

**GRADE 1
SCIENCE ORDER OF INSTRUCTION**

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
<u>Body of Knowledge:</u> Life Science (3 benchmarks)	<u>Body of Knowledge:</u> Earth and Space Science (7 benchmarks)	<u>Body of Knowledge:</u> Physical Science (3 benchmarks)	<u>Body of Knowledge:</u> Life Science (2 benchmarks)
Big Idea 14: Organization and Development of Living Organisms	Big Idea 5: Earth in Space and Time Big Idea 6: Earth Structures	Big Idea 8: Properties of Matter Big Idea 12: Motion of Objects Big Idea 13: Forces and Changes in Motion	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: PHYSICAL SCIENCE	
BIG IDEA 8: PROPERTIES OF MATTER	
<p>A. All objects and substances in the world are made of matter. Matter has two fundamental properties: matter takes up space and matter has mass.</p> <p>B. Objects and substances can be classified by their physical and chemical properties. Mass is the amount of matter (or "stuff") in an object. Weight, on the other hand, is the measure of force of attraction (gravitational force) between an object and Earth.</p> <p>The concepts of mass and weight are complicated and potentially confusing to elementary students. Hence, the more familiar term of "weight" is recommended for use to stand for both mass and weight in grades K-5. By grades 6-8, students are expected to understand the distinction between mass and weight, and use them appropriately.</p>	
ESSENTIAL QUESTIONS	
Why is it important to recognize similarities and differences among objects?	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.</p> <p>The student:</p> <ul style="list-style-type: none"> sorts objects by what can be physically observed: size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
Observing and Sorting Properties of Solids What Happens When an Object Is Placed in Water?	
VOCABULARY	
sink, float	
The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.	
SUPPORTING RESOURCES	
Scott Foresman	SC.1.P.8.1 216-217, 218-221, Directed Inquiry: 212, Guided Inquiry: 232-233
AIMS www.aimsedu.org	SC.1.P.8.1 <i>Spring into Math and Science: What Do You Sink Will Float? Floating Fruit</i> <i>Sensational Springtime: Cereal Sorters</i>
Literature	<i>Changes, Changes!</i> Pat Hutchins <i>Float and Sink (Simple Science)</i> , Maria Gordon, M. Gordon, and Mike Gordon <i>Will It Float or Sink? (Rookie Read-About Science)</i> , Melissa Stewart <i>What Is Matter?</i> Newbridge Big Book <i>Sink or Float</i> , Newbridge Big Book <i>Amazing Water</i> , Newbridge Big Book <i>Is It Floating?</i> Wright Group Sunshine Science <i>What Will Float?</i> Wright Group Sunshine Science <i>Floating and Sinking</i> , Wright Group Sunshine Science
Web Links	http://www.indiana.edu/~ensiweb/lessons/threehol.html site for experiments related to matter. www.lhs.berekley.edu/kids/ Lawrence Hall of Science site with games, activities and links http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Physical Science



	http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	
Other	



GRADE 1	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 12: MOTION OF OBJECTS	
<p>A. Motion is a key characteristic of all matter that can be observed, described, and measured.</p> <p>B. The motion of objects can be changed by forces.</p>	
ESSENTIAL QUESTIONS	
How many ways can an object move?	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.P.12.1 Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.</p> <p>The student:</p> <ul style="list-style-type: none"> • moves objects in various ways such as in a straight line, zigzag, back and forth, round and round, fast and slow. • describes the motions they have observed. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>In What Ways Do Objects Move?</p> <p>Do All Tops Spin Alike?</p> <p>Making Objects Move</p>	
VOCABULARY	
motion	
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SUPPORTING RESOURCES	
Scott Foresman	SC.1.P.12.1 250-251, 252-255, 260-261, 268-269, Directed Inquiry, 244
AIMS www.aimsedu.org	SC.1.P.12.1 <i>E-activities:</i> Big Dog Charades, Flying Lion, Gliding Lamb Push and Pull Antics, Pushed Around
Literature	<i>Back and Forth</i> , RedBrick Learning <i>Circular Movement</i> , RedBrick Learning <i>Start and Stop</i> , RedBrick Learning <i>Zigzag Movement</i> , RedBrick Learning
Web Links	http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls_whatnext.shtml BBC website for push and pull http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Physical science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	
Other	Steve Spangler: Soda Can Shake-Up; The Quick-Pour Soda Bottle Race; Tornado Tube Mania; Impossible Combo-Hex Nut, Ring, Bottle

GRADE 1	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 13: FORCES AND CHANGES IN MOTION	
A. It takes energy to change the motion of objects. B. Energy change is understood in terms of forces--pushes or pulls. C. Some forces act through physical contact, while others act at a distance.	
ESSENTIAL QUESTIONS	
How can the motion of an object be changed?	
BENCHMARKS and TASK ANALYSES	
SC.1.P.13.1 Demonstrate that the way to change the motion of an object is by applying a push or a pull. The student: <ul style="list-style-type: none"> changes the motion of an object by applying a push or a pull. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
What Makes Objects Move? How Can One Object Move Another? Are Hard and Soft Pushed Different? How Do Magnets Move? What Determines How Well a Ball Will Bounce?	
VOCABULARY	
push, pull	
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SUPPORTING RESOURCES	
Formative Assessment Probes	<i>Uncovering Student Ideas in Science</i> , Page Keeley SC.1.P.12.1 Vol. 3: Rolling Marbles
Scott Foresman	SC.1.P.13.1 246-249, 250-251, 254-255, 256-259; Directed Inquiry: 244
AIMS www.aimsedu.org	SC.1.P.13.1 <i>e-activities</i> : Discovery Bottles, Together Again
Literature	<i>The Enormous Turnip</i> , Kathy Parkinson <i>Cucumber Soup</i> , Vickie Leigh Krudwig <i>Push and Pull (Rookie Read-About Science)</i> , Patricia J. Murphy <i>Push and Pull (Investigate)</i> , Charlotte Guillain <i>What Magnets Can Do (Rookie Read-About Science)</i> , Allan Fowler <i>Magnets: Pulling Together, Pushing Apart (Amazing Science)</i> , Rosinsky, Natalie M, Boyd, and Sheree <i>Push and Pull</i> , Newbridge Big Book <i>The Mystery of Magnets</i> , Newbridge Big Book <i>Push and Pull</i> , RedBrick Learning
Web Links	http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml BBC Web site <i>Forces and Movement</i> : http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; physical science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	trip to the playground - explore how objects can be pushed or pulled
Other	

