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| **Session 4: Odd One Out** | | | | | |
| Science curriculum area: **Everyday materials** | | | **Everyday Materials:**  i. distinguish between an object and the material from which it is made (1EM)  ii. identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (1EM)  iii. describe the simple physical properties of a variety of everyday materials (1EM)  iv. compare and group together a variety of everyday materials on the basis of their simple physical properties (1EM)  v. identify and compare the suitability of a variety of everyday materials, including wood,  metal, plastic, glass, brick, rock, paper and cardboard for particular uses (2EM) | | |
| Working Scientifically | | | i. asking simple questions and recognising that they can be answered in different ways  ii. observing closely, using simple equipment  iii. identifying and classifying  iv. using their observations and ideas to suggest answers to questions | | |
| Teaching Objectives | | | * Identify and discuss the materials/properties of objects on a table (Yr1). * Sort objects in the classroom according to these criteria: hard, soft, stretchy, stiff, bendy/floppy (Yr2). * Consider the question: if everything I touched became flexible (floppy), how would my life be different? Tell stories to each other about an average day in a world where nothing were rigid. | | |
| Key Vocabulary: magnetic, non-magnetic, metal, materials, properties | | | | | |
| Resources  Magnets, hoops, objects made from different materials, strips of card, trays, and cloths. | | | | Weblinks  <https://www.youtube.com/watch?v=DR9w4koW2EA> - *video about north and south poles, including the Earth as a magnet. Good as information for teachers, but very able may be able to access some of the information.* | |
| Before the session: Have magnets, objects, hoops and strips of card available around the room. Place a selection of objects on a tray covered by a cloth. One of the objects should be the 'odd one out' (all but one are made of wood, etc.).  Whole class: Gather the chn together on the carpet, or around a table. Show them the tray with the cloth over the objects. Say: *In a moment I am going to take the cloth away and you must look very carefully at the objects. One of them will be the odd one out. When you think you know, don't call out but just put your thumb up.* Show the chn the tray and only tell them that they need to be thinking about material properties when they have had their initial guesses. Play this several times, asking the chn to talk about why they have selected an object to be the odd one out. Ask questions such as: *Why have you chosen this object? What makes it different from the other objects? Is there another object we could put on the tray to keep it company? Another object made from the same material?* | | | | | |
| Year 1 Teacher/adult to work with this group.  Ask these chn to get into groups of four. Ask two of the group to select some objects on a tray, one of which is the odd one out. Encourage the pair to discuss their choices together to make sure they are selecting correctly. They should then play it with the other two members of the group, swapping over when they have done so. | | | | | Year 2  Ask these chn to play Odd One Out, but to move beyond the materials and select objects according to the properties of the materials such as hard, soft, stretchy, stiff, bendy/floppy. For example: hard plastic rulers, pencil sharpener etc and then a floppy plastic bag. Less able Yr2 chn may want to choose two clear properties such as magnetic/non magnetic, which would be easy to test with a magnet. Encourage pairs of chn to circulate around the room, joining different groups of chn so everyone gets a chance to try a variety of tray selections. |
| Plenary | Sit the chn down and ask them to wonder about this question: if everything I touched became flexible (floppy), how would my life be different? Ask them to sit quietly for a few minutes and then turn to their partner and tell stories to each other about an average day in a world where nothing was rigid. When they have imagined a world without the material property of rigidity, ask them to consider life without other material properties, such as flexibility or strength, or a world where everything was soft or bouncy.  Read the story of King Midas and then talk about why having everything made of gold was a bad idea. What are the properties of the metal gold? What is it useful for? What is it really not useful for? Encourage lots of contributions and ideas. | | | | |
| Outcomes | | Children will:   * Understand materials and their properties by sorting and classifying objects * Understand the properties of materials using terms such as: hard, soft, stretchy, stiff, bendy/floppy * Imagine and wonder at a world where a material property was missing, such as rigidity | | | |