

THE