

Name: \_\_\_\_\_

Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Student Sheet 6.2 Geometry of Eclipses

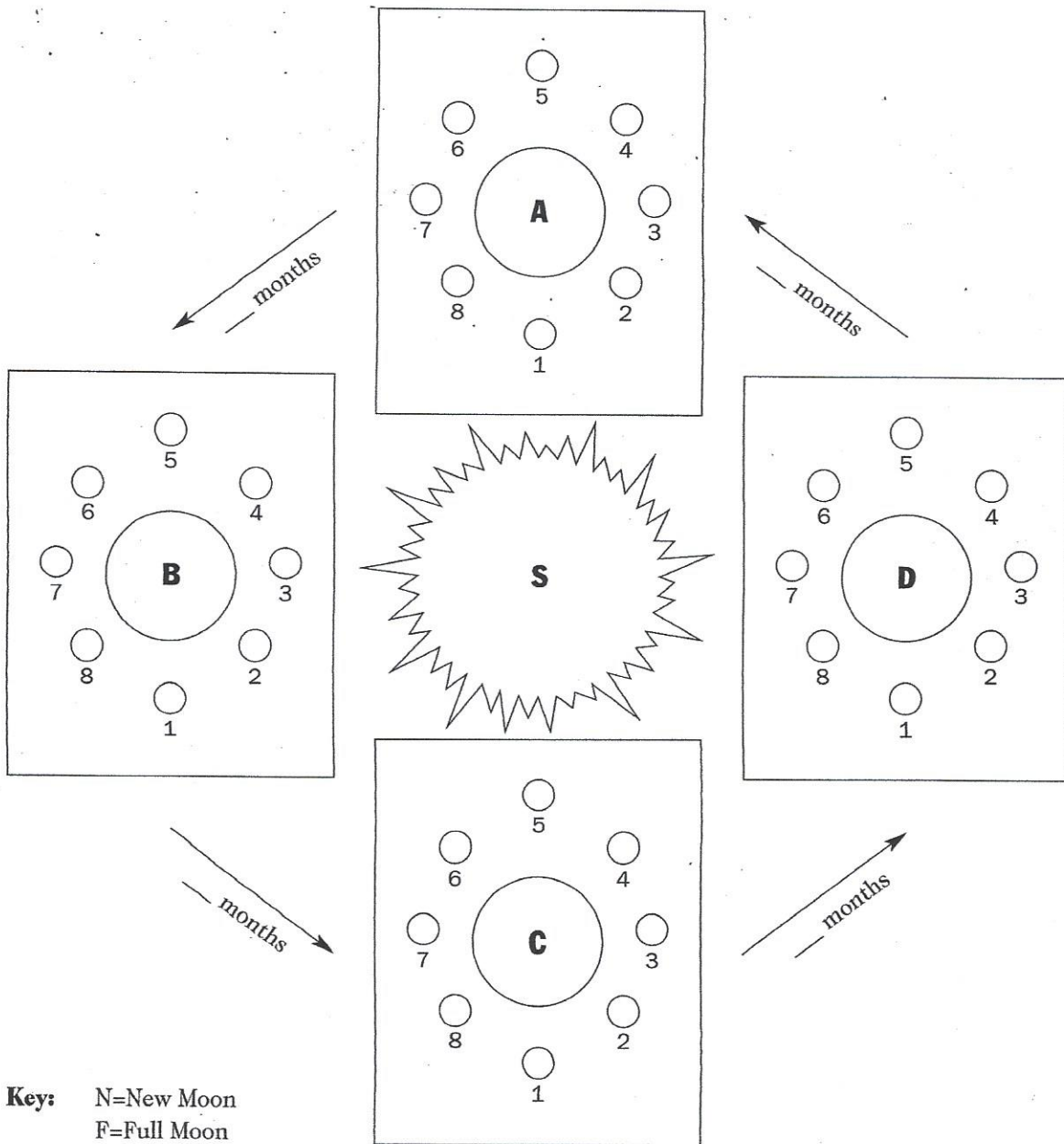
**Directions** Label the full moon (F) and new moon (N) for each position of the Sun-Earth-Moon system. Then answer the following questions:

1. In which box(es) would Earth cast a shadow on the Moon? Circle the correct letter(s):

BOX A    BOX B    BOX C    BOX D

2. In which box(es) would the Moon cast a shadow on Earth? Circle the correct letter(s):

A    B    C    D



### Analyzing Geometry of Eclipses

- Write one paragraph (5-7 sentences) summarizing your observations of the Analyzing Geometry of Eclipses Investigation.

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**Table 6.3 Solar and Lunar Eclipses 2009**

Date	Type of Eclipse	Description
January 26	Solar	Annular
February 9	Lunar	Penumbral
July 7	Lunar	Penumbral
July 22	Solar	Total
August 6	Lunar	Penumbral
December 31	Lunar	Partial

**Table 6.4 Solar and Lunar Eclipses 2010**

Date	Type of Eclipse	Description
January 15	Solar	Annular
June 26	Lunar	Partial
July 11	Solar	Total
December 21	Lunar	Total

**Table 6.5 Solar and Lunar Eclipses 2011**

Date	Type of Eclipse	Description
January 4	Solar	Partial
June 1	Solar	Partial
June 15	Lunar	Total
July 1	Solar	Partial
November 25	Solar	Partial
December 10	Lunar	Total

**Directions:** Examine the data in Tables 6.3, Table 6.4 and Table 6.5. Use these data and your observations from Analyzing Geometry of Eclipses to answer the following questions.

1. About how often do lunar and solar eclipses occur each year? \_\_\_\_\_

2. Why don't solar and lunar eclipses occur every month?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Count the number of days between each solar and lunar eclipse. Is there a pattern? \_\_\_\_\_  
What do you notice? Why do you think this is?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. What would have to happen for lunar and solar eclipses to occur every month?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. In your own words, create a definition for *umbra*.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. In your own words, create a definition for *penumbra*.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_