

Unit 6: Astronomy

Reading Assignments

Coordinated Science for the 21st Century (2006)
Chpt. 11 (pgs. 657-736)

Supplementary Reading

9 “It’s the Little Asteroids That Get You” Due: _____
Time (17 Sep 2002)

Homework/Activities

9 **Activity 1: History and Scale of the Solar System** Due: _____

Think: *Think About It*

Activity: *Investigate 1, 2*, 3-4*

Read: *Digging Deeper* (questions - separate handout)

Apply: *Understanding & Applying 1*, 2*, 3*, 5-6*

9 Worksheet: Order of Planets Mnemonic Due: _____

9 **Activity 2: The Earth – Moon System** Due: _____

Think: *Think About It*

Activity: *Investigate (Part C) 1a, 1b*, 2, 3*

Read: *Digging Deeper* (questions - separate handout)

Apply: *Understanding & Applying 2, 5*

9 **Activity 4: Impact Events and the Earth System** Due: _____

Think: *Think About It*

Activity: *Separate Handout*

Read: *Digging Deeper* (questions - separate handout)

Apply: *Separate Handout*

9 **Activity 5/7: The Sun and the Stars** Due: _____

Think: *Think About It (both Activity 5 & 7)*

Activity: *Activity 5, Investigate 1*

Read: *Digging Deeper (both 5 & 7, questions - separate handout)*

Apply: *Separate Handout*

Concepts/Topics

- 9 Solar System layout, composition, formation; nebular theory
- 9 Distances/scale (interplanetary, interstellar, intergalactic)
- 9 Extrasolar planets - numbers and methods to locate
- 9 Moon - formation, phases, eclipses, tides
- 9 Impact events; asteroids & comets; meteors, -oids, -ites, and showers
- 9 Structure of the sun, sunspots, solar flares
- 9 Solar wind, radio signals, satellites, power grids, radiation, auroras
- 9 Stars - magnitude vs. luminosity, color/temperature, lifetime/fate

Target Outline

History and Scale of the Solar System

- ...explain, and cite evidence for, the Big Bang theory
- ...explain galaxy, solar system, and planet formation
- ...list the objects in our Solar System and what they are made of
- ...compare the relative sizes/distances of objects in our Solar System
- ...explain relationship between planet, solar system, galaxy & universe
- ...cite evidence that other stars also have planetary systems
- ...explain what would happen if gravity was less, more, or nonexistent

The Earth-Moon System

...explain how the relative positions of the Earth, Moon, & Sun

- ...are related to the phases of the moon
- ...are related to lunar and solar eclipses
- ...are related to the tides

Impact Events and the Earth System

- ...describe what asteroids and comets are made of
- ...explain how an object’s mass would vary with size or composition
- ...explain how mass & velocity affect an object’s energy in a collision
- ...compare the energy in a collision to other known amounts of energy
- ...define the terms “meteor”, “meteorite”, and “meteoroid”

The Sun and the Stars

- ...describe the process of fusion and element formation
- ...list types of stars, their qualities (color, brightness) & life cycles
- ...explain the difference between absolute and apparent magnitude
- ...explain differences in temperature at poles vs. the equator
- ...explain the relationship between the Earth’s tilt & the seasons
- ...describe the solar wind, solar flares, ejections, & sunspots can affect the Earth and satellites

Web Resources

NASA: Solar System Exploration	solarsystem.nasa.gov
The Nine 8 Planets	www.nineplanets.org
The Extrasolar Planets Encyclopedia	exoplanet.eu/catalog.php
Near-Earth Object Program	neo.jpl.nasa.gov
Human Impacts of Solar Storms	www.solarstorms.org
HubbleSite	hubblesite.org
Astronomy Picture of the Day	antwrp.gsfc.nasa.gov/apod/
SETI Institute	www.seti.org
Meteor Showers Online	www.meteorshersonline.com
Mr. Eclipse.com	www.mreclipse.com