Disciplinary Core Ideas

ESS1.A: The Universe and Its Stars
- Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe.

ESS1.B: Earth and the Solar System
- The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.
- The solar system appears to have formed from a disk of dust and gas, drawn together by gravity.

Plan for the day:

00) OVERDUE: Gas Giants Foldable (WHITE LATE MORIN BIN)

0) TURN IN: your choice, #10 or #17 (WHITE LATE MORIN BIN)

Last lesson, assigned as "HOMEWORK - DUE NEXT CLASS"

1a) RE-CHECK Lesson 2: Gravity and the Solar System, pages 60-72, questions 1-21, AND

1b) RE-CHECK Lesson Review, questions 1-9; Describe, Explain, Analyze and Explain questions require multiple sentence answers.

2) FINISH the Quick-Lab started last class (related to Kepler's Laws, pages 63-64). Turn in by end of 1st, 3rd, and 7th periods.

3) Video clips of the big bang, etc./Discussion of Solar System readings

Sep 25-6:22 AM

ALL LATE WORK

1) Gas Giant Foldable

2) Question 10 or 17 (Small Bodies in the Solar System)

3) Various Readings/Questions

DUE BY THURSDAY, 20 October!

Oct 17-8:39 AM

Complete ALL questions. You do NOT need to fill in every line! Use only the space necessary for your response.

Name _____ Class _____ Date _____

7 A) Describe how you would change this setup to create a perfect circle. Change the setup and test your ideas. Label this ellipse "Ellipse C."

ANSWER EACH QUESTION AS IT OCCURS! (Through question 7A & 7B, completed

7 B) Were your ideas correct?

LAST class meeting.)

DAY 2:

8 *Eccentricity* is a measure of how much the shape of an ellipse differs from the shape of a perfect circle.

The eccentricity of an ellipse is equal to the distance between its foci divided by the maximum width of the ellipse.

Calculate the eccentricity of each of your ellipses, and record it below.

Ellipse A 2

Ellipse B

Ellipse C

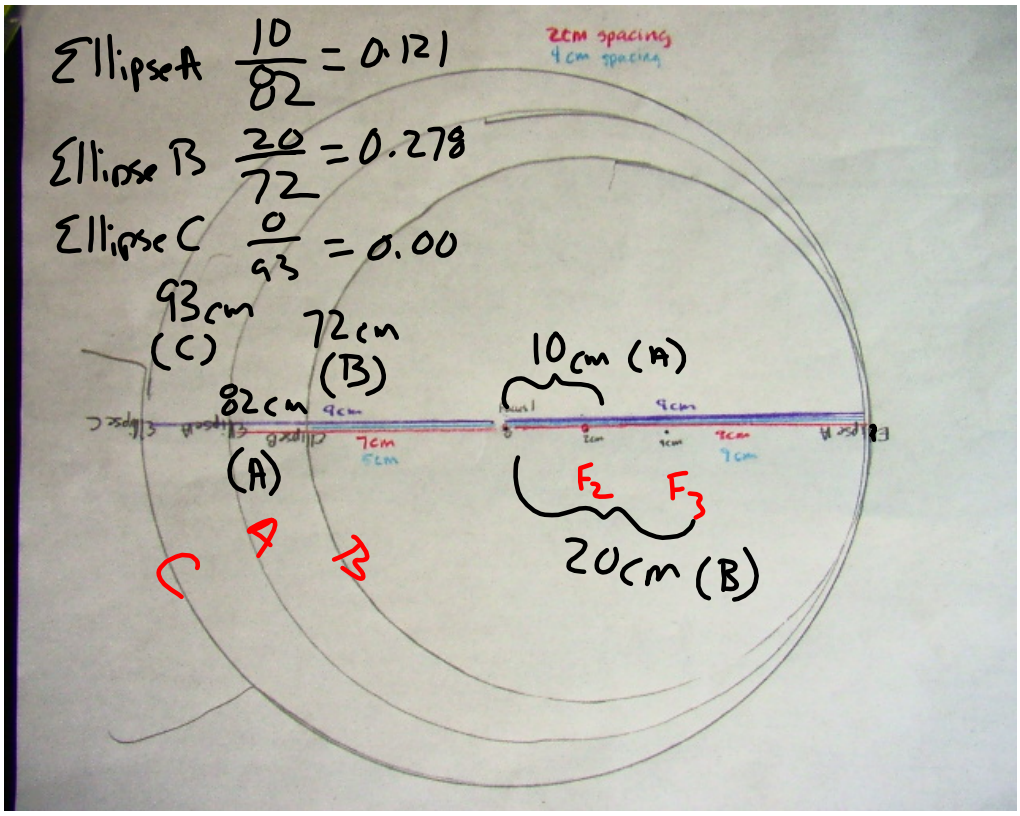
Name _____ Class _____ Date _____

9 Earth's orbit has an eccentricity of about 0.01. Pluto's orbit has an eccentricity of about 0.24, and the orbit of Halley's comet has an eccentricity of about 0.96. Which of the ellipses you drew most closely matches each of these orbits?

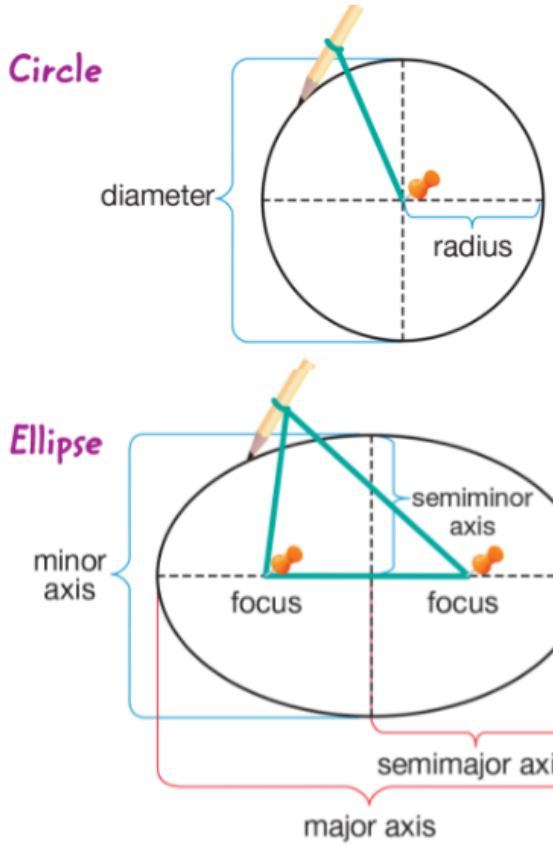
10 The sun is at one focus of Earth's orbit. If Earth's orbit has a very small eccentricity, where is the other focus of Earth's orbit? Explain your answer.

Think about what the first push pin represents in terms of "focus.". That should help you think about what the second push pin represents.

Sep 30-3:12 PM



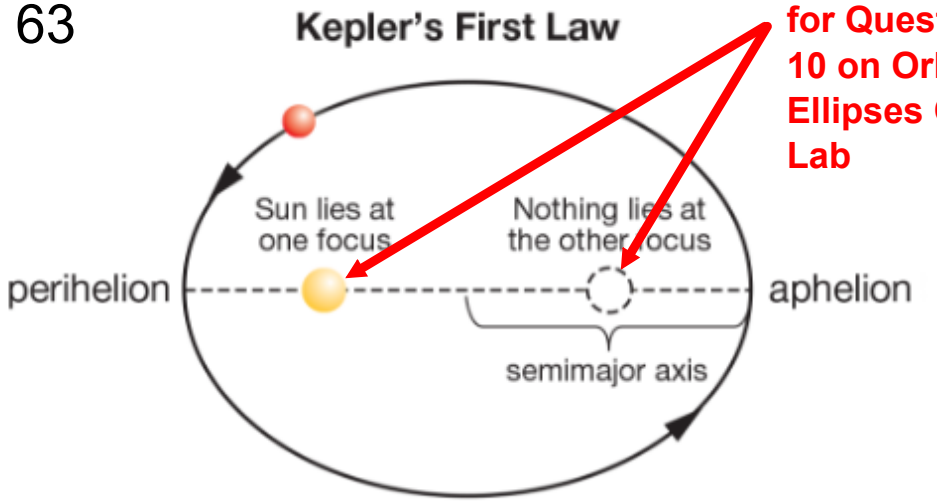
Oct 18-7:54 AM



This is essentially what your Orbital Ellipses Quick Lab was about (page 63, question 6 figure).

Oct 18-8:30 AM

Page 63



Most helpful for Question 10 on Orbital Ellipses Quick Lab

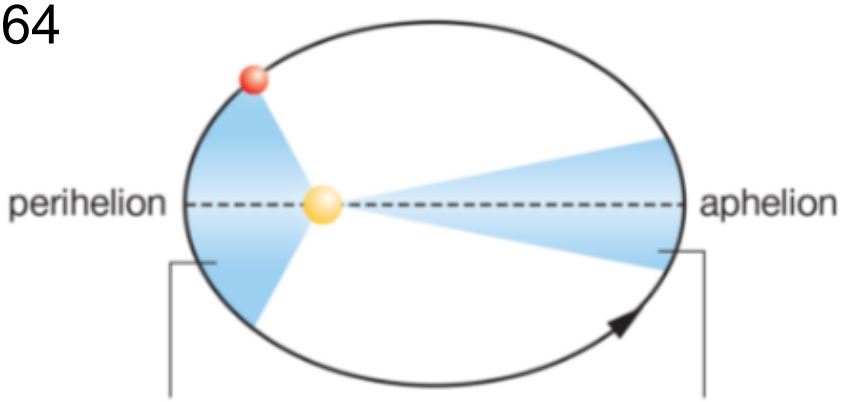
Each planet orbits the sun in an ellipse with the sun at one focus. (For clarity, the ellipse is exaggerated here.)

Oct 18-8:32 AM

As a planet moves around its orbit, it sweeps out equal areas in equal times.

Page 64

Kepler's Second Law



Near perihelion, a planet sweeps out an area that is short but wide.

Near aphelion, in an equal amount of time, a planet sweeps out an area that is long but narrow.

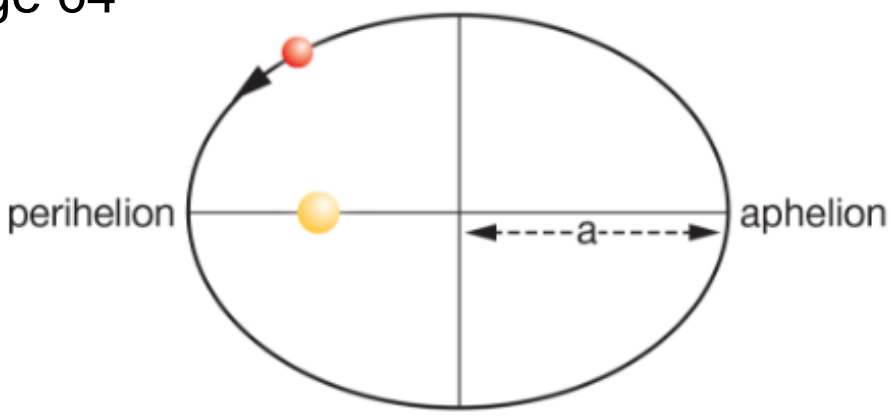
Oct 18-8:32 AM

The square of the orbital period is proportional to the cube of the planet's average distance from the sun.

Page 64

Kepler's Third Law

$p^2 \text{ yrs} = a^3 \text{ AU}$



Oct 18-8:31 AM

Quick Lab: Orbital Ellipses is due:

Make sure your First & Last NAME, your partner's First & Last NAME and CLASS are on your Orbital Ellipses Quick Lab handout.

A-Day - End of 2nd, 6th, & 8th Period: (October 18th), Place your completed Quick Lab in TAN MORIN BIN.

B-Day - End of 2nd, 6th, & 8th Period: (October 19th), Place your completed Quick Lab in TAN MORIN BIN.

(A-Day, my Dad's Birthday! 1/2A)
(B-Day my Brother's Birthday! 3/6B)

Oct 14-6:38 AM

The evolution of the universe in 3 minutes

The scale of the universe

Evidence of a Ninth Planet

Oct 14-6:38 AM

A Unit Test is on the horizon within the next three to four weeks (just to mentally prepare you!).

It is really important that all students keep up with current work in the classroom.

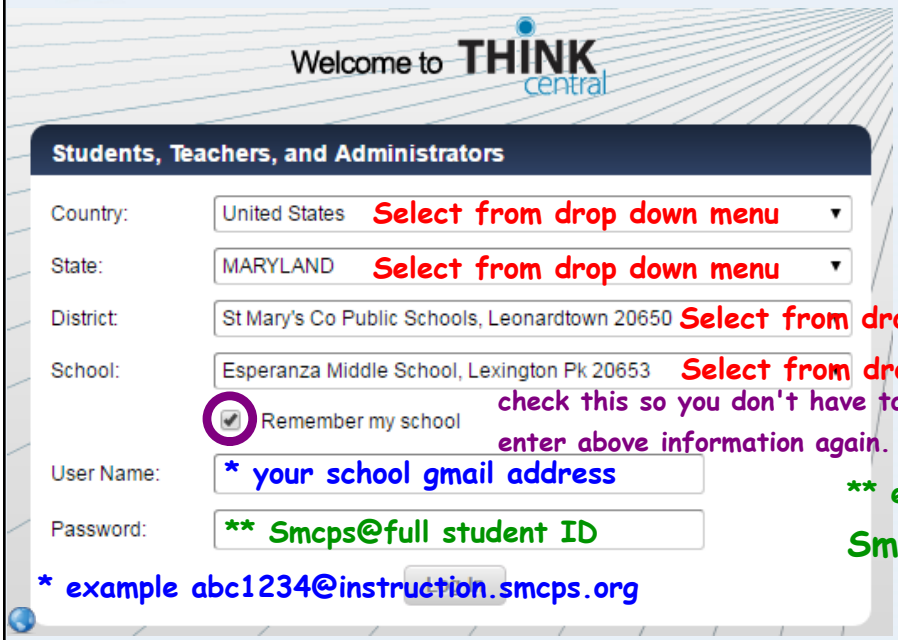
That means, all students who now find themselves BEHIND must work to get themselves "CAUGHT UP" or put themselves in danger of failing the 1st quarter.

Completing work at home is the only option.
Please start to hold yourself accountable for your actions.

Oct 17-2:30 PM

Access your textbook from home:

Go to: www-k6.thinkcentral.com



Oct 17-2:47 PM

Internet links to the videos viewed today:

- The evolution of the universe in 3 minutes
- The scale of the universe
- Evidence of a Ninth Planet

Oct 17-2:47 PM

Attachments

 Evidence of a Ninth Planet.mp4