***Earth Moon and Sun Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Moon Phases**

*Watch the video and answer the questions:*

<http://lessons.e-learningforkids.org/efk/Courses/EN/S0801/login.htm>

1. How long does it take for the moon to revolve around Earth? 27-29 days (about 1 month)
2. When you look at a full moon how much of it appears lit to us on Earth? All of it
3. When you look at a full moon how much of it is actually lit? ½ of it
4. What do we call it when a SLIVER of the moon is lit? Crescent
5. What do we call it when most, but not all of the moon is lit? Gibbous
6. What do we call it when the lit part of the moon is getting bigger? Waxing
7. What do we call it when the lit part of the moon is shrinking? Waning
8. How many moon phases are there? 8
9. Use the information from the video to label and draw your moon phase handout. (Make sure you start with New Moon) Get a handout
10. Record your score from the quiz: \_\_\_\_\_\_\_/7
11. Did you place the moon phases in the correct location? Yes or No

*Watch the animation and take the quiz.*

<http://www.childrensuniversity.manchester.ac.uk/media/services/thechildrensuniversityofmanchester/flash/earthandbeyond_f.swf>

1. Record your score from the quiz: \_\_\_\_\_\_\_/4

*Watch the video (UN: apexmid and PW: apexmid):*
<https://www.brainpop.com/science/space/moonphases/>

1. Take the quiz. Be sure to click on review. \_\_\_\_\_\_\_\_/10

*Play the phases and pattern challenge.*

<http://sciencenetlinks.com/interactives/moon/moon_challenge/moon_challenge.html>

1. Why do we have moon phases?

Phases are caused by the constant changing positions of the sun, Earth, and moon in relation to one another.

*Play the moon phases memory game and record your results in the table below.*

<https://matchthememory.com/beslclass>

|  |  |  |
| --- | --- | --- |
| **Trial** | **Number of Cards Flipped** | **Time** |
| Practice |  |  |
| Real Deal |  |  |

1.

**Tides**

<http://studyjams.scholastic.com/studyjams/jams/science/weather-and-climate/tides.htm>

1. What do we call the lowest low tide? Neap tide
2. What do we call the highest high tide? Spring tide
3. Complete the quiz and record your score. \_\_\_\_\_\_\_\_/7

*Look at the simulation below to reinforce what you have learned about tides.*

<http://astro.unl.edu/classaction/animations/lunarcycles/tidesim.html>

1. Why do we have tides?

We have tides because of the gravitational pull of the moon and sun on the Earth.

**Eclipses**

*Watch the video and answer the questions:*

[https://unctv.pbslearningmedia.org/resource/ess05.sci.ess.eiu.eclipse/solar-eclipses/?#.WjFPolVKvIU](https://unctv.pbslearningmedia.org/resource/ess05.sci.ess.eiu.eclipse/solar-eclipses/#.WjFPolVKvIU)

1. During what moon phase does a solar eclipse occur? New Moon
2. What is the full shadow called of an eclipse called? Umbra
3. What is the edge (or partial) shadow of an eclipse called? Penumbra

*Play the games below. Use your knowledge to label the diagrams.*

<http://www.softschools.com/science/space/lunar_eclipse_games/>

<http://www.softschools.com/science/space/solar_eclipse_games/>

*Watch the video (UN: apexmid and PW: apexmid):*

<https://www.brainpop.com/science/space/eclipse/>

1. Take the quiz. Be sure to click on review. \_\_\_\_\_\_\_\_/10
2. Why do eclipses occur?

Eclipses occur when the sun, moon, and Earth are perfectly aligned and cast a shadow. These can only occur during a New or Full Moon when they are on the same plane.

1. Why don’t we have a solar and lunar eclipse every month?

We do not have a solar and lunar eclipse every month because the moon’s orbit is different than the Earth’s orbit around the sun. The moon’s orbit is tilted. It is rare for the three to be aligned.

*Finished? Go to the links below and dig deeper!*

<http://www.artescapesonline.com/movies/Module%20IV_V15.swf>

<https://highered.mheducation.com/olcweb/cgi/pluginpop.cgi?it=swf::640::480::/sites/dl/free/007299181x/220730/eclipse_interactive.swf::Eclipse%20Interactive>

Use the information you just gained create one question to stump your classmates and teacher. You MUST know the ANSWER!

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_