GRADE 1 SCIENCE ORDER OF INSTRUCTION			
1st Nine Weeks	**2nd Nine Weeks**	**3rd Nine Weeks**	**4th Nine Weeks**
Body of Knowledge: Life Science *(3 benchmarks)* Big Idea 14: Organization and Development of Living Organisms	**Body of Knowledge: Earth and Space Science** *(7 benchmarks)* Big Idea 5: Earth in Space and Time Big Idea 6: Earth Structures	**Body of Knowledge: Physical Science** *(3 benchmarks)* Big Idea 8: Properties of Matter Big Idea 12: Motion of Objects Big Idea 13: Forces and Changes in Motion	**Body of Knowledge: Life Science** *(2 benchmarks)* Big Idea 16: Heredity and Reproduction Big Idea 17: Interdependence
Big Idea 1: The Practice of Science The Practice of Science benchmarks should be introduced during the first nine weeks and then embedded in all science lessons throughout the year as they blend easily with teaching inquiry and are the basis of an activity/lab-based science classroom. In first grade, the Practice of Science focuses heavily on the introduction and implementation of science processes: raising questions, investigating questions in teams, using the five senses to make observations, comparing observations, keeping records, and generating conclusions. Lab safety and the use of scientific tools should also be introduced at the beginning of the year and re-addressed throughout the year.			

Rationale for Grade 1 Order of Instruction:

1st Nine Weeks
Life Science is taught during the 1st nine weeks because brain-based research shows that kindergarten students are still developmentally "All about Me." Teacher input was considered regarding whether to study plants early in the school year (apples and pumpkins) or in the spring (seeds, gardens, flowers). Splitting the Life Science Body of Knowledge gives the teacher/students a chance to revisit life sciences at the end of the year.

2nd Nine Weeks
Earth and Space Science is taught during the 2nd nine weeks because that time of year provides optimal opportunities for night time viewing of the sky as the sun begins to set earlier during the late fall and early winter months.

3rd Nine Weeks
Physical Science is taught during the 3rd nine weeks because force and motion concepts are more challenging and abstract, making them more appropriate for later in the year.

4th Nine Weeks
Life Science is taught during the 4th nine weeks because many teachers prefer to teach life/environmental studies in the spring. During the year, the primary students' world expands and is no longer "All about Me." In the fall, students are introduced to living things and their characteristics. In the spring, the understanding of living things expands to include reproduction and interdependence. This expansion coincides with the seasonal life cycle changes of living things in their changing world.

GRADE 1

BODY OF KNOWLEDGE: EARTH AND SPACE SCIENCE

BIG IDEA 5: EARTH IN SPACE AND TIME

Humans continue to explore Earth's place in space. Gravity and energy influence the formation of galaxies, including our own Milky Way Galaxy, stars, the Solar System, and Earth. Humankind's need to explore continues to lead to the development of knowledge and understanding of our Solar System.

ESSENTIAL QUESTIONS

How many stars are in the sky?
How does gravity affect our daily lives?
How can magnifiers how us to make better observations?
How is the Sun both beneficial and harmful to us?

BENCHMARKS AND TASK ANALYSES

SC.1.E.5.1 Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.
The student:

- records personal observations of the sky during the night hours focusing on the placement and amount of stars (many or few).
- discusses personal observations emphasizing that there are more stars in the sky than one can easily count and they are not scattered evenly.

SC.1.E.5.2 Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.
The student:

- explores how objects fall, or are pulled, to the Earth's surface, even when there is nothing touching the object.

SC.1.E.5.3 Investigate how magnifiers make things appear bigger and help people see things they could not see without them.
The student:

- observes various objects with and without magnifiers and discusses how observations differ.
- observes the differences in observations when using a variety of magnifiers (including hand lenses, telescopes, binoculars, microscopes).

SC.1.E.5.4 Identify the beneficial and harmful properties of the Sun.
The student:

- identifies the beneficial and harmful properties of the Sun through discussion, experimentation, and literature experiences.

OCPS ESSENTIAL LABS

www.science.ocps.net

Mighty Magnifiers
Magnifying Stars
Night Journals
The Sun Provides Heat and Light for Earth

VOCABULARY

stars, gravity, magnifier

The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.

