

## Pictou County Forest School - Grade 6 Lesson Plans

### Physical Science: Flight

**Activity:** Egg Drop (suggested time 90+ minutes)

**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)
- Found natural materials (student generated)

**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 found natural materials to make an egg protector to cushion the impact of dropping an egg off of a controlled height.

- This activity probably runs best through an inquiry-based approach where students are encouraged to explore various natural 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 spruce bows as wings to slow down their egg drop vehicle)

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.

**Reflection/further wonderings:**

Group discussions around observed trends: "We noticed that moss was a great cushioning device," or "How did using wings help slow down our egg protectors?" etc.

How could we incorporate natural/renewable resources into our modern designs for everyday items?