**ESS1-2**: Develop and use a model to describe the role of gravity in the motions within the galaxies and the solar system.

**ESS1-3**: Analyze and interpret data to determine scale and properties of objects in the solar system.

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|  | **Planet** | **Moon** | **Asteroid/Asteroid Belt** | **Comet** | **Meteor/meteorite** | **Kuiper Belt** | **Oort Cloud** |
| **Define &Describe properties** | A large body of rock, gas, or ice (or a combination) that revolves in a regular orbit around a central star. | A rocky body that revolves around a larger planet in a regular orbit.  \*Does not give off its own light | (location)  Asteroid: Small, irregular bodies of rock and ice that orbit the sun  Asteroid Belt: A group of about 100,000 asteroids that orbit the sun between the orbits of Mars and Jupiter. Likely pieces of an earlier planet that broke apart early on | Chunks of ice and dust that come toward the center of the Solar System from its outer edges. And orbit in either circles or ovals.  Comets vaporize as they get closer to the sun, giving them brightly-colored tails.  Some comets come into the Solar System on a regular schedule. | Small pieces of rock, dust, or metal that fall into the Earth’s atmosphere at high speeds. They fall apart as they enter the atmosphere, which releases a burst of energy (light & heat).  Meteoroid: out in space  Meteor: Burns as it falls through the atmosphere: “falling star”  Meteorite: Anything that is left behind to hit the ground (rare) | (location)  A group of thousands of chunks of ice and rock (including Pluto) that orbit at the edge of the Solar System outside of Neptune’s orbit, from 30-50 AUs from the sun. | (location)  A giant cloud of icy objects that surrounds the Solar System at about 100,000 AUs from the sun.  Little is known about the Oort cloud, but scientists think it is where comets come from. |
| **Describe motion** | Revolve (move around) a central star in a regular pattern.  Rotate (spin) on an axis at a regular speed | Revolves around a larger planet | Asteroids orbit (revolve) around the sun in a regular orbit, but are sometimes (rarely pulled out of orbit by the gravity of other objects | Probably came from either Oort Cloud or Kuiper Belt and were pulled into orbit.  Revolve around the sun in either a large circle or oval, usually crossing orbits of other planets. | Fall from space and burn up in the Earth’s atmosphere.  Sometimes called “shooting stars” which is NOT CORRECT!  \*Sometimes Earth passes through a cloud of dust, so we see many meteors in one night = a meteor shower. | KBO’s (Kuiper Belt Objects) orbit outside of Neptune’s orbit in either ovals (like Pluto) or circles (like the other planets) | Little is known. We know that there aren’t regular orbits like the other objects in the solar system, because it’s too far away from the sun. |