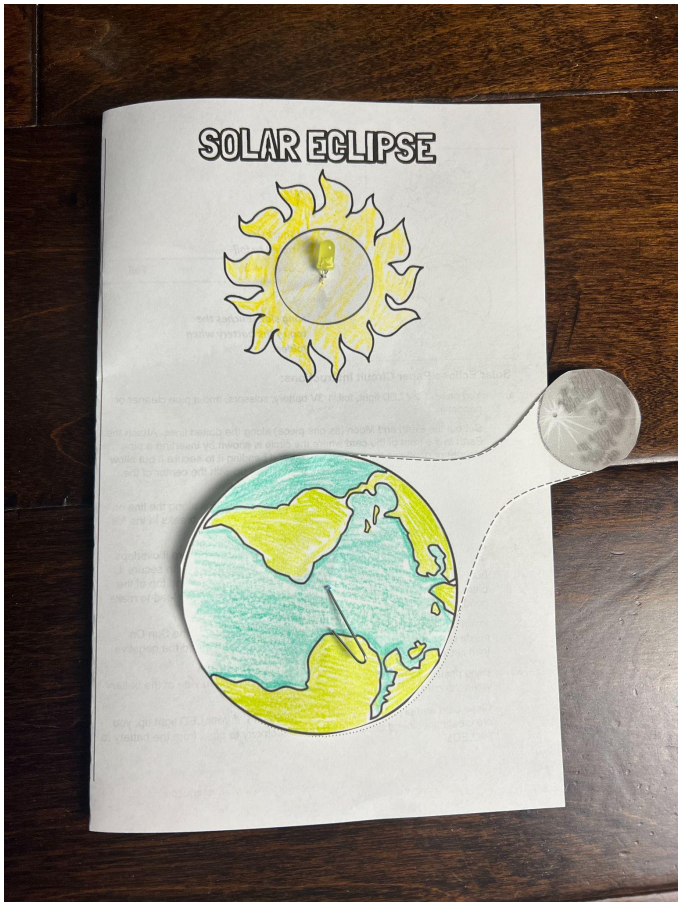
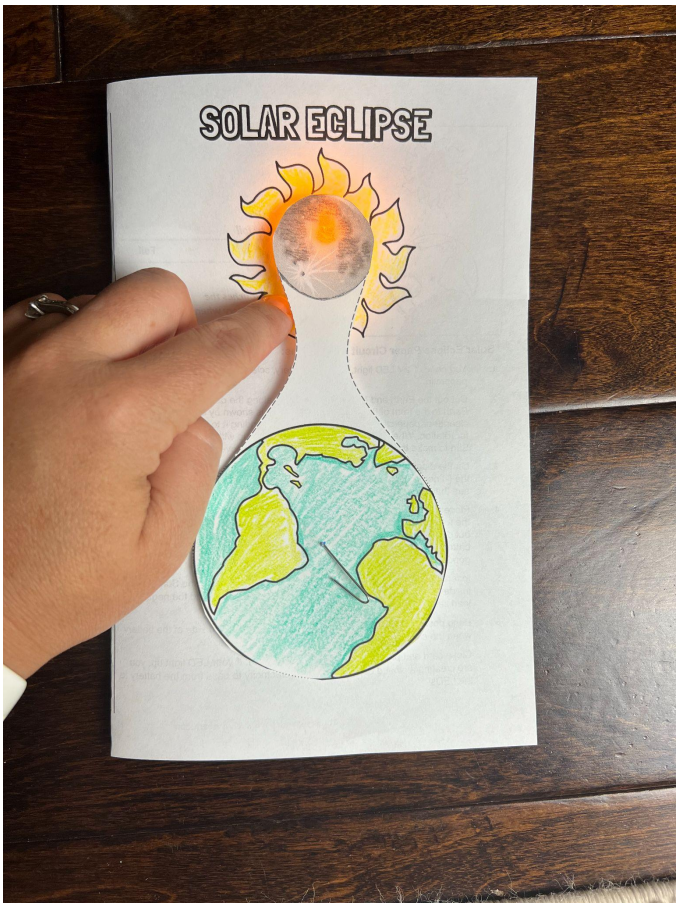
STEM

Solar Eclipse Paper Circuit





Thank You!

Thank you for downloading a Vivify product! If you have any questions, please email us at info@vivifystem.com.

