Astronomy Review Sheet- KEY

Key Terms: Write definitions for each of the following terms:

1. Astronomy : **The study of the planets, stars, and other objects in space**.
2. Law of Universal Gravitation: **Every object in the universe pulls every other object towards its center**
3. Gravity : **The force that pulls objects towards each other.**
4. Force : **A push or pull exerted on an object**
5. Mass : **The amount of matter in an object**
6. Weight : **A measurement of the force of gravity on an object**
7. Inertia : **An objects resistance to changing its state of motion**
8. Axis : **Imaginary line that passes through Earth's center.**
9. Revolution : **The movement of an object around another object in space.**
10. Rotation : **The motion of spinning on an axis.**

Review Questions:

11. Tell what each scientist contributed to our understanding of our solar system and universe:

Scientist	Observation/Contribution
Greeks	**Geocentric universe; Earth at center w/everything orbiting it in perfect circles**
Ptolemy	**added epicycles to the geo-centric model; made it more accurate**
Copernicus	**First to say the Sun is at the center of the solar system (heliocentric model)**
Kepler	**used the scientific method/math to prove the planets' orbits were ellipses**
Galileo	**used telescope to discover Jupiter's moons; supported the heliocentric model**
Newton	**explained gravity as the force that keeps the Earth and Moon in orbit together**
Hubble	**Discovered other galaxies; proved the universe is expanding.**

12. What is the main difference between the geocentric and heliocentric models of planetary motion? **The geocentric model has Earth at the center of the solar system or universe; heliocentric has the sun at the center with everything orbiting it.**

13. How did technology and/or new methods help to change the model of the solar system? **Telescopes made the discovery of Jupiter's moons possible; new methods like using math and the scientific method helped prove the heliocentric model was correct.**

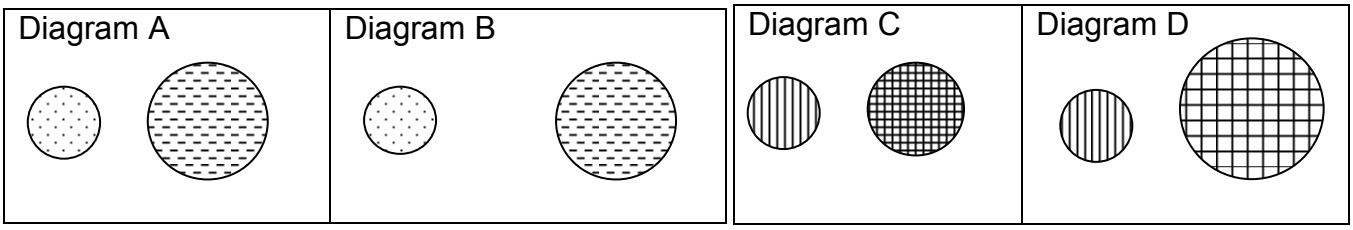
14. What does an object need to have in order to be considered a planet? **It must orbit the sun, have enough gravity to pull itself into a round shape, and must have cleared other objects from its orbit.**

15. Name the first four planets that orbit the sun. Tell how they are similar to each other. **Mercury, Venus, Earth, Mars; all are terrestrial planets (small, rocky, dense)**

16. What are the last four planets that orbit the sun? How are they similar to each other? **Jupiter, Saturn, Uranus, Neptune; all are gas giants, are made of hydrogen and helium, are large, cold, have multiple moons.**

17. What are the names of the five dwarf planets? Why are they not considered to be "planets"? **Ceres, Pluto, Haumea, Makemake, and Eris; they do not meet at least one criteria for being a planet. (Ceres- hasn't cleared its orbit; Pluto orbits its own moon; Haumea is not round; Makemake and Eris haven't cleared their orbits.)**

18. Explain why you would weigh less on the moon than on Earth. **The moon has less mass than Earth, which means it has less gravity. The lower gravity pulls on you less, so that means you weigh less.**



19. Look at diagram A and B above. Assume that the mass of the two objects stays the same. In which diagram would there be more gravitational pull? **A**

Explain your answer. **The objects are closer together, so there is more gravity.**

20. Look at diagram C and D above. Assume that the distance between the two objects stays the same. In which diagram would there be more gravitational pull? **D**

Explain your answer. **Object D has more mass, so there is more gravity.**