

Materials List:

Astronomy Topics Unit

The materials needed for this unit are presented in chronological order as they are presented in the Powerpoint slideshows. Many lab activities can be presented as demonstrations if you are short on equipment.

- 1.) Computer that runs Powerpoint.**
- 2.) LCD Projector (For Classroom Teachers)**
- 3.) Powerpoint remote for advancing slides (Recommended! - Unit has 2200+ slides)**
- 4.) realPlayer for videos**
<http://www.real.com/realplayer/search>
- 5.) Marbled Science Journal (Class Set)**
- 6.) Internet Connection to computer controlling Powerpoint Slideshow for visiting links.**
- 7.) Real Distances of Planets to the Sun walking tour.**
This requires a long trail / sidewalk that the class can walk down safely. Materials include a kickball (Sun) and then Marble (Jupiter) and really small pebbles for the other planets. I bring white plastic plates so you can see the pebbles (smaller planets) from a distance.
- 8.) Making a Sundial Activity – Class set, modeling clay, pins, rulers, pens, science journal, and a sunny day.**
- 9.) (Optional) also use some circular objects, flashlights, and a dark room to demonstrate some slides.**
- 10.) Optional (Research) – Students should use the internet to visit some links provided in the slideshow to gather research on the Inner Planets.**

- 11.) Building a Soda Bottle Rocket – Purchase a soda bottle launching device (<http://www.arborsci.com/prod-Bottle Rocket Launcher-907.aspx>) Each student should have two soda bottles (1 or 2 liters), Water, Paper for nose cones, and foam board or balsa wood for fins, and teacher will need a bike pump with PSI gauge. Teacher should puncture soda bottle with sharp device so students can cut the bottle to fit together. Also recommended is a safe launching area. I have the students stand behind a chain link fence incase a rocket misfires laterally. Laundry detergent and food coloring can make the launch a bit more dramatic.**
- 12.) Download Google Earth <http://www.google.com/earth/index.html> for tour of various craters on Earth.**
- 13.) Optional (Research) – Students should use the internet to visit some links provided in the slideshow to gather research on the Outer Planets.**
- 14.) Calculators for calculating density of the planets. Class set or table groups.**

Materials List:

EARTH SYSTEM HISTORY

The materials needed for this unit are presented in chronological order as the unit progresses. Many lab activities can be presented as demonstrations if you are short on equipment.

15.) Computer that runs Powerpoint.

16.) LCD Projector (For Classroom Teachers)

**17.) Powerpoint remote for advancing slides
(Recommended!)**

18.) realPlayer for videos

<http://www.real.com/realplayer/search>

19.) Marbled Science Journal (Class Set)

20.) Stacks of books representing rock layers and pack to standard playing cards with jokers removed.

Demonstration of changes in fossil record from simple to complex (Principle of Superposition).

21.) Sticks of clay for each student or partners. Assorted shells. Burgess Shale Activity.

22.) Building Earth's timeline of events – 200+ sheets of white paper. Computers and Internet access for groups recommended for research although teacher could certainly photocopy and distribute resources.

23.) Class set of old cd's for 50/50 Dinosaur challenge.