Terms of Use

About Vivify

Vivify is a K-12 STEM education resource company founded by two aerospace engineers, Natasha and Claire, with a passion for providing access to quality STEM education.

Our philosophy is that STEM transforms classrooms into an exciting world of curiosity, problem-solving, and creativity. STEM education can be an empowering interdisciplinary approach that brings math, science, and engineering concepts to life through challenging opportunities that mimic the complexities and excitement of the real world.

Every teacher or parent can incorporate STEM into their classroom or home given the right resources, and that is where Vivify comes in! We love creating STEM materials and are excited to bring STEM to more classrooms and homes! Click here to learn more about Vivify.

Connect with us for free STEM resources!

Subscribe to our newsletter and receive access to a library of free STEM resources through www.vivifystem.com. Follow us on social media or listen to "The STEM Space" podcast for more resources and ideas.

Follow us for more STEM! @vivifystem

Want more STEM?

For a complete list of all of Vivify STEM resources by topic and grade, go to:
https://www.vivifystem.com/curriculum-map

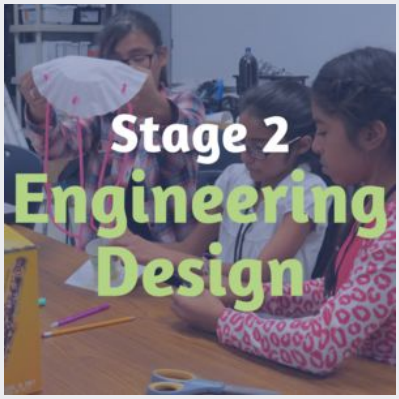
Help! I need to plan a year-long STEM class! What should I cover? What is appropriate for each grade level?

We can help! Click here for guidance on a scope and sequence of a STEM class plus resources and examples for planning a STEM curriculum map.

3 Stages of STEM

STEM generally revolves around the Engineering Design Process that embraces failure, relies on teamwork, and requires critical thinking and creativity. While exciting, educators often become intimidated as a search for curriculum leads to an overwhelming range of activities from index towers to robotics competitions. At Vivify, we believe that not all STEM is created equal. Educators should adopt a 3 Stages of STEM approach by progressively building towards more complex projects.

Click images for lessons for each stage!



Note to Teachers

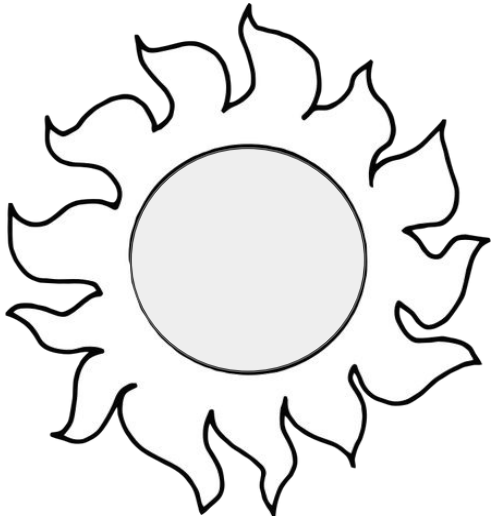
Printable Pages

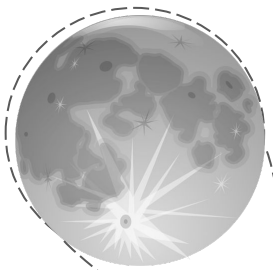
Print the following pages double sided, flipping on the short side. Follow instructions on the card to create the paper circuit.

STUDENT MATERIALS

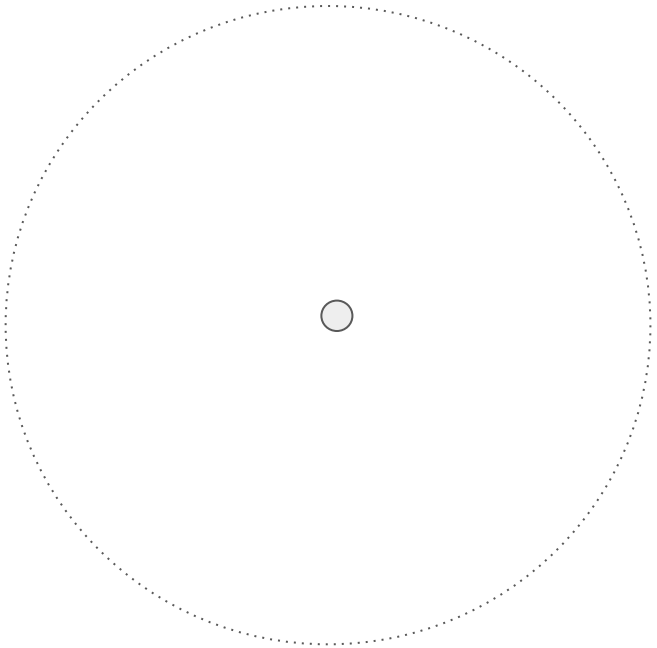
- Scissors
- Clear tape
- 1 **Coin Cell Battery (3V)** Please ensure coin cell batteries are handled safely. Read this.
- Conductive ¼" copper tape approximately 10 inches: Highly recommend Brown Dog Gadgets brand
- LED light (like this)

