Use this packet of activities to help children practice their Science skills. Adult supervision required.
Day 1
Make a Shadow Story

MATERIALS:
- Window with sun shining through (or sunny outdoor spot)
- Toy animals
- Drawing paper
- Tape

INSTRUCTIONS:

Step 1. Tape 2 pieces of paper together on the long side to make a large piece.

Step 2. Find a window where you can see the sun. Place the large paper in a sunny spot.

Step 3. Put a small animal toy on the edge of the paper facing the sun. Observe the shadow. Place other animals on the paper to make a scene.

Step 4. Trace the shadows.

Step 5. Leave the toys in place for an hour. Observe the shadows after an hour. How have the shadows changed? Predict what will happen in another hour. Wait to see.

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INSTRUCTIONS (Continued):

Step 6. Write or tell a story about your drawing.

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THE SCIENCE BEHIND IT:
The change in shadow size and shape happens because the Earth rotates. The Earth’s spinning causes the sun to be low in the sky in the morning and higher midday. Then it appears lower in the sky facing west later in the day. When we watch the “sun rise”, it is the Earth spinning east toward the direction of the sun.
Day 2
Sink or Float

INSTRUCTIONS:

Step 1. Cut out each picture on the next page. Predict whether the object will float or sink when you put it in water. Sort each object into a Float or Sink pile.

Step 2. Fill the large bowl or container with water. Put each actual object in the water. Observe what happens. Glue each picture into the correct Float or Sink area on the next page.

Step 3. Compare the objects that float. Do you think a wood block will float? Explain why or why not in the space below.

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Step 4. Test whether the wood block floats or sinks.

Step 5. Test other objects around the house.

MATERIALS:
• Large bowl or container
• Water
• Metal spoon
• Plastic spoon
• Wooden spoon
• Rubber ball
• Coin
• Pencil
• Crayon
• Eraser
• Craft stick
• Plastic lid
• Wood block
INSTRUCTIONS (Continued):

### THE SCIENCE BEHIND IT:

All things are made of very small particles called **molecules**. The type of molecules and the closeness of the molecules determines an object’s **density**. If an object is more dense than water, it will **sink**. If it is less dense than water, it will **float**. Water and ice are made of the same type of molecules, but the molecules in ice are farther apart. This means ice is less dense than water, so ice floats.
Day 3
Sorting My Toys

MATERIALS:
• Collection of small toys (10-12)
• Construction paper, 4 colours
• Crayons

INSTRUCTIONS:
Step 1. Gather 10 to 12 different small toys.

Step 2. Put 2 sheets of construction paper side by side.

Step 3. Pick a toy and feel it. Is it hard or soft? If it is hard, put it on the left sheet. If it is soft, put it on the right sheet.

Step 4. Color 1 square for each toy on the graph. Start colouring from the bottom up. Do you have more hard or soft toys?
INSTRUCTIONS (Continued):

**Step 5.** Sort your toys 2 other ways (rough/smooth, bendable/not bendable). Do you have more rough or smooth toys? Are more toys bendable or not bendable? Colour the graphs below.

<table>
<thead>
<tr>
<th>Rough</th>
<th>Smooth</th>
<th>Bendable</th>
<th>Not Bendable</th>
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**Step 6.** Put out 4 sheets of construction paper. Sort your toys by what they are made of and colour the graph below.

<table>
<thead>
<tr>
<th>Plastic</th>
<th>Metal</th>
<th>Wood</th>
<th>Other</th>
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**THE SCIENCE BEHIND IT:**

Materials have properties that we can observe. Some properties of matter are colour, texture, shiny/dull, flexibility, sink/float, absorbency, and magnetism. Materials have different properties depending on what they are made of. Knowing the properties of matter can help us pick the right material when making things.
Day 4
Make a Model of a Bee Pollinating Flowers

MATERIALS:
- Cupcake liners or coffee filters
- Crayons or markers
- Scissors
- Cardboard
- Bottle caps (2)
- Drink mix powder
- Pom-pom, cotton ball, cotton swab, or wrapped pipe cleaner
- Masking tape or glue

INSTRUCTIONS:
Step 1. Make 2 flowers. The cupcake liner will be the petals. Colour your cupcake liner. Cut slits to make petals.
Step 2. Tape or glue each cupcake liner to a piece of cardboard. Draw a stem and leaves for each flower.
Step 3. Tape or glue a bottle cap in the centre of each flower. Put drink mix powder (pollen) in one of the bottle caps.
Step 4. Have the bee (pom-pom) visit the flower. Pollen will stick to the bee.
Step 5. Move the bee to the other flower. Some pollen will stick to this flower. The flower has been pollinated! Over time a fruit with seeds will grow.

THE SCIENCE BEHIND IT:
Pollination is the first step in making new flowers. Pollinators fly from flower to flower to collect food in the form of nectar or pollen. Some common pollinators are insects and hummingbirds. Pollen is small and sticks to the pollinator that is feeding at the flower. Then, when the pollinator flies to the next flower, it leaves behind the pollen from other flowers. This is how pollination happens!
Day 5
Make a Rain Stick Instrument

MATERIALS:
• Aluminum foil, 2 squares (15cm. each)
• Large marker
• Cardboard tube
• Fabric scraps or felt
• Rubber bands or elastic bands
• Rice, dried beans, or popcorn
• Teaspoon
• Large bowl

INSTRUCTIONS:
Step 1. Cover one end of the cardboard tube with fabric. Wrap the rubber band around the fabric to hold it in place.

Step 2. Put a large bowl or pan under your tube to catch spills. Add a teaspoon of rice to the tube. Cover the open end with your hand. Gently tip the cardboard tube upside down. Listen to the sound. Turn it up and listen.

Step 3. Twist a piece of foil into a long, stick shape. Wrap it around a large marker to make a coil. Add the foil coil to your rain stick. Cover the end with your hand and tip the tube. Listen.

Step 4. Add another teaspoon of rice. Cover, tip, and listen.

Step 5. Make another foil coil and add it to your rain stick. Tell how the sound has changed on the line below.

________________________________________________________________________

Step 6. Cover the open end with fabric and add a rubber band. Colour or decorate your rain stick if you wish. Your rain stick is ready to use!

THE SCIENCE BEHIND IT:
When a rice grain or seed hits the foil coil it makes a sound. Sound is made when something vibrates (moves back and forth). The vibrations move through the air as sound waves. Our eardrums vibrate when the sound waves reach our ears. We hear the sound made by rice hitting the foil.

In some ancient cultures, rain sticks were thought to summon rain. They were made from dried cactus and small pebbles. The cactus spines were hammered into the cactus tube. The pebbles hit the spines when turned.