

## Pictou County Forest School - Grade 3 Pre-Visit Lesson Plans

### Physical Science: Structures

**Activity:** Paper Towers

**Overall Curriculum Outcome:** Learners will construct a structure in response to a design challenge.

**Specific Curriculum connections:**

- Structural materials and their properties
  - How does the choice of materials affect the properties of the structure?
- Structural shapes and their strength and stability
  - How do the shapes used in construction affect the properties of the structure?
- Ways to join materials
  - How does the way of joining materials in construction affect the properties of the structure?
- Structure design
  - How can I solve a design challenge? ▪ How can I tell if the structure I constructed met the design challenge?

**Materials:**

- Paper
- Masking tape
- scissors

**Activity:**

Students are divided into pairs/small groups and given a piece of paper and 10cm of tape.

Students are given the following prompt:

- *Build the tallest tower with the materials provided.*

**Instructional moves:**

This activity is intended to be pursued through a lens of collaborative inquiry, allowing students to harness and use 'trial and error' and 'failing forward' mindsets as they pursue their investigations.

Classroom educators can also decide to pre-teach or provide examples of how folding or rolling the paper in various ways adds rigidity and strength.

Students can be prompted to cut their paper into thinner strips to make their towers taller

Take your class on a structure hunt around your school: triangle truss supports in the gym ceiling; triangle brackets on the coat racks; basketball supports in the gym...