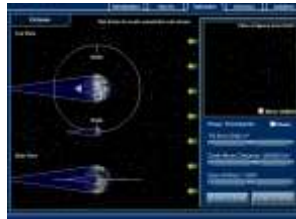


Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Solar and Lunar Eclipse Simulator

### Astronomy

**Introduction:** Eclipses, even though rather rare, can be quite a sight from here on Earth. The question is, when will we see them and what's going on? In order for us to be able to predict those occurrences, we have to be able to look at what it takes for these celestial objects to line up! As always, complete sentences are needed!



#### Directions:

1. Go to the class website ([kiskiastronomy.weebly.com](http://kiskiastronomy.weebly.com)), click "Notes", and click the link to the *Solar and Lunar Eclipse Simulator*.
2. Once the simulator has loaded, click pause. We need to look at what this simulator shows us before we put it into action.
3. First, what eclipses can this simulator show you? Why do you think they have both on here?
4. What factors are shown and adjustable for the Moon?
5. Looking at the diagram window, what celestial objects are shown and obviously important when looking at how an eclipse can take place? Why these objects?
6. When looking at the diagram window, from what direction (up, down, left, or right) is the Sun light coming from? Is this important to know? Why?
7. What two views does the diagram window show you? Why would they show you each of these?
8. Starting with the solar eclipse, remove the *pause* and allow the simulator to move. In what direction is the Moon moving in relation to Earth?
9. What is the standard tilt set for in this simulator? What happens when that tilt degree is changed? Explain.

10. The average distance from the Moon to Earth (according to this simulator) is what? What happens when the moon gets either closer or farther away from Earth? Explain.
  
11. In order for an annular eclipse to take place, what must the size comparison be between the moon and the view of the sun? Explain.
  
12. When we are “caught” in the shadow of the Moon and are able to see the solar eclipse, in what part of the shadow are we caught in: the wide, base of the shadow or the far point of the shadow? Does this have something to do with how specific the location is when solar eclipses are predicted? Explain.
  
13. Click the lunar eclipse button. What happens to the view from Earth?
  
14. What must the Moon pass through in order to create the lunar eclipse?
  
15. What important factor is not included on this diagram that should be when it comes to lunar eclipses? Why do you think it was left out? Explain.
  
16. What happens to the moon as it passes through Earth’s shadow? (Cue song: Bring it back, bring it back...) What is the center of Earth’s shadow called?
  
17. Which is going to occur more often: a lunar or solar eclipse? Why?
  
18. FEEDBACK: Do simulators like this help you with being able to see and explain how different scenarios in space happen? If not, what do you think might help you more? Explain. (This is just so I can help you! 😊 )