

Option 1: STEM Challenge - "Paper Tower"

Objective: Build the tallest free-standing tower using only paper and tape.

Materials Needed:

- Sheets of paper (standard printer paper works)
- Tape (masking or clear tape)
- Ruler or measuring tape (optional for measuring)

Instructions:

1. **Form Teams:** Divide participants into groups of 4-6.
2. **Set the Timer:** Give teams 15-20 minutes to construct their towers.
3. **Build:** Teams must use only the paper and tape provided. They can strategize and discuss their design before building.
4. **Measure:** Once time is up, measure each tower's height. Teams can take turns presenting their design and strategy.
5. **Debrief:** Discuss what worked, what didn't, and how collaboration played a role in their success.

Option 2: "STEM Hypothesis Testing"

Objective: Test a hypothesis related to buoyancy using everyday materials.

Materials Needed:

- Various materials (e.g., paper clips, straws, rubber bands, small balls, etc.)
- A large container of water
- Notepads and pens for recording hypotheses and results

Instructions:

1. **Form Teams:** Split participants into groups of 4-5.
2. **Create Hypotheses:** Each team must come up with a hypothesis about which materials will float or sink and why.
3. **Test:** Teams will have 20 minutes to test their hypotheses by constructing a device that can hold as many paper clips as possible before sinking.
4. **Record Results:** Each team records their hypothesis, the materials used, and whether they were successful in their predictions.
5. **Share Findings:** Teams present their findings, discussing the science behind their results and the importance of testing hypotheses.