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| Lesson Title: Investigating plastic bags | Key Stage: Three |
| Curriculum Links: Sc1 – all, Sc4 – 2g | |
| Key Words Force, mass, prediction, method, fair test, variables, record, measure | |
| Key Questions: <ul style="list-style-type: none"> • What force can different thicknesses of plastics support? • How can you plan a fair test to investigate this question? | |
| Objectives <ol style="list-style-type: none"> 1. Carry out an investigation into how strong different plastic bags are, so which is likely to be reusable the most times? 2. Realise the importance of a fair test in collecting reliable data. 3. Record and process data effectively and accurately. 4. State and explain predictions and conclusions. | |
| Possible Activities <u>Starter</u> Plastic Facts – card sort game. All statements and figures are currently in line with each other. <u>Main</u> Using samples of 6 plastic bags (from different shops and of different thicknesses) groups plan an outline of an investigation to test which plastic bag supports the most weight so can be reused the most times. An investigation-planning sheet is provided for a structure if needed. Pupils collect data and present findings graphically. They then consider the evidence and provide an answer to the key questions. <u>Plenary</u> Either Discuss findings – writing a whole class evaluation Or Read the article on world’s tallest man saving dolphins from plastics they ate to really hammer home the message of responsible consumerism – use less, dispose of responsibly. | |
| Extension Activities More able do repeat results, finding a mean value and plot results on a scatter graph with a line of best fit. Carry out another investigation to see which type of mineral water packaging is the most hygienic – is plastic better than glass? And if so, which colour plastic is best – blue, green or clear? | |
| Cross Curricular Links Geography – oil extraction and natural environment destruction. Numeracy | Points to note |
| Homework ideas Find 5 different places in your area that accept plastic for recycling. From your results, choose the least strong plastic and write a letter to the shop telling them why they should rethink their bag design. | |
| Resources Plastic fact cards, plastic bags of different thicknesses cut into strips of 30cm by 10cm. Hanging masses, clamp stands with bosses. Method sheet, graph paper, calculators (for measuring mean values) | |