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| Title  Air resistance | | | Date:  Class: |
| Link to National Curriculum: Sc4,2a, 2c | | | |
| Learning objectives:   * Understand the concept of air resistance * Understand that air resistance is a frictional force resisting movement * Understand the properties that affect air resistance | | | |
| Resources   * Worksheet “air resistance” * Different materials with which to make parachutes (cloth, string, tape, small weight) * Powerpoint “air resistance” | | | |
| Risk Assessment  **Hazard:** falling objects, heights (if dropped from higher up)  **Precaution:** ensure that children are acting safely if dropping objects from a height  **Risk**: low | | | |
| Lesson Outline | | | |
| Structure | Time | Activity | |
| Starter | 5 mins | Discuss that air resists an object moving through it. Ask the children if they can think of some things that might be affected by air resistance. | |
| Introduction | 10 mins | Show the children how to construct a basic parachute using a square of cloth tied with string at the corners and a weight to pull the string down. | |
| Activity | 30 mins | Give the children the required materials and ask them to construct different sized parachutes. Ask them to conduct an experiment to see how size affects the rate they fall | |
| Plenary | 5 mins | Go over the key points. Ask what might happen to air resistance if the air is thinner. Ask the children to predict how the speed of a balloon payload would change as it falls from space. | |
| Differentiation / Assessment opportunities  Have the children draw the following situations and label in order of which they would fall most quickly.  Small and large parachute with a light man  Small and large parachutes with a heavy man  Ask what else might increase air resistance.? Speed of travel, size, shape, surface friction | | | |