

Y3&4 – Lesson Plan 2

Will an egg always crack when dropped from a height?

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| Aim: To design and create a parachute to support and protect an egg when thrown from a height recognising the need for aerodynamics in the design. | Key Words: <ul style="list-style-type: none"> parachute basket aerodynamics protect / support | Preparation: <ul style="list-style-type: none"> bin bag / sheet paper / flat material string Sellotape or masking tape eggs (possibly boiled) |
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Prior Learning: pupils will have an understanding of how air resistance and gravity work against one another.

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| WC / PT | <u>Warm-up:</u> Where do we find parachutes in the real world? Why are parachutes useful in these situations and how can a parachute protect a person or an object? Can you use the words 'gravity' and 'air resistance' in your answer? | 0-5 mins |
| WC / PT | <u>Main Teach:</u> Show children a video clip of a parachute in action. What do you notice about the parachute? What features of the parachute can you see? As a class, make a list of key features that can be seen on the parachutes from the video clips. | 10-15 mins |
| I / S | <u>Activity:</u> Put the children in your class into pairs or small teams. They will now build their own parachute and protective basket for their egg. 1) Lay the bin bag out flat and cut out a square. 2) Make a hole in each corner, thread a piece of string through each hole and tie a knot. 3) Tie all four pieces of string to the basket (or protective structure) created for egg. Once complete, test each pair or teams' egg by launching it from a height. Give a reward (eg, a chocolate egg) to the pair or team whose egg is least damaged by the fall. | 30-40 mins |
| I | <u>Extension Challenge:</u> Give children a range of materials to use to create a second parachute. What other materials could we use to create our parachute? Trial these different materials in the experiment. What material protected the egg the best? Why did this material offer the best protection? | 0-15 mins |
| WC | <u>Plenary:</u> <i>Celebrate the winning entry</i> Parachutes are used in everyday life. Many people use parachutes for fun activities such as sky diving. Clearly, parachutes have become very safe. What materials are parachutes made from? What could be an environmental impact of using these materials? | 5 mins |

WC – Whole Class

PT – Partner Talk

I – Independent

S – Support

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| Challenge A | Make a marble roller coaster which brings a marble down from a start height of 1 metre without any drops of longer than 5 cm. |
| Challenge B | Use the materials you have been given to make a creative sculpture. It can be abstract or a 'thing' – you decide! |