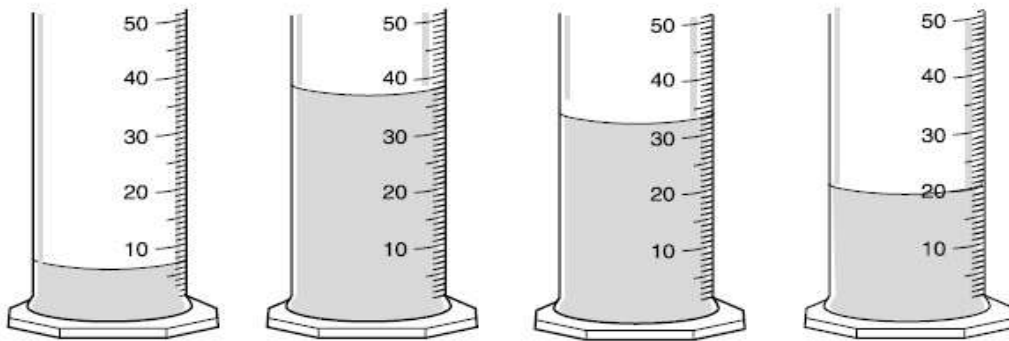


Benchmark One Study Guide: Science Benchmark

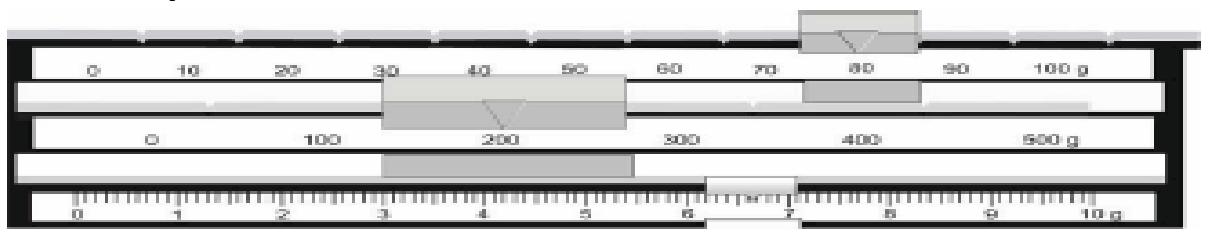
Characteristics of Science:

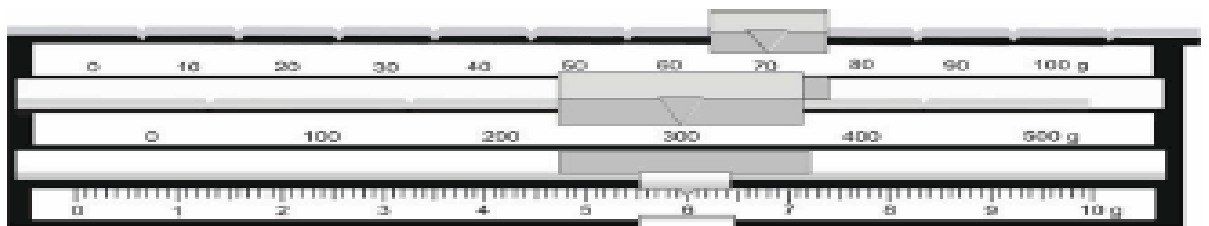
1. What is a graduated cylinder used to measure?
2. Explain how you read a graduated cylinder.
3. What science tool is used to measure the mass of an object?
4. Explain how you read a triple-beam balance.
5. Read the graduated cylinders below. Be sure to put the appropriate units with your measure!



1. _____ 2. _____ 3. _____ 4. _____

6. Read the triple beam balances below. Be sure to put the appropriate units with your measure!





8. A hypothesis should be formed after which step of the scientific method?
9. When should safety rules and precautions be planned?
10. Why is it important for scientists to record accurate data while experimenting?
11. In what step of the scientific method should the mean or average from results be calculated and graphed?

