Solar Eclipse

Author: Ozobot
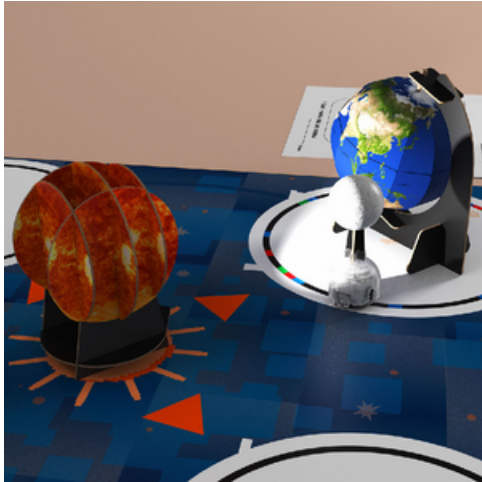
Grades:	Subject(s):	Pre-Reader/ESL-Friendly?
1—2, 6—8	Science, Computer Science	No
Compatible Bot(s):	Coding Method:	
Evo	OzoBlockly	

Quick Summary:

Students will observe the shadow of the Moon on the Earth using the OzoGoes to the Sun, Earth & Moon STEAM Kit.

Duration: 30 min

● **Objectives & Outcomes**

① Student will demonstrate understanding of the positions of Earth, Moon, and Sun during a solar eclipse.

Preparation

● **Student Materials**

- 1 Evo per group
- 1 Solar Eclipse Activity Sheet per student
- 1 OzoGoes to the Sun, Earth & Moon STEAM Kit per group

- 1 Device for Ozobot Blockly per group
- Blockly Editor

● **Direct Instruction**

① Using the model, fit the Moon on an Ozobot.

② In Ozobot Blockly, open the Eclipse program using share code wahrr4 or visit https://ozo.bot/b/wahrr4. Pair an Ozobot.

③ Position the Moon on the circle directly above the number 1 facing counterclockwise. Run the program.

④ When the bot stops, observe the position of the Earth, Moon, and Sun. Draw the shadow you see on the Earth.

⑤ When finished drawing, place your hand behind the bot to tell it to go to the next stop. Repeat step 2 two more times and draw the shadow on the Earth each time. If you were on Earth, what would you experience?

● **Academic Standards**

  ● NGSS.1-ESS1-1

  Use observations of the sun, moon, and stars to describe patterns that can be predicted.

  ● NGSS.2-ESS1-1

  Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

  ● NGSS.MS-ESS1-3

  Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. [Clarification Statement: Examples of models can be physical, graphical, or conceptual.]

Solar Eclipse

What We'll Cover:

(1) We'll demonstrate understanding of the positions of Earth, Moon, and Sun during a solar eclipse.

Materials:

- 1 Evo per group
- 1 Solar Eclipse Activity Sheet per student
- 1 OzoGoes to the Sun, Earth & Moon STEAM Kit per group

