



Spring into Science

THE SUN

GET READY FOR SOME FUN IN THE SUN!

The Sun is a star. It is the star that all planets in our solar system, including Earth, rotate around. The Sun is made up of gasses, like hydrogen and helium, and is incredibly hot - billions of degrees! The Sun gives the Earth energy, light and warmth. It helps plants grow, can be used to give us electricity and affects the Earth's seasons and weather patterns.

During the spring, the part of the Earth where we are located is tilted closer to the sun than it is in the winter. This means daylight lasts longer and the weather becomes warmer. Plants that depend on the Sun start to bloom and the warmer weather means many animals are more active.

Let's explore the Sun's light, do an experiment using the energy of the Sun and play a game as we spring into science!

KEEP GOING:

Set up an online reading group with some of your friends or family. You can read the same book, then talk about what you learned, or you can read different books and share cool facts about the Sun.

LET'S READ

Find a comfortable spot and read about the Sun! Here are some ideas to get you started:

- *Sun* by Patty Whitehouse
- *Sun Up, Sun Down* by Jacqui Bailey
- *What's Inside the Sun?* by Jane K. Kosek
- *Sun* by Christopher Hernandez
- *The Sun (Starting with Space)* by Paulette Bourgoise
- *Who Likes the Sun? (Exploring the Elements)* by Etta Kaner

You can download digital copies of these books for free from openlibrary.org. Here is how:

1. Go to openlibrary.org.
2. Click the blue "sign up" button on the top right to create a free account. You will be sent a confirmation email.
3. Sign in.
4. Type the book title and author into the search bar.
5. Find your book and click the blue "borrow" button.
6. Don't forget to return your book when you are finished reading it!

SUN-SATIONAL EXPLORATION

Have you ever stood outside on a sunny day and noticed how colorful the world around you looks? Does it look different at night? Light from the Sun can affect how we see things depending on the time of day. Light reflects off of objects allowing us to see them more clearly. Let's experiment with how light from the Sun helps us to see and how it changes at different times of the day.

Before you start, you should have:

- A room indoors with at least one window
- An area outside to explore
- A piece of paper or journal
- Art supplies like crayons, colored pencils or markers

GET STARTED:

1. Choose an inside room that has at least one window.
2. Turn off any lights. Close the blinds or curtains, or wait until night to make it as dark in the area as possible.
3. Stand in the dark for one minute. Think:
 - How do you feel?
 - Can you see in the area without the lights on?
 - Can you move or walk around easily in the dark?
 - Can you see any colors?
4. After one minute, open the curtains or turn the lights on and record your observations in your journal.
5. With the curtains open, or waiting until daytime, stand in the sunlit room for one minute. Think:
 - How do you feel?
 - Can you see objects in the area?
 - Can you move or walk around easily?
 - Can you see any colors?Record your observations in your journal.
6. Go outside to the same place at different times of day: morning, afternoon, sunset and evening.
 - How do you feel?
 - Where is the sun in the sky?
 - Can you see or hear any animals or people?
 - How does the amount and color of the sunlight change?
7. Each time you go outside, draw a picture or write about what you saw.
8. Share your drawings and notes with someone! Tell them how sunlight changed what you saw at different times of the day.

KEEP GOING:

Take an object and place it in the sun. observe it and pay attention to how it looks and what colors you can see. Then, place the object in the shade. How does the amount of sunlight affect how you see the object?

SOLAR ENERGY

Sunlight provides us with light and heat, which are two forms of energy. Solar energy is energy provided by the Sun. Since sunlight is never in short supply and won't run out in the near future, people are always trying to find new and lasting ways to use solar energy. We can use solar energy for a wide variety of tasks; it can be used to create electricity and even cook food with its heat. Let's do an experiment to see what effect the energy from the Sun can have on an ice cube!