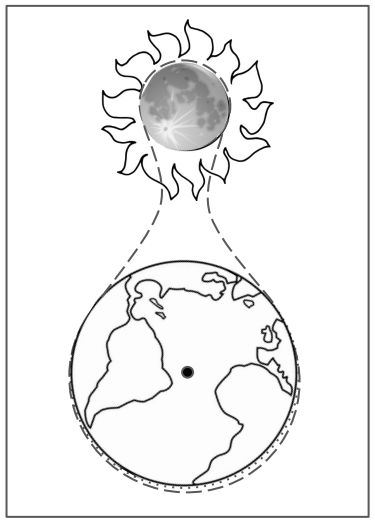
SOLAR ECLIPSE

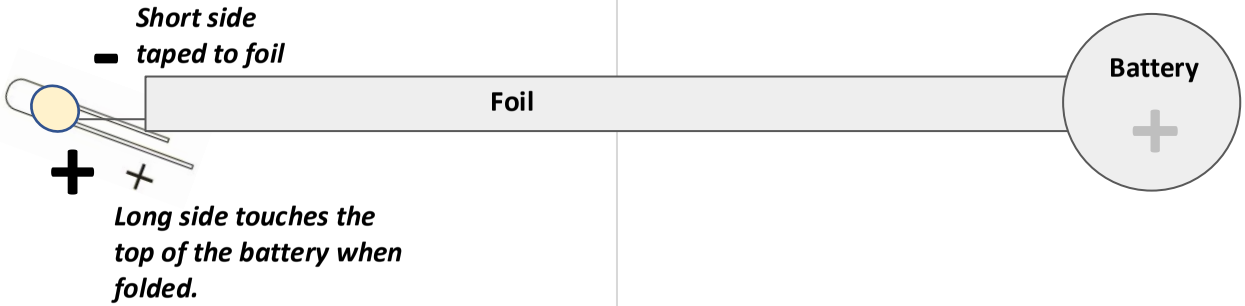




Cut along dotted lines, keeping the Earth and Moon attached to each other.







Troubleshooting

1. Check LED and battery are working
2. Reverse battery
3. Make sure the long LED lead is not touching the foil (put tape over the foil if it is).
4. Make sure foil is continuous

Solar Eclipse Paper Circuit Instructions:

1. You need: 1 2V LED light, foil, 1 3V battery, scissors, and a pipe cleaner or paperclip.
2. Cut out the Earth and Moon (as one piece) along the dotted lines. Attach the Earth to the front of the card where the circle is shown by inserting a pipe cleaner or paperclip through the middle and bending it to secure it but allow for rotation. When rotated, the Moon should line up with the center of the Sun to make the eclipse as shown in the picture above..
3. On the diagram above, follow the instructions to place foil along the line on the (-) negative side of the circuit. Make sure there are no breaks in the foil and that the foil goes beneath the battery.
4. Place the battery negative side down where shown. Make sure it overlaps the foil. Roll up a short strip of tape to place under the battery to secure it, but do not cover the foil with that tape. You may tape half of the top of the battery as long as there is enough space for the positive LED lead to make good contact with the top (positive “+” side) of the battery.
5. Insert LED through the **FRONT** of the card in the middle of the Sun. On inside of card, bend leads so the bulb is flat to the paper and the negative lead lies on top of the foil and tape it in place.
6. Bend positive LED lead so that it will contact the positive side of the battery when the card is folded along the middle..
7. Close card and press on Bode’s Galaxy location. If your LED light up, you are creating a closed circuit that allows electricity to pass from the battery to the LEDs!