**Eclipse Activity**

**Instructions:** You and your partner should **discuss your responses** to each question, then write your answers in your own packet.

**3.1: Lunar or Solar Eclipse?**

a. During a **LUNAR** eclipse, something is blocking the ________________.
   <Sun/Moon>

b. During a **SOLAR** eclipse, something is blocking the ________________.
   <Sun/Moon>

**3.2: Which positions?**

This diagram shows an overhead view of the Sun and Earth, with the Moon drawn at 4 possible positions. (The diagram is not to scale!)

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Sun

Moon position A

Moon position B

Moon position C

Moon position D

Earth
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i. Choose the position that you think goes with a Solar Eclipse:
   A  B  C  D

ii. Choose the position that you think goes with a Lunar Eclipse:
   A  B  C  D

iii. If this were a typical month (not an eclipse time), what kind of Moon would you see at the position you chose in part i.?

   **At this position, we would normally see a** ________________ Moon.
   <new/crescent/half/gibbous/full>

iv. If this were a typical month (not an eclipse time), what kind of Moon would you see at the position you chose in part ii.?

   **At this position, we would normally see a** ________________ Moon.
   <new/crescent/half/gibbous/full>
3.3: How often do eclipses occur?

On October 27, 2004 (when the Red Sox won the World Series!), there was a lunar eclipse. Two friends at the game wondered how often lunar eclipses happen.

Jade said: “Lunar eclipses must happen every month, when the Earth is between the Sun and the Moon.”

Ruby said: “I don’t think lunar eclipses happen every month, otherwise why would the news make a big deal out of this eclipse?”

Which friend do you agree with? Explain why.

a. I agree with __________________________ because __________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

b. Sketch and LABEL a diagram of the Earth, Moon, and Sun. Include information in your picture about the Moon’s orbit shape, to help us understand your answer.

Diagram showing the shape of the Moon’s orbit around the Earth
3.4: Optional Bonus Questions:

a. Explain why eclipses happen roughly around the same time of year from year to year. Sketch (and label) a diagram to help us understand your answer.

b. Do you have any idea why total solar eclipses have been seen by fewer people than total lunar eclipses? (Another way of saying this is, why do people often have to travel to faraway locations to view a solar eclipse?) Explain your thinking