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2015 STEM Resource Document
Southwest Region





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2ND GRADE
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Solar System

<http://www.nasa.gov/audience/forstudents/k-4/index.html>

Science & Math

sciencenewsforkids.org

www.studyjams.com

Earth Science

<http://www.doctordirt.org>

Science

<http://scistarter.com/index.html>
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<http://classroom.jc-schools.net/sci-units/>

Earth Science: Earth/Space

Big Idea:

- Materials from the Earth have special qualities that make them useful in different ways
- Objects in the sky have pattern and movement

Iowa Core Connections:

- Most objects in the solar system are in regular and predictable motion. The rotation of the earth on its axis every 24 hours produces the day-and-night cycle. To people on the earth this turning of the planet makes it seem as though the sun, planets, and stars are orbiting the earth once a day.
- The sun appears to move across the sky in the same way every day. Its apparent path changes slowly across the seasons.
- The moon orbits around the earth once in about 28 days this changes what part of the moon is lighted by the sun and how much of that part can be seen from the earth- the phases of the moon
- Eight planets and many other objects revolve around our sun in predictable patterns. These planets and objects are composed of varied materials.

Finding Out What Kids Know (Opening Ideas):

- KWL
- Students create concept map around the Big Idea

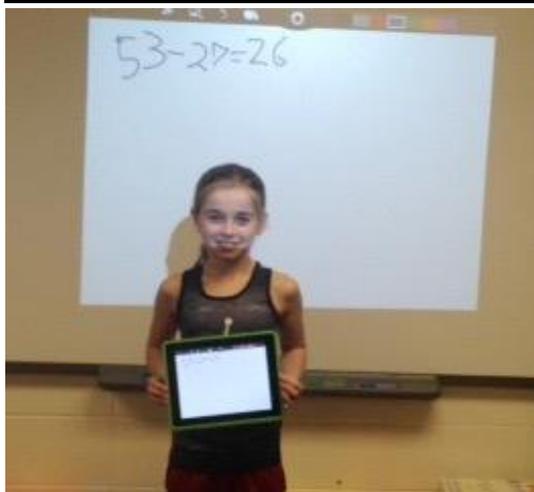
<http://analyzer.depaul.edu/paperplate/Oreo%20Moon%20Phases.htm>

Nasa:EVENT ID IS: 2754

Additional Resources:

<http://www.nasa.gov/audience/forstudents/k-4/index.html>

Nasa:EVENT ID IS: 2754 ** I was able to schedule a video conference(chat) with the NASA Education department and we did a lesson via online about the Mars Rovers.



MATH

- Educreations and ShowMe are great iPad apps to use during math. Very similar to a marker board, but this app allows students to record their thinking as they solve math problems. Next, I have the students connect their iPad to the AppleTV and play how they solved the math problem. This is a great way for students to explain their thinking and to share with others how to solve the problem.

Force & Motion

Big Idea:

- Our World Operates by Forces and Motion

Iowa Core Connections:

- The position of an object can be described by locating it relative to its background
- An object's position or movement can be changed by pushing or pulling.
- An object's motion can be described by observing and measuring its position over time.

Activities:

- Creating science stations where students are able to use their learning of force and motion by creating and building objects to answer essential questions. The essential questions are created by the teacher and can be answered through scientific investigations.

1. Take time to practice how to work as a group. With lower elementary, it is a good idea to assign jobs for each group member.
2. Provide materials that allow for students to learn through hands-on inquiry based learning.
3. Student led/Student centered activities
4. Incorporate technology, science, and mathematics into the inquires

*Students build their own balloon rocket. Using 6' of string, one end is taped to the wall and the other end is where another group member holds on tight to the end of the rope. Essential Question: Describe how your rocket was able to move. How does this activity use force and motion?



Living Things

Big Idea:

- Living Things- basic life consists of cells and adapt

Iowa Core Connections:

- Understand and apply knowledge of organisms and their environments.
- Animals depend on plants. Some animals eat plants for food. Other animals eat animals that eat plants.
- An organism's patterns of behavior are related to the nature of that organism's environment.
- All organisms cause changes in the environment in which they live. Some of these changes are detrimental to the organism or other organisms, whereas others are beneficial.

Activities:

Study trip- We took a study trip to Waubonsie State Park. Through the AEA I was able to check out digital cameras for each group. Each group, who was accompanied with a parent volunteer were dropped off in different locations throughout the park. The students were on a mission to find animal habitats. After the study trip, we created a whole class iMovie.



Dissect Owl Pellets- Order owl pellets for students to dissect

Online Owl Pellet Dissection:

<http://kidwings.com/nests-of-knowledge/virtual-pellet/>



- iMovie
- Nonfiction News Center: Reading
- Google docs for collaboration
- iPad App: Educreations & ShowMe