

## Science: Easter egg drop STEM activity

### Learning aims

- Explore a range of materials
- Make predictions
- Introduce concepts such as gravity and motion.

### Resources

- Plastic bag (parachute)
- Plastic sandwich bags
- String
- Scissors
- Sellotape
- Balloon
- Eggs
- Water
- Bubble wrap/packaging chips/air cushion packaging.



### Options to try for the egg drop include

- **Parachute:**
  - Cut out a circle from a plastic bag and attach four pieces of string lengthways and diagonally across the circle (the string should measure three times the length you need)
  - Fold the string in half and secure the middle point to the centre of the circle and then secure the string with tape up the edge of the circle, leaving the rest hanging off the edge
  - Once all the string is secure, pick up your parachute and bring all the pieces of string together and tie a knot in the bottom for your egg to sit
  - Ensure staff supervision when cutting/working with the plastic bags and remove any unused bags/scraps from the space once you have cut your circles out.
- **Sandwich bag and water:**
  - Fill a sandwich bag with water, add the egg and seal
  - Alternatively, you can fill the bag with other materials such as bubble wrap, sand, packing chips etc.
  - Try the egg without any additions in the bag to observe the difference.
- **Balloons:**
  - Blow up the balloon and attach two lengths of sting across the top of the balloon. Secure the string either directly around the egg or attach the ends to a small plastic pot and sit the egg inside.

- **Newspaper/paper:**
  - Wrap the egg in layers of paper, experiment with different numbers of layers and observe the effects.

### Activity outline

1. Prepare the eggs so they are hard boiled ready for use (these can be decorated by the children if you wish)
2. Ask the children what they think happens when you drop an egg on the floor and show them a picture of a dropped, smashed egg
3. Look at the different materials you have gathered together and explain how some of the materials can protect the egg from smashing when dropped (link back to Humpty Dumpty's fate when he fell off the wall)
4. Ask for children's experiences of unwrapping parcels at home and the different materials that may be in the parcel protecting the items
5. Decide together with the children on the best places/height to drop your eggs from
6. Ask the children which material they want to try first and to make predictions about which ones may save the egg from cracking
7. Choose your first materials, for example, place the egg in a sandwich bag/zip lock bag, fill with water and seal
8. Once dropped have the children examine their egg to see if there are any cracks
9. Encourage the children to experiment with the materials to come up with their own ideas of protecting the egg.

### Extension ideas

Provide boxes and protective packaging items (bubble wrap/air pockets/paper) for children to make up safe packages in their play.

### Special considerations

- *Before planning this activity check for any children with allergies linked to the materials, for example, eggs*
- *Thoroughly wash the eggs before use*
- *Risk assess the activity and remember to include any 'drop points' that include climbing or heights*
- *Ensure staff supervision when using plastic bags and remove any unused bags and scraps from the space.*

