

Building a Shelter

Grade 1: Structures and Mechanisms

<h2 style="margin: 0;">Lesson Plan</h2>	Assessment	Checklist
	Cross-curricular	

Big Ideas

- We will choose materials to create a shelter for a toy animal.
- We will ensure that the animal fits inside the shelter without touching the walls or roof.
- We will test the stability of the shelters outside.
- We will explore which materials are ideal for the shelters and the materials they are made of.

Specific Expectations

- Use technological problem-solving skills and knowledge acquired from previous investigations, to design, build, and test a structure for a specific purpose.
- Describe materials as the substances from which something is made.
- Identify materials that make up objects and structures.
- List different kinds of fasteners and describe the uses of each.

Description

In this lesson, we will choose materials to create a shelter for a toy animal. We will explore which materials are ideal for the shelters and the materials that they are made of. Students will ensure that the toy animal does not touch the walls or roof inside of the shelter. When they are completed, we will test the shelters outside.

Materials

- Small toy animals (plastic or plush)
- Construction paper, plastic wrap
- Popsicle sticks, straws, pipe cleaners
- Playdough, string, recyclables
- Tape, scissors, glue
- Outdoor materials (sticks, rocks, etc.)

Safety Notes

- Be careful with any sharp materials

Introduction

- Tell the students that we will be building shelters for the assortment of animals.
- Create a success criteria together. Co-create it with the students by asking them what a strong shelter needs to have.
- A strong shelter should: *have walls that stand up (don't fall over on the animal), a roof that is supported (doesn't cave in), won't blow over in the wind, the animal will not get wet inside, the animal does not touch the roof or walls (fits inside, has room to move).*
- The students may use any of the materials provided. They may also use any collected materials from the outdoors (sticks, rocks, etc.)
- Look through the materials provided and discuss what they are made out of. *Example: straws – plastic, popsicle sticks – wood*

Action

- In groups, partners, or individually, students can work to create shelters for their animals. They first need to select materials for their shelters. Once they have selected their materials, they must create a plan for their shelters using the “Design Plan” handout. They can sketch what their shelter will look like and include their chosen materials in that plan.
- Once their design plans are completed, they can begin building. **Remind the students that their shelters cannot be attached to the desk or table that they are building on as we need to move them outside to test.**
- As the students are creating their shelters, remind them to refer back to the success criteria to ensure that their shelters meet all of the needed criteria.

Consolidation/Extension

- Once the structures are built, take the structure and the toy animals outside to an area to test. If possible, leave them out all day or overnight and check on them later. Were the structures stable? Was the animal safe inside of the structure?
- If some structures weren't stable, discuss ways to modify and improve the structures.

Extension:

- Have the students create a shelter to protect an animal from the sun. The animals can be made out of pipe cleaners and UV-sensitive beads that alter colour when put in the sun. If the animal changes colour, the shelters did not work and improvements/alterations can be made.