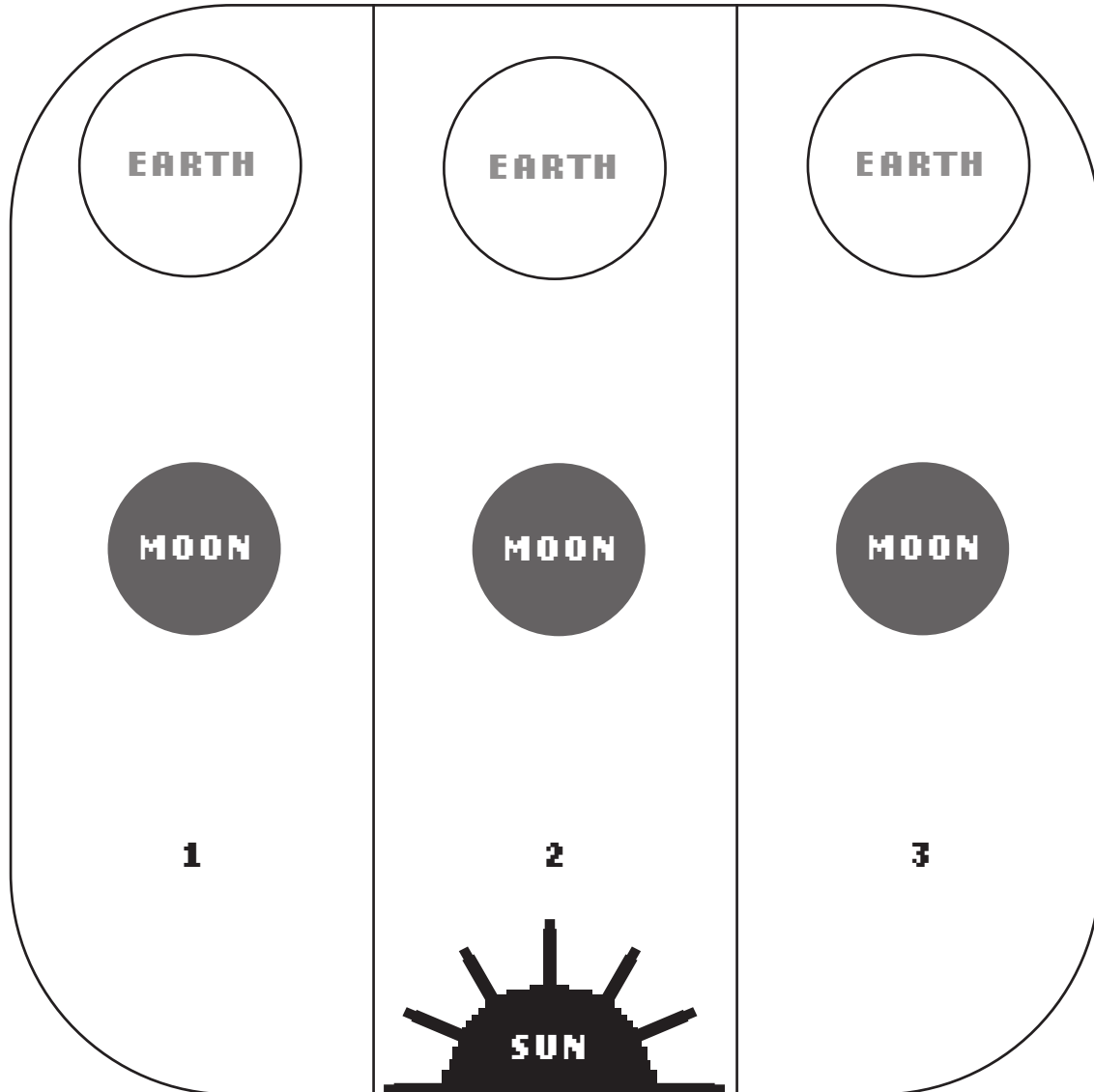- 1 Device for Ozobot Blockly per group
- Blockly Editor

Activity Instructions:

(1) See activity sheet for complete instructions.

Solar Eclipse - Student: https://stg-files.ozobot.com/lessons/07ea2af1-416a-490f-8b13-2bb739d63d0f/Solar-Eclipse-Student.YpYT1BMST7KyRzipVCmJgwjA.pdf

NAME: _____

SOLAR ECLIPSE ACTIVITY SHEET

EARTH	EARTH	EARTH
MOON	MOON	MOON
1	2	3
	SUN	

INSTRUCTIONS:

A solar eclipse occurs when the Moon casts a shadow on the Earth. View the model in this activity as if you were standing on the Moon looking at Earth.

1. Fit the Moon on your Ozobot.

2. In Ozobot Blockly, open the Eclipse program using share code **wahrr4** or visit **https://ozo.bot/b/wahrr4**. Pair your Ozobot.

3. Position the Moon on the circle directly above the number 1 facing counterclockwise. Run the program.

4. When the bot stops, observe the position of the Earth, Moon and Sun. Draw the shadow you see on the Earth.

5. When your drawing is finished, place your hand behind the bot to tell it to go to the next stop. Repeat step 2 two more times and draw the shadow on the Earth each time. If you were on Earth, what would you experience?

ozobot STEAM KITS

OzoGoes
to the Sun, Earth & Moon