SUPPORTING RESOURCES

Formative Assessment	*Uncovering Student Ideas in Science,* Page Keeley **SC.1.E.5.1** Vol. 2: Emmy's Moon and Stars

Probes	
Scott Foresman	**SC.1.E.5.1** 324-325, Guided Inquiry: 328-329 **SC.1.E.5.2** 246-249 **SC.1.E.5.3** 324-325 **SC.1.E.5.4** 278-279, 282-283, 318-321, 322-323, Full Inquiry: 204-205, Directed Inquiry: 276
AIMS www.aimsedu.org	**SC.1.E.5.1** *Cycles of Knowing and Growing:* Skywatchers
Literature	*The Sky Is Full of Stars (Let's-Read-and-Find... Science 2),* Franklyn M. Branley and Felicia Bond *The (Family Fun) Kids Book of the Night Sky***,** Ann Love, Jane Drake, and Heather Collins *Harold's Trip to the Sky,* Crockett Johnson *Stars,* Newbridge Big Book *Sun and Earth,* Newbridge Big Book *The Sun,* RedBrick Learning *Day and Night,* RedBrick Learning
Web Links	http://kids.msfc.nasa.gov/Space/ NASA for Kids http://www.fourmilab.ch/yoursky interactive planetarium on the Web http://stardate.org/teachers/activities lessons for teachers for modeling objects in the night sky from Stardate http://starchild.gsfc.nasa.gov/docs/StarChild/StarChild.html a Learning Center for Young Astronomers. http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Earth Science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	Orlando Science Center (407-514-2000), family night watch experiences
Other	

GRADE 1

BODY OF KNOWLEDGE: EARTH AND SPACE SCIENCE

BIG IDEA 6: EARTH STRUCTURES

Humans continue to explore the composition and structure of the surface of the Earth. External sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's water and natural resources.

ESSENTIAL QUESTIONS

What makes up the surface of the Earth?
Why do we need water?
How does the surface of the Earth change?

BENCHMARKS AND TASK ANALYSES

SC.1.E.6.1 Recognize that water, rocks, soil, and living organisms are found on Earth's surface.
SC.1.E.6.2 Describe the need for water and how to be safe around water.
The student:

- describes the need for water.
- recognize how to be safe around water.

SC.1.E.6.3 Recognize that some things in the world around us happen fast and some happen slowly.
The student:

- records long term observations of various places during different times of the year to see fast and slow changes (soil, plants, weather).
- discusses current events to recognize that things can happen quickly or slowly in our world.

OCPS ESSENTIAL LABS

www.science.ocps.net

What Can I Find on the Earth's Surface?
Tree Observations
How Do Humans Use Water?

VOCABULARY

water, rocks, soil

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SUPPORTING RESOURCES

Formative Assessment Probes	*Uncovering Student Ideas in Science,* Page Keeley **SC.1.E.6.3** Vol. 2: Is It a Rock? Version 1 (You must adapt this probe for first grade.)
Scott Foresman	**SC.1.E.6.1** 150-153, 154-157, 160-165; Directed Inquiry: 148, Guided Inquiry: 168-169 **SC.1.E.6.2** 162-163 **SC.1.E.6.3** 158-159
AIMS www.aimsedu.org	**SC.1.E.6.1** *Primarily Earth:* Rock Groups, Where Is Water? **SC.1.E.6.1** *Cycles of Knowing and Growing:* Dirt Baggers
Literature	*Life in a Bucket of Soil*, Alvin Silverstein and Virginia Silverstein *Dirt: The Scoop on Soil (Amazing Science),* Rosinsky, Natalie M, Boyd, and Sheree *Dirt: Jump into Science*, Steve Tomecek and Nancy Woodman *A Handful of Dirt*, Raymond Bial *Looking at Soil,* Newbridge Big Book

	The Giving Tree, Shel Silverstein. *Investigation Rocks,* Newbridge Big Book *Rock Basics,* RedBrick Learning *Soil Basics,* RedBrick Learning *A Book about the Water Cycle*, Melvin and Gilda Berger.
Web Links	http://soils.usda.gov/education/ US Dept. of Agriculture's soil education site http://volcano.und.nodak.edu/ everything about volcanoes, hosted by Oregon State Univ. http://www.nsta.org/ National Science Teachers Association website http://kids.earth.nasa.gov/ NASA for kids earth science site http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Earth Science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	
Other	Steve Spangler: The Huff and Puff Challenge