aligned to the benchmarks. This toolkit is not intended to replace your district's curriculum or to be solely used to address the benchmarks. Care was given to identify multiple activities that could be executed via hands-on inquiry, virtually and in some cases infused with the literacy block. Resources have been pulled from CPALMS as well as PBS Learning Media. If you don't already have one, you will want to create an account for use with PBS Learning Media. The account is free and gives you access to a multitude of resources. For all activities, a materials list resides on the first page once you click the link. There may be materials listed that are not accessible to you. Do not let this discourage you. There are talking points and alternative activities built within the resources. Again, the toolkit serves as a suggestion of activities that can be used to support your instruction. To register for a free PBS Learning Media account go to: http://www.pbslearningmedia.org/			
Benchmark	**Verbiage**	**Instructional Guidance and Vocabulary**	**Resources**
SC.3.L.14.1	Describe the structures in plants and their roles in food production, support, water and nutrient transport and reproduction.	Structure and functions of major parts of plants are limited to stem, leaf/needle, root, flower, seed and fruit.	**The Life Cycle of Plants (Virtual Manipulative)** http://www2.bgfl.org/bgfl2/custom/resources_ftp/client_ftp/ks2/science/plants_pt2/ **Think Garden: Plant Structure (Video)** http://www.pbslearningmedia.org/resource/5dea21b4-6c92-46ff-982c-8650f9429c01/think-garden-plant-structure/ This video from KET's Think Garden collection examines plant structure by taking a closer look at the root and shoot systems. Learn about roots, stems, leaves, flowers, seeds and fruit through engaging illustrations and animations. **Parts of a Plant** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/30700 In this lesson, third grade students learn the basic functions of a plant and recognize their importance (flower, stem, seed, leaf and roots). The lesson will provide students the opportunity to review parts of a plant with a five flap activity. *materials list available by clicking link **Text Complexity Resource to support content in literacy block** **Parts of a Plant** http://www.cpalms.org/Public/PreviewResourceUpload/Preview/57485

SC.3.L.14.2	Investigate and describe how plants respond to stimuli (gravity, heat and light) such as the way plant stems grow toward light and their roots grow downward in response to gravity.	Plant's response to stimuli are limited to a conceptual understanding of plant's response to heat, light or gravity. Note that the terms gravitropism and phototropism need not be mastered at this level although they may be introduced.	**A-maze-ing Plants** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/37796 This Engineering Design Challenge is intended to help students apply the concepts of flowering plants, plant structures and plant responses to stimuli as they build mazes to demonstrate a plants response to light. It is not intended as an initial introduction to this benchmark. *materials list available by clicking link **Plants-in-Motion (Video)** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/5179 This interactive activity adapted from Indiana University features time-lapse videos that reveal the movement and growth of plants in their pursuit of light. Although plants have no choice about where they are rooted, they do respond to environmental cues in ways that enable them to survive. **Text Complexity Resource to support content in literacy block** **Plants Responding to Different Factors** http://www.cpalms.org/Public/PreviewResourceUpload/Preview/57444
SC.3.L.15.1	Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to	Students will classify animals into major groups according to their physical characteristics and behaviors. Classification of vertebrates should focus on general physical characteristics and/or behaviors of mammals, birds, reptiles, amphibians and fish.	**What am I? Classifying Living Things** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46369 In this lesson, students will learn how to classify animals. First, they will learn vertebrate versus invertebrate. Next, they will learn the animal classifications: mammal, bird, fish, reptile, amphibian and arthropod. They will practice sorting these animals by different attributes and then do a short research project on one animal classification, which they will share with the class. *materials list available by clicking link **PBS Learning Media Animal Classification Game (Virtual Manipulative)** http://www.pbslearningmedia.org/resource/lsps07.sci.life.oate.animalclass/animal-classification-game/ This interactive activity adapted from Sheppard Software challenges you to identify various animals as they flash across the screen. Correct recognition depends on your understanding of how animals are classified according to certain physical characteristics and behaviors. For example, even though a butterfly and a

	their physical characteristics and behaviors.	Students only need to be exposed to common names of organisms. Coverage of scientific names is not grade level appropriate. When instructing on classification of organisms as vertebrates or invertebrates, it is helpful to include a picture of the organism.	hummingbird both fly, their respective body plans and other inherited traits mean that one is classified as an insect and the other as a bird. Similarities and differences among living things are the result of evolution.
SC.3.L.15.2	Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.	Students will classify flowering and/or nonflowering plants into major groups according to their physical characteristics.	**Classifying Plants** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46417 In this lesson students watch an introductory video, read an essay and identify appropriate vocabulary words" meaning within context, and complete an activity on plant classification. During the activity, students will cut out pictures of plants from magazines, classify them and identify similarities and differences between them. *materials list available by clicking link
SC.3.L.17.1	Describe how animals and plants respond	Students will describe or explain how animals/plants	**Do not disturb! A lesson on hibernating and migration** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/30405

