

Build a House

Lesson Overview: Students will build a house that is able to withstand the wind and rain.

Suggested Time: 60-75 minutes

Learning Objectives:

- To gain experience connecting different materials
- To better understand properties of materials
- To foster a community of collaboration and idea sharing

Materials: You can assign different pairs of students different materials if you'd like them to compare and contrast materials during discussions.

<ul style="list-style-type: none">● Scissors● Hair dryer or fan● Spray bottle● Cardboard● Paper● Masking Tape● Duct tape● Glue Gun	<ul style="list-style-type: none">● Paper clips● clay● LEGO● Pipe cleaners● Popsicle sticks● Duct tape● Tin foil● Plastic wrap
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Directions:

1. Explain to students that they will build houses. Discuss design constraints (materials in room, time, etc.) and criteria (e.g. must be sturdy, have standard house features such as a door and windows, must be sturdy enough to withstand a storm [hair dryer and spray bottle of water]). Let students know that you will ask them to share any useful building techniques with the rest of the class.
2. Show the students the materials they can choose from OR assign each group materials.
3. Students can sketch their initial designs. Once they have a sketch, they can begin building.
4. About fifteen minutes into building, have the students come together to share their building techniques.
5. Have students return to building and finish.
6. Make sure you leave time to have a final discussion with the class and to test out their designs.

Possible Discussion Topics:

- Were there materials that were harder or easier to work with than you thought they would be?
- What were the pro/cons of different materials?
- Which materials were best for sturdy structures?
- What building techniques did you use? Did you find a way to attach materials to each other that you think worked well? Which materials are best for connecting?
- Did you see something that someone else did that you thought would be helpful to you?