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| <p>Knowledge Objectives: *Different materials have different describable and measurable properties. *The properties of a material determine whether they are suitable for a purpose. *Investigate/carry out enquiries - regarding the following properties; absorbency, flexibility, stretchiness, strength, brittleness & slippiness.</p> | | <p>Skills Objectives: *Identify & describe in order to classify. *Perform a simple test (fair testing with Teacher input) *Identify what to change and what to measure. *Suggest how to answer questions. *Use measure when obtaining results. *Explain cause and effect (because) using scientific vocab (as below)</p> | | | |
| <p>Prior Learning: Distinguish between object and the material it's made from. Identify and name materials - wood, metal, plastic, ceramics (inc. glass), fabric, paper, rock. Describe simple properties of materials - hard/soft, stretchy/stiff, waterproof, smooth/rough, bendy, heavy/light. Compare and group materials. Simple tests for waterproofness, weight/texture, softness, strength, bendy/flexible,</p> | | | | | |
| <p>Safety in Science/Risk Assessment - refer to the following Hampshire safety cards in staff share - 13, 15, 17, 18, 21.</p> | | | | | |
| <p>Key Vocabulary: Materials; wood, metal, plastic, brick, rock, paper (inc. cardboard), fabric, ceramics (inc. glass), rubber. Properties; hard/soft, strength, waterproof, absorbent, flexible, stretchy, brittle, fragile, rigid, slippery, shiny, smooth/rough, bendy, dull, heavy/light. Liquid. Question, answer, observe, identify, classify, sort, measurable, compare, describe, explain, fair test, predict.</p> | | | | | |
| <p>Activities/Learning Journey: Multiple Context Topic</p> | | | | | |
| <p>1. Investigate/explore materials that are used for more than one thing. Discuss the <i>properties</i> that would best describe these materials in diff situations. <i>Metal</i> - cans, coins, cars, saucepan, table legs etc. <i>Wood</i> - matches, floors, telegraph poles, boats, table. <i>Plastic</i> - chairs, lunchbox, pens, cup. <i>Ceramic</i> (inc glass) - plate, spectacles, tumbler, vase, mug. <i>Fabric</i> - jumper, blanket, carpet, oven mitts, curtains, towels. <i>Card/paper</i> - newspaper, books, boxes, maps, tubes.</p> | <p>2. Suitability of materials for a certain purpose. Look at a range of items (Made from diff materials) that may be found in a certain area/building. Explain why they are made from a certain material using knowledge of their properties. E.g. Castle wall from rock, scroll from paper, shield/sword from metal, drawbridge from wood, blanket for a bed from fabric. Coins from metal.</p> | <p>3. Investigation/Enquiry Which liquid will pour down the steep path up to Flamethrottle's cave to make the path the most slippery? Looking at the property: slippiness. How can we answer this? Plan/discuss a fair test with support. What can we change? What can you measure? How can we record results? Investigate as a class?</p> | <p>4. Investigation/Enquiry Which material is the most suitable to make a catapult to stun Flamethrottle? Looking at the properties: stretchiness, flexibility. Use rubber bands (diff widths and lengths), elastic - in forces box on Science shelf, sheering elastic, lycra, fabric headband, How can we answer this? Plan/discuss a fair test with support. What can we change? What can you measure? How can we record results?</p> | <p>5. Investigation/Enquiry Which paper/card structure will make the strongest cage for our dragon? Looking at the properties: rigidity, brittleness, strong. Look at different bridge structures first. How can we answer this? Plan/discuss a fair test with support. What can we change? What/How can you measure? How will you test this? How can we record results? Work in 3s?</p> | <p>6. Investigation/Enquiry Which material is the most suitable to mop up the blood in the cave so we can turn it into a visitor centre? Looking at the property: absorbency. How can we answer this? Plan/discuss a fair test with support. What can we change? What can you measure? How can we record results? Suggestions; sponge, fleece, wool, cotton, sugar paper. Work in 3s?</p> |
| <p>GDS/Challenges: Work GDS children in groups of 3 together so they can question and support each other. Encourage independent decision making and planning for investigations, pushing them to understanding the need for a fair test. Demand more detail in explanations (cause & effect) and the use of correct scientific vocab.</p> | | | | | |
| <p>Key outcome/Assessment Opportunity: The knights made their arrows from the clay which they dug out of the ground. They found they didn't work very well! Why was this? What should they have used instead? Why?</p> | | | | | |