	to changing seasons.	respond to changing seasons. Students will compare the seasonal changes in Florida plants and/or animals to those in other regions of the country. Students should have knowledge of how animals living in a particular environment are adapted to survive the seasonal changes in that environment.	Have you ever wondered why animals hibernate or why they migrate? Have you also ever wondered which animals do? In this lesson, students will learn which common animals hibernate and which ones migrate. They will also learn the importance of hibernation and migration on animals during the winter season. Students will be able to write down their learning, sort picture cards and complete a Compare and Contrast Chart demonstrating their understanding of hibernation and migration. *materials list available by clicking link **What's It Like Where You Live? (WebQuest)** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/20769 This website gives great information on the different biomes and ecosystems of the world.
SC.3.L.17.2	Recognize that plants use energy from the Sun, air and water to make their own food.	Students will explain that plants make their own food using carbon dioxide, water and energy from the sun. Note that students need not master the term photosynthesis or transpiration even though it *may* be introduced.	**Plant Cycles: Photosynthesis and Transpiration** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/27607 Students examine the effects of light and air on green plants, learning the processes of photosynthesis and transpiration. *materials list available by clicking link **PBS Learning Media Think Garden Photosynthesis (Video)** http://www.pbslearningmedia.org/resource/thnkgard.sci.ess.photosyn/think-garden-photosynthesis/ This video from KET's Think Garden collection explains the process of photosynthesis through a fun poem with stop motion animation. Learn about what chloroplasts and chlorophyll do, and why sunlight, water, carbon dioxide, oxygen, glucose, and carbohydrates are important to the process. This video is available in both English and Spanish audio, along with corresponding closed captions.

		Cellular respiration is not a focus at this grade level.	**PBS Learning Media Photosynthesis (Diagram)** http://www.pbslearningmedia.org/resource/450233561-plants-animals/photosynthesis-in-plant-plants-and-animals/ easy to edit vector illustration of photosynthesis in plant
SC.3.E.5.1	Explain that stars can be different; some are smaller, some are larger and some appear brighter than others; all except the Sun are so far away that they look like points of light.	Differences in stars are limited to *brightness*, *size*, or *appearance in relation to distance* and that *stars emit energy.* Numeric values for distance or number of stars is not discussed at this level.	**Sunsational** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/29665 Learning Objectives: What will students know and be able to do as a result of this lesson? Students will: • Be able to identify that the sun is a star that gives off light energy. • Be able to explain that stars can be different; some are smaller, some are larger and some appear brighter than others; all expect the Sun are so far away that they look like points of light. • Recognize that the Sun appears large and bright because it is the closest star to the Earth. • Take notes from a teacher read-aloud to summarize new information. *materials list available by clicking link **PBS Learning Media (Activity and Videos)** http://www.pbslearningmedia.org/resource/ess05.sci.ess.eiu.lp_superstar/our-super-star/ Use this lesson guide to teach students basic facts about the Sun, model the mechanics of day and night and use solar energy to make a tasty treat. Note: Videos and discussion links cover benchmarks, extension activity is included creating solar ovens *materials list available by clicking link
SC.3.E.5.2	Identify the Sun as a star that emits energy; some of it in the form of light.	Information related to energy emitted by a star are limited to visible lights. Students should be able to recognize that	**Sunsational** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/29665 Learning Objectives: What will students know and be able to do as a result of this lesson? Students will: • Be able to identify that the sun is a star that gives off light energy.

		stars are made of gases but not the chemical composition of stars.	• Be able to explain that stars can be different; some are smaller, some are larger and some appear brighter than others; all expect the Sun are so far away that they look like points of light. • Recognize that the Sun appears large and bright because it is the closest star to the Earth. • Take notes from a teacher read-aloud to summarize new information. *materials list available by clicking link **PBS Learning Media (Activity and Videos)** http://www.pbslearningmedia.org/resource/ess05.sci.ess.eiu.lp_superstar/our-super-star/ Use this lesson guide to teach students basic facts about the Sun, model the mechanics of day and night and use solar energy to make a tasty treat. Note: Videos and discussion links cover benchmarks, extension activity is included creating solar ovens *materials list available by clicking link
SC.3.E.5.3	Recognize that the Sun appears large and bright because it is the closest star to Earth.	Students will identify that the Sun's appearance is due to its proximity to Earth. Students need not assess the numeric values for distance or number of stars at this grade level.	**Sunsational** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/29665 Learning Objectives: What will students know and be able to do as a result of this lesson? Students will: • Be able to identify that the sun is a star that gives off light energy. • Be able to explain that stars can be different; some are smaller, some are larger and some appear brighter than others; all expect the Sun are so far away that they look like points of light. • Recognize that the Sun appears large and bright because it is the closest star to the Earth. • Take notes from a teacher read-aloud to summarize new information. *materials list available by clicking link