Before you start, you should have:

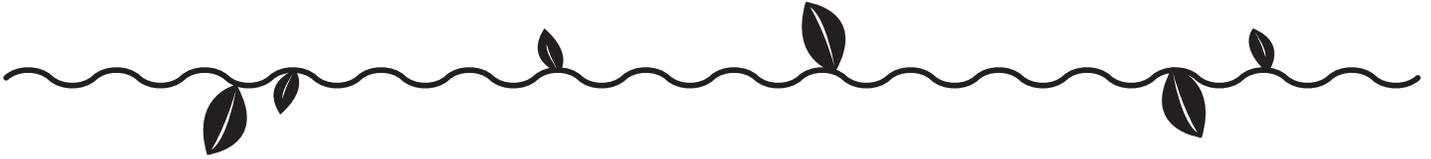
- A shady spot outside
- A spot with direct sunlight outside
- Plastic plate
- Two ice cubes
- Timer
- A piece of paper or journal
- Pencil or pen
- Optional: Thermometer

GET STARTED:

1. Find a spot with direct sunlight. Sit in the sunlight for two minutes. Record your observations in your journal:
 - Did you feel warmer in the sunlight?
 - Did anything in the direct sunlight (like the windowsill, the floor, or anything else you can touch) feel warm to the touch?
2. Find an area that is shady, or has little sunlight, and sit there for two minutes. Record your observations in your journal:
 - How did you feel in the shade compared to in the sunlight? Did you feel cooler, more or less comfortable, or even cold?
 - How did the things in the shade (like the floor or anything else you can touch) feel compared to the things in the sunlight?
3. Make a guess: Do you think an ice cube will melt faster in direct sunlight or in the shade? Why do you think so?
4. Place an ice cube on a plastic plate and set the plate in direct sunlight. Optional: Place a thermometer on the plate to measure the temperature.
5. Use the timer to measure how long it takes for the ice cube to melt completely. Write the results in your journal.
6. Place an ice cube on a plastic plate and set the plate in the shade. Optional: Place a thermometer on the plate to measure the temperature.
7. Use the timer to measure how long it takes for the ice cube to melt completely. Write the results in your journal.
8. Think: Did the ice cube take longer to melt in the shade or in the Sun? Why do you think this is?
9. Share your results with someone! Tell them how the heat created by the Sun helped melt an ice cube faster.

KEEP GOING:

- Instead of placing the plate in a shady spot and a sunny spot, try the experiment in the same sunny spot but at different times of the day!
- Look for ideas online about how to build a solar oven to warm food. Place a graham cracker in your solar oven and put pieces of chocolate and some marshmallows on top. Check your s'mores every couple of minutes and remove them when the chocolate and marshmallows start to melt. Let the s'mores cool before eating.



LET'S PLAY: SUN FREEZE DANCE

The Sun's light helps us to see during the daytime. It also provides Earth with energy. Without the Sun's light, Earth would be cold and lifeless. In this game, you will act out the energy that the Sun gives the Earth!

Before you start, you should have:

- A flashlight
- Room to move
- A partner

GET STARTED:

1. Decide who will use the flashlight. This person will be the "Sun."
2. The person not holding the flashlight is the "Earth."
3. To start, the Sun will shine the flashlight at the Earth's feet.
4. As long as the flashlight is on the Earth's feet they get to move and dance around the room!
5. The Sun should turn the flashlight off after a few seconds.
6. When the light is off, the Earth must freeze! They will stay still until the Sun shines the light at the Earth's feet again.
7. If the Earth moves when the light is off, switch places. Keep going until you run out of energy!

KEEP GOING:

- Add music to your dancing.
- Have another partner (planet) join!



