Earth, Sun, Moon 20 Questions Review Sheet

ANSWERS

In your notebook write the **correct explanation** for each question. Make sure you discuss questions you do not understand with your table or a nearby science teacher. This review sheet will help you focus on any areas of concerns you still need to address to be ready to excel on the test. BOL…

1. **The two factors that combine to keep the planets in orbit are:**
   Inertia and gravity (gravity of sun inwards and inertia of Earth outwards)

2. **What object produces light in our solar system? Name two that do not.**
   The sun. The moon and the Earth (if you don't count all the lights at night). Any of the planets, moons, or asteroids in our solar system.

3. **Why do we have seasons?**
   Earths tilt on its axis and how some parts of the Earth receive direct sun light or indirect sunlight thought the year. It depends on how much or little direct sunlight any part of the Earth is receiving. More direct = warmer Less direct and that part of the Earth cools.

4. **Day and night are caused by what?**
   Earth spinning (rotation) on its axis once every 23hrs and 56 min

5. **One complete revolution of the Earth around the sun takes approximately how long?**
   One year or 365.25 days

6. **When the north end of the Earth's axis is tilted toward the sun, North America experiences what?**
   summer

7. **The phase of the moon you see depends on**
   The Earth's position in relation to the moon and the reflect sunlight from the moon. As the angle between the three objects change, the light we are able to see increases or decrease depending on our viewing angle. We see the most sunlight reflected off the moon during a full moon and the least during a new moon (since all the light is reflecting of the far side (the back) of the moon (the side that does not face Earth.

8. **For a solar eclipse to occur, the sun, moon and Earth must be where? What phase will the moon be in?**
   In line with one another. The moon will be in the "new moon" phase

9. **For a lunar eclipse to occur, the sun, moon and Earth must be where? What phase will the moon be in?**
   In line with one another. The moon will be in the "full moon" phase

10. **One complete rotation of the Earth takes approximately**
    1 day or 23hrs and 56 min

11. **An AU (astronomical unit) is what?**
    The distance from the sun to the Earth which is about 93 million miles or 150 million km.

12. **Why does the sun, which has more mass than the moon, not have a greater impact on Earth's tides compared to the moon which is over 1 million times less massive?**
    The moon is only 249,000 miles or 400,000 km away so it is relatively close compared to the 93 million miles or 150 million km of the sun. It is similar (but not the exact same since gravity and magnetism are different forces) to when the north and south poles of magnets are really close to together (they attract strongly) vs. when they are far apart (it is harder to "feel" the magnets attracting each other).

13. **What does our 23.5-degree tilt of our axis influence on our planet?**
    The seasons and which parts of the Earth receive the most direct sunlight or the least amount of direct sunlight throughout the year (equator the most direct sunlight vs. the poles that receive the least amount of direct sunlight in one year). That is the main reason the poles are so much colder vs. the equator.

14. **Why is summer warmer than winter?**
    More direct sunlight (less of an angle) hitting the surface of the Earth to heat up the Earth. Longer daylight hours mean more hours in which heating takes place.

15. **What type of eclipse are you most likely to see? Explain with evidence your claim.**
    Lunar. They tend to last longer than solar eclipses, they can be seen from all over the dark (nighttime) side of the Earth vs. only a small area that witness a solar eclipse (because the moon is much smaller compared to the Earth).

16. **Which type of eclipse will allow for the most people to view the phenomena?**
    Lunar (see question 15)

17. **Give an example of something that has a lot of inertia. What has very little inertia?**
    Lots of inertia: planets, asteroids, buildings, trains, automobiles, cannon balls & whales.
    Little inertia: dust particles, feathers, bikes, skateboarders, ping-pong balls, & butterflies

18. **What makes Earth a good planet to harbor life?**
    Liquid water, atmosphere (with oxygen and CO_2), temperature that can harbor life as we know it, magnetosphere to protect us from damaging radiation from the sun and other stars, a moon, and a good distance from sun (in the Goldilocks zone)

19. **Do magnetic fields or gravity need to be in contact with an object to influence its movement?**
    Nope. They can apply forces at a distance.

20. **Are your prepared for the test?**
    If you participated in class, the modeling, the demos, activities and focused you should be highly success on this most challenging of test