			PBS Learning Media (Activity and Videos) http://www.pbslearningmedia.org/resource/ess05.sci.ess.eiu.lp_superstar/our-super-star/ Use this lesson guide to teach students basic facts about the Sun, model the mechanics of day and night and use solar energy to make a tasty treat. Note: Videos and discussion links cover benchmarks, extension activity is included creating solar ovens *materials list available by clicking link
SC.3.E.5.4	Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.	Students will identify scenarios whereby gravity is overcome.	**Overcoming Gravity** http://www.cpalms.org/Public/PreviewResourceUpload/Preview/13453 In this lesson, students learn about the pull of gravity and see how stretch from a Slinky (a spring scale) is a way to measure resistance to gravity. *materials list available by clicking link **Paper Airplanes Away!** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/34337 In this lesson, students will design and fly their own paper airplane and analyze their flight data to determine the best designs for getting planes to travel the farthest distance. Students will organize class flight data into a bar graph at the conclusion of the lesson. *materials list available by clicking link **Paper Glider Forces (Perspectives Video)** http://www.cpalms.org/Public/PreviewStandard/Preview/1642 Have you ever wanted to fly paper airplanes for fun while learning about the science of flight? Here's your chance! **PBS Learning Media Defy Gravity! Centripetal Force (Video)** http://www.pbslearningmedia.org/resource/phy03.sci.phys.mfw.zcentrip/defy-gravity-centripetal-force/ In this video segment adapted from *ZOOM*, cast members use centripetal force to demonstrate that a ball set in motion can remain inside an open container even when the container is held upside down. They succeed in generating centripetal force, but

			they also reveal that this force alone is not enough to completely offset the force of gravity.
SC.3.E.6.1	Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.	Students will explain that energy from the Sun can be used to heat objects, and that when sunlight is not present, heat may be lost.	**Don't Marry the Mole** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/4633 Students conduct a series of activities to better understand solar energy and the broader concept of the sun as an energy source. Some of the activities include: observing how heat energy blows up a balloon, launching a solar air balloon and making a solar oven. *materials list available by clicking link
SC.3.P.9.1	Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation and condensation.	*Please note that the water cycle is a grade 5 benchmark and not a focus for grade 3.	**States of Water- Part 1** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46143 Students will be able to describe water as it changes states through melting and freezing. *materials list available by clicking link **States of Water- Part 2** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46551 Students will be able to describe water as it changes state through boiling, evaporation and condensation. *materials list available by clicking link **Water Phases (Virtual Manipulative/ Presentation)** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/4951 Water is ubiquitous on Earth, but is quite a unique substance because it easily exists in all three of its forms (liquid, ice and vapor) on Earth, unlike the other substances that can exist in these three phases. This slideshow depicts water in each of its three phases.
SC.3.P.10.3	Demonstrate that light travels in a straight line	Students will describe that light travels in a straight line until it strikes an object or	**Light Energy** http://www.cpalms.org/Public/PreviewResourceUpload/Preview/13450

	until it strikes an object or travels from one medium to another.	travels from one material to another.	In this unit, students first explore the different forms of energy using their senses. In the next two lessons, emphasis is placed on light energy and how light interacts with other objects. *materials list available by clicking link **Light the Way** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46628 Students will learn about some of the behaviors of light, specifically refraction, through a video, a kinesthetic activity and summarizing informational text. Students will be able explain what causes a shadow by understanding the way light travels as well as explain refraction of light. *materials list available by clicking link **Investigating Light with Mirrors (Virtual Manipulative)** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/51156
SC.3.P.10.4	Demonstrate that light can be reflected, refracted and absorbed.	When addressing light reflection, refraction or absorption one should use the term *reflect*, *bend* or *absorb* to describe light's behavior.	**Light Energy** http://www.cpalms.org/Public/PreviewResourceUpload/Preview/13450 In this unit, students first explore the different forms of energy using their senses. In the next two lessons, emphasis is placed on light energy and how light interacts with other objects. *materials list available by clicking link **Light the Way** http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46628 Students will learn about some of the behaviors of light, specifically refraction, through a video, a kinesthetic activity and summarizing informational text. Students will be able explain what causes a shadow by understanding the way light travels as well as explain refraction of light. *materials list available by clicking link **Investigating Light with Mirrors (Virtual Manipulative)** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/51156

SC.3.P.11.2	Investigate, observe, and explain that heat is projected when one object rubs against another, such as rubbing one's hands together.	Students will explain that heat is produced when two objects are rubbed against each other.	**Rubbing Objects Together** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/10388 Students demonstrate that heat is produced when objects are rubbed against one another by conducting several simple investigations. *materials list available by clicking link **When Things Start Heating Up** http://www.cpalms.org/Public/PreviewResourceUrl/Preview/4973 This lesson is intended to give students a general idea of how heat is produced from human-based activities and mechanical and electrical machines. The lesson provides activities for student understanding as to how and why heat is produced from things that give off light, from machines, or when one thing is rubbed against another. *materials list available by clicking link