Sam Noble Home

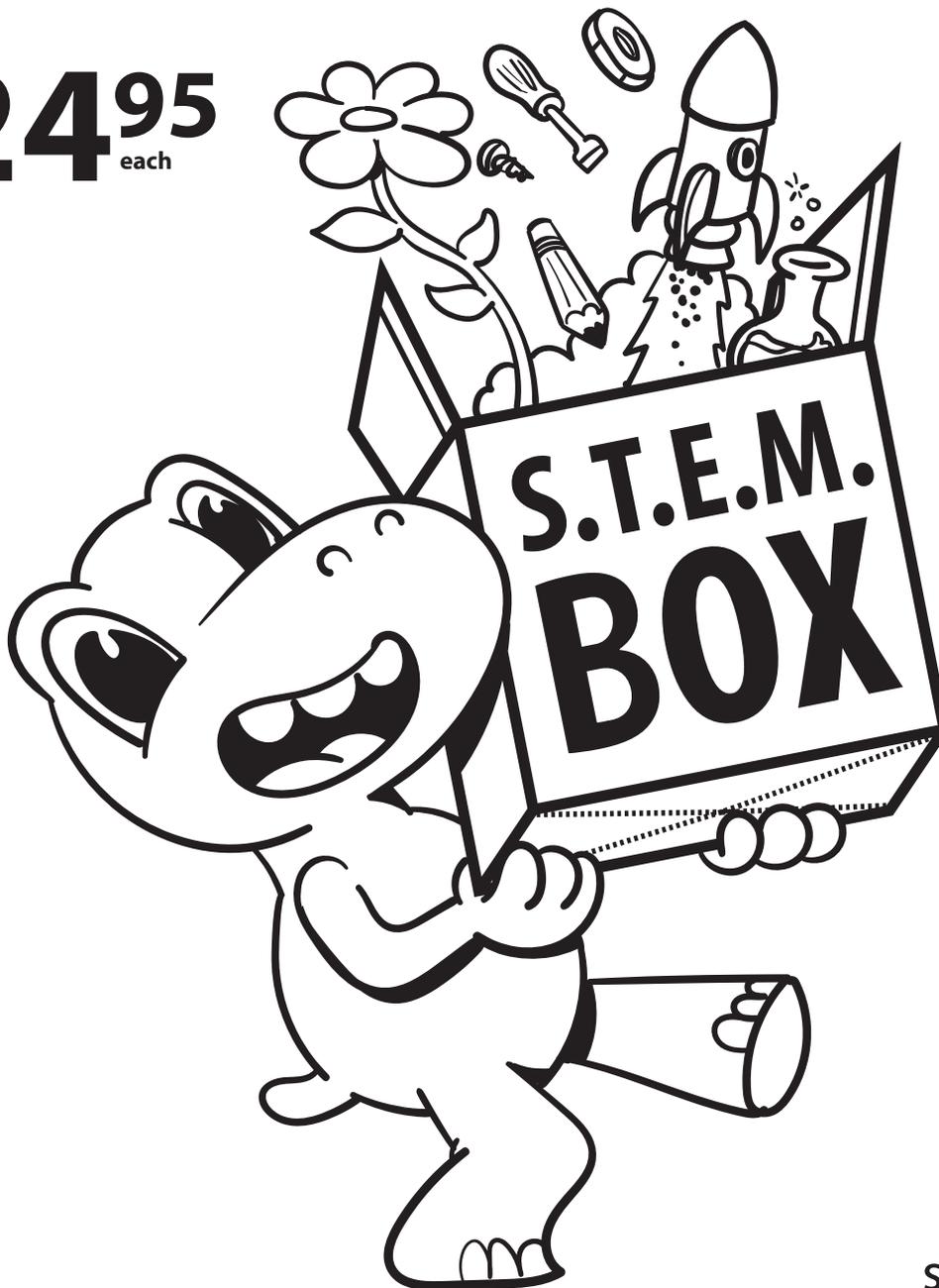


STEM
Activities

The Sam Noble Museum brings the excitement of science discovery to learners at home with STEM Boxes.

Each themed box contains step-by-step directions and supplies needed to complete two or more hands-on activities that meet Oklahoma Academic Standards (OAS) and Next Generation Science Standards (NGSS) for grades K to 5.

\$24⁹⁵
each



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