Constructing weather instruments using locally available materials.

How can we make a wind vane using locally available material?

Materials Needed:

1. A piece of cardboard or light plastic (for the arrow)
2. A straw or light wooden stick (for the arrow shaft)
3. A needle or nail (for pivoting the arrow)
4. A bottle or tin can (for the base)
5. Clay, sand, or stones (for weight and stability)
6. A pencil or thin wooden rod (to hold the arrow)
7. A compass (to mark North, South, East, and West)

Steps to Make a Wind Vane:

1. **Create the Arrow:**

   Cut out a triangle shape for the arrowhead and a larger triangular or rectangular shape for the tail from cardboard or plastic.

   Attach both ends to a straw or light wooden stick using glue or tape.

2. **Prepare the Pivot:**

   Take a needle or nail and carefully push it through the middle of the arrow shaft to create a balanced pivot point.

   Ensure the arrow can rotate freely when placed on the stand.

3. **Make the Stand:**

   Fill a bottle or tin can with sand, clay, or stones to give it weight and stability.

   Insert a pencil or thin rod into the center of the bottle. This will act as the vertical support for the arrow.

4. **Attach the Arrow to the Stand:**

   Place the needle or nail through the top of the rod, ensuring the arrow is free to spin when the wind blows.

   Test to see if the arrow moves freely in different wind directions.

5. **Mark the Cardinal Directions:**

   Use a compass to determine North (N), South (S), East (E), and West (W).

   Mark these directions around the base of your wind vane using labels, sticks, or stones.

6. **Test Your Wind Vane:**

   Place the wind vane in an open area where the wind can move it freely.

   Observe which direction the arrow points—this is the direction from which the wind is coming.

Watch the video below

The following video shows the steps in making a wind vane using locally available materials.

https://www.youtube.com/watch?v=jHgHcuCRXmA

Steps in making a rain gauge

Materials Needed:

1. A clear plastic bottle (e.g., a soda bottle)
2. A marker or pen
3. A ruler
4. A pair of scissors or a knife
5. Small stones or pebbles
6. Water
7. Adhesive tape (optional)

Steps to Make a Rain Gauge:

1. **Cut the Bottle**

   Cut the top part of the plastic bottle (about 5 cm from the neck).

   Keep the cut-off top part; it will be used as a funnel.

2. **Prepare the Base**

   Place small stones or pebbles at the bottom of the bottle.

Add a small amount of water to create a stable base (this prevents it from tipping over).

3. **Mark the Scale**

   Use a ruler to mark measurements (in millimeters or centimeters) along the side of the bottle.

   Start the scale from the water level above the stones.

4. **Attach the Funnel**

   Turn the cut-off top part upside down and place it into the bottle's opening (acting as a funnel).

   Tape it securely to prevent rainwater from splashing out.

5. **Place the Rain Gauge**

   Choose an open area away from trees or buildings to ensure accurate measurements.

Secure it with stones or bury it

Below is a video showing the steps in making a rain gauge using locally available materials:

Assessment.

Find out the steps in making a windsock.

Record and save it in your SST folder.