



THE GREAT OUTDOORS

Lesson: Egg Drop

CURRICULUM REFERENCE: Movement, Properties of Liquids and Solids

LESSON OBJECTIVE

A test to see if you can keep an egg from cracking with the use of household materials.

VIDEO: <https://youtu.be/y9ckItBKmtU>

THE SCIENCE BEHIND

The egg drop is a competition to see what is stronger: the forces of gravity or the strength of the eggshell. To give the eggshell a chance, we need to minimize the kinetic energy created during the egg's fall and/or disperse that energy upon impact so it doesn't go directly into the egg. We can do that by slowing the egg during its descent with a parachute or cushioning its impact with soft items.

VIDEO: <https://youtu.be/sFGTgkV9M9E>



FOLLOW-UP QUESTIONS

1. By changing the weight of your experiment, how will that affect the results?
2. How will the height of the drop change the outcome?
3. How can we improve our devices so that they are more successful?

LEARNING OUTCOMES

- Measure and compare, quantitatively and/or qualitatively, the force required to move a load.
- Use scientific inquiry/research skills to investigate how structures are built to withstand forces.



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MATERIALS (PER PERSON)

- Eggs
- Cardboard tube
- Newspaper
- Tape
- Glue
- Straws
- Rubber bands
- Popsicle sticks
- Sandwich bags
- Balloons

INSTRUCTIONS

1. Using the household items in the materials list, use your creative minds to make an apparatus that will keep an egg from cracking even after being thrown off a tall height.

TIP: Think about what will slow down the egg's falling speed and/or cushion the egg inside your apparatus. Watch the videos from NII Explore instructors for some ideas!

VIDEOS:

Conner: <https://youtu.be/guECtB7r3jM>

Danielle: <https://youtu.be/QoeS0LdCgQM>

Luke: <https://youtu.be/HloNKfYUtRQ>

Virat: <https://youtu.be/zAO2gRDG-XA>

