

## Pictou County Forest School - Grade 6 Pre-Visit Lesson Plans

### Physical Science: Flight

**Activity:** Egg Drop

**Overall Curriculum Outcome:** Learners will evaluate factors that influence flight.

**Specific Curriculum connections:**

Characteristics of flight for living and nonliving things

- How do flying living things compare with flying non-living things?
- How can the principles of flight be demonstrated/seen?

Forces involved in flight

- How are forces balanced in a flying object?
- How is floating different from flying?

Flying devices

- How can I test a flying device?
- How can I improve the performance of a flying device?

**Materials:**

- Eggs (several dozen)
- Home materials: boxes, cotton balls, towels etc.
- School materials: tissue paper, construction paper, glue, tape etc

**Context:**

This lesson serves as an introductory lesson to some of the factors that influence flight. This first lesson is completed in a classroom setting whereby educators can, if desired, more easily enforce controls (e.g., limited size, standardized materials, parachutes employed). As students gain confidence around the various principles of flight they can apply their newfound knowledge using natural materials found at Forest School.

**Intro/Activation:**

- Access students' prior knowledge of relevant concepts: gravity; potential/kinetic energy; shock absorptive capacity of common items
- Talk about real life examples of:
  - Flight vs. floating
  - Role of wings; how does a glider work?
  - Shock absorption: car bumpers, goalie pads, helmets etc

**Activity:**

Students use materials found around the home/classroom to make an egg protector to cushion the impact of dropping an egg off of a controlled height.

- This activity runs best through an inquiry-based approach where students are encouraged to explore various materials, experiment with different design concepts and use cause/effect testing to test their thinking.
- If needed, students can be keyed into complementary concepts:
  - shock absorption (e.g., using moss, leaves etc); flight concepts (e.g., attaching wings to slow down their egg drop device)

Students get a chance to drop their egg protectors in front of their peers, which is always a fun way to show their learning and to learn from other designs.