

SEARCHING THE SKY

STUDENT WORKBOOK

LAUNCH



CALENDAR IN THE SKY

Do you ever look to the sky and wonder about all the information we can gain from a better understanding of the galaxy? Begin to understand how people from many years ago used the sky to structure their daily lives.

I ANCIENT CALENDARS

Calendars and You

A **calendar** is a chart or system that measure or indicates periods of time.

? Do you use a calendar? If so, how is it made?

There are many changes and events that are documented in calendars, including:



? What are some other changes and events that are documented in calendars?



REFLECT

1. Which calendar seems the most correct? Why?
2. Which calendar seems the most incorrect? Why?
3. How might the ancient peoples have developed calendars?

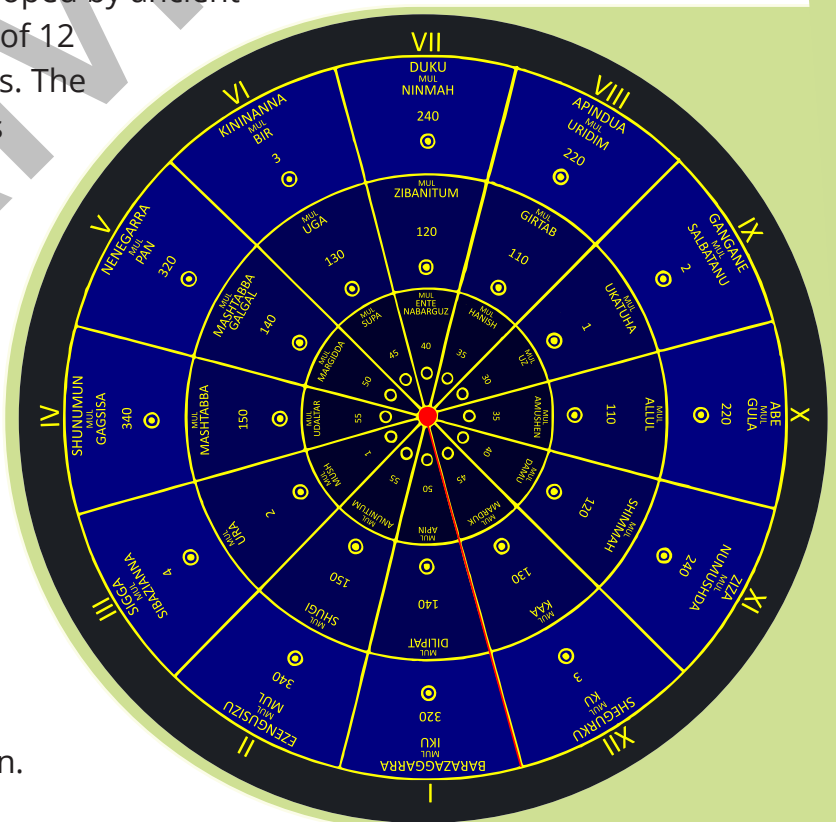
CREATING CALENDARS

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Each of the calendars mentioned in the previous section required the calendar's creators to use information from the sky.

The first known calendar was developed by ancient Sumerians in 3100 BC. It consisted of 12 months that each had 29 or 30 days. The number of days in each month was determined by whether or not the first day of the month had a full moon.

Creating this calendar required the Sumerians to utilize both solar and lunar observations. Their solar observations led them to determining there are approximately 360 days in a year. Lunar observations indicated the number of days in each month, so the Sumerians were required to understand the phases of the moon.



INTO THE UNKNOWN

Newton's Law of Universal Gravitation explains both how we experience gravity here on Earth and how gravity impacts all aspects of the universe. One solar object that can be difficult to comprehend is a black hole. Learn more in this next activity.

LEARNING GOALS:

- ✓ I can make a model to show how gravity affects motion within galaxies and the Solar System.
- ✓ I can use mathematical models to predict the motion of objects orbiting in the Solar System.

WATCH ME WHIP

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In Activity 3, you performed a mini whip experiment to demonstrate the motion of planetary orbit in the Solar System. Take this same experiment up a notch to see how the motion relates to black holes.

WHAT YOU NEED:

FROM THE KIT:

- Masking Tape
- Rubber Stopper
- Straw
- String
- Washers, Pack of 5

OTHER ITEMS:

- Scissors
- Stopwatch



SAFETY: WARNING! CHOKING HAZARD - Small parts.
Not for children under 3 years.

WHAT TO DO:

1. Cut two 0.5-m pieces of string.
2. Cut the plastic straw in half and thread each of strings through a piece of straw.
3. Tie a washer to each end of one of the strings.



SCIENCE UNLOCKED

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Kit	SU-SEASKY
Instructions	IN-SEASKYS
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