S6E1: A-Theories of the universe:

Name that Theory:

- | | |
|-------|--|
| _____ | 1. Expansion of the universe |
| _____ | 2. Sun Centered Solar System |
| _____ | 3. Earth Centered Solar System |
| _____ | 4. Georges Llamatre and Edwin Hubble |
| _____ | 5. Ancient Greeks and Aristotle |
| _____ | 6. Copernicus and Galileo |
| _____ | 7. Single Concentrated point of matter |
| _____ | 8. Venus' phases |

10. Draw and explain Geocentric Theory.

11. Draw and explain Heliocentric Theory.

12. Draw and explain Big Bang Theory.

13. What is nebula?

14. What evidence did Edwin Hubble detect to support the Big Bang when he created the Hubble Telescope? (2 pieces of evidence)

15. Rank the following objects in terms of size (1-largest to 4-smallest.)

- _____ Galaxy
- _____ Earth
- _____ Sun
- _____ Universe

S6E1 B-Milky Way Galaxy

1. What is a galaxy?
2. What type of galaxy do we live in? (Give evidence to support how we know this information!)
3. Where is our solar system located within the Milky Way?
4. How far from the center bulge is our Sun?
5. What unit of measure do we use to measure distance within the Milky Way Galaxy?
6. Identify and describe each type of galaxy below.

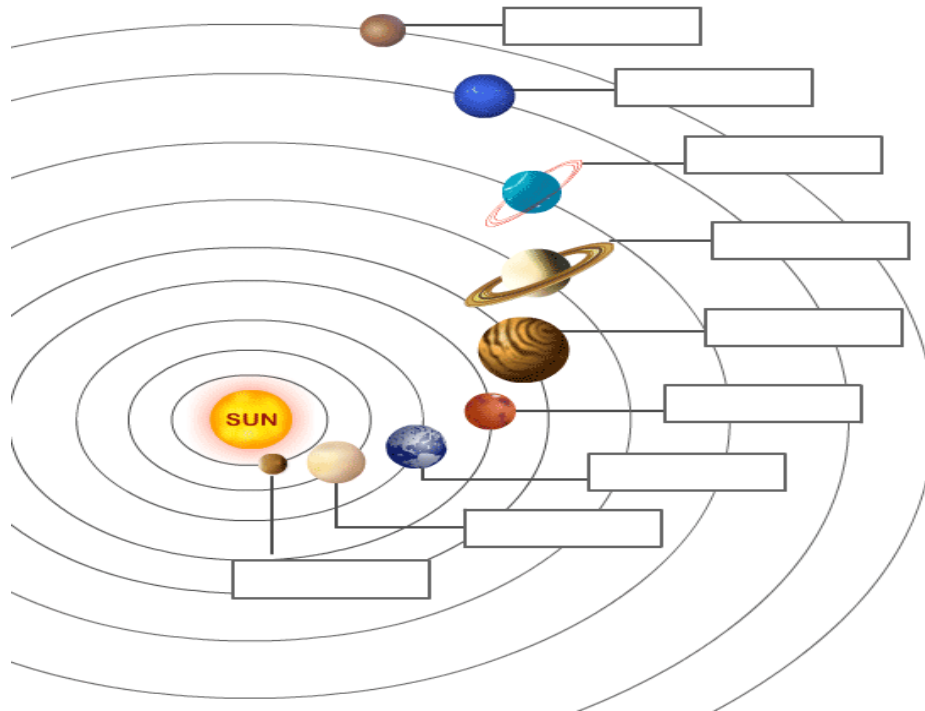






1. Explain orbital velocity in relation to a planets distance from the Sun.
(Remember the Ball and String Demonstration!!)

Identify and fill in the names of the planets.



2.

1. Name that Motion:

_____ Earth orbiting the Sun
 _____ Earth spinning on its axis
 _____ Makes stars appear to move across the night sky
 _____ 365 ¼ days or One Earth Year
 _____ 24 hours, or One Day
 _____ Causes the Sun to appear to rise and set each day

2. How many degrees is Earth tilted on its axis?

3. What does Earth's tilt cause?

S6E1 E – Gravity

1. What is the force that governs motion in the solar system?
2. What two factors affect the gravitational force between two objects?
3. Why do the planets revolve around the Sun?
4. Why does the moon revolve or orbit Earth instead of the Sun?
5. If Earth was larger in mass, how would the gravitational force be affected?