

FOUNDATIONS OF SCIENCE

WEEK 19—“LESSER LIGHT TO RULE THE NIGHT”

Day 1

Hear:

Scripture tells us, “And God made two great lights... the lesser light to rule the night...” (Genesis 1:16b, KJV). Of course, it is very obvious that the “lesser light” that rules the night is the moon.

Before starting, each student should look up the following words, prefixes, and suffixes in a dictionary or online. Write out a *short* definition for each. Place these vocabulary words and definitions into a notebook.

- satellites
- elliptical orbit
- craters
- maria
- new moon
- waxing
- waning
- full moon
- crescent
- gibbous
- lunar eclipse
- high tide
- low tide
- spring tide
- neap tide
- terminator

Hear:

- Discuss: What is a biblical definition of “night”?
- Psalm 136:9. From where does the moon get its light? See <http://www.universetoday.com/75891/why-does-the-moon-shine/>. Note that this source believes in an evolutionary origin for the moon.

Learn:

- Research: According to most scientists, what is the age of the moon? According to Scripture, what is the age of the moon? How do creationists account for the apparent age of the moon? Older students may wish to read <http://www.icr.org/article/204/>

Hear:

- High-school students: Watch the following videos over the following *two* weeks: <https://www.khanacademy.org/science/physics/oscillatory-motion> Make a schedule of when you will watch each video, and be sure that your parents know your schedule and hold you accountable.

- High-school students: Begin to read *The Witness of the Stars*, by E.W. Bullinger (Grand Rapids: Kregel, 1967), pp. 1-28 (Preface and Introduction). We will read the entire book over the next four weeks.¹

Day 2

Hear:

- Read Psalm 74:17 and Job 38:8-13. What is gravity? What are tides? Read <http://www.universetoday.com/39280/what-causes-tides/>. Make a page for your notebook that describes what you have learned and what these Scripture verses teach you about tides.

Learn:

- Research: What is the distance from the earth to the moon? Is the moon moving further from the earth each year? By how much? What affect does this have on the earth?

Day 3

Hear:

- Read 1 Kings 8:2. Look up and define each of the Hebrew words for “month” used in this verse. (There are two.) Where else are these Hebrew words used in the Tenakh?
- Need help? Watch Anne’s video at <https://youtu.be/ntHh7uhSHhg>.
- Optional: Read http://karaite-korner.org/new_moon.shtml.

Learn:

- Enjoy these pictures of the moon: <http://www.space-pictures.com/view/pictures-of-earth/pictures-of-the-moon/>.

Day 4

Do:

- Create a moon log by printing a blank calendar online and observing the moon two to three times per week (as often as weather permits) over an entire month. Pay careful attention to which side of the moon is illuminated. Sketch the shape of the moon into your calendar, exactly as you see it. Try to continue this log for entire lunar month. Make predictions about when you think you will see the phases of the moon the next month.
- Note: You can print a blank calendar at <http://donnayoung.org/calendars/blank-calendars.htm>.
- Make a model to help you understand the phases of the moon. See instructions at <http://www.darylscience.com/Demos/MoonPhase.html>.

¹ These page numbers refer to the print version. You may also access a free PDF version of this book online at http://www.lewendwater.org/books/witness/the_witness_of_the_stars_bullinger.pdf.

Day 5

Do:

- What is a lunar eclipse? See <http://www.neok12.com/Eclipse.htm>. Find out the date of the next lunar eclipse at your location. <http://eclipse.gsfc.nasa.gov/lunar.html>
- Sometimes the moon appears to be larger when it is closer to the horizon than when it is high in the sky. Is it larger, or is this just an optical illusion? Take a flat piece of glass, such as you'll find in a picture frame. Wearing work gloves, look through the square of glass held at arm's length, and trace the shape of the moon onto the glass with a crayon. Do this both when the moon appears at the horizon and also when it is higher in the sky. What conclusions can you draw from this observation?