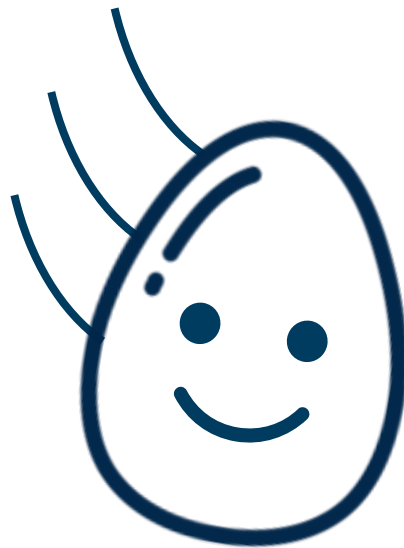


The Egg Drop Challenge

Can you protect Erica the Egg from a big fall?

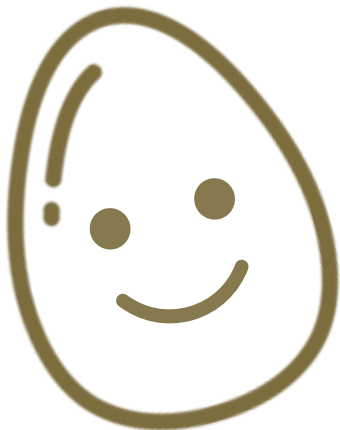


You will need:

- A hardboiled egg (make sure to ask an adult for help!)
- Pen or Pencil

A selection of materials from around the house (the recycling bin is a good place to start) to protect the egg, some examples are:

- Sponges
- Straws
- Cotton Balls
- Pipe Cleaners
- Paper
- Sticky Tape
- String
- Marshmallows
- Anything else you can find!



Aim

Develop your engineering and problem-solving skills to save Erica!

The Task

Your challenge is to build a device that can safely deliver Erica the Egg from a height of 3 m (roughly the height from standing on a chair). Make sure you are standing on something sturdy and have adult supervision for this bit!

Activity 1: Design!

Brainstorm some ideas and sketch these designs out on paper.

You want to protect Erica the Egg from a fall. You could use inspiration from every day items used to protect people from heights and falls such as bicycle helmets and parachutes!



Next, pick your best design and choose what materials you will need to build it.

Remember, when manufacturing (making) your design, anything you use would cost money. The best designs protect Erica the Egg and use the least materials!



Key Words:

Acceleration: an increase in speed

Force: a push or pull on an object

Gravity: a force that pulls objects towards each other

Ideation: creating ideas

Manufacturing: the process of creating something new from raw materials

Matter: anything around you that takes up space (e.g. air, water, rocks, people)

Mass: the amount of matter that makes up an object

Physics: the study of matter, energy and the interaction between them

Prototype: a simple model that allows you to test your idea

Scrap: the discarded or rejected material



Activity 2:

Manufacture!

Using your chosen design from Activity 1, collect the materials you'll need.

Using these materials, **build** the model!

Activity 3: Test and Evaluate!

Place Erica the Egg in the protective design you have created.

With adult supervision, drop your device from a height of roughly 3 m. Inspect Erica the Egg's shell for any cracks or breaks.

If the shell has been damaged, why do you think this has happened?

What do you think can be done to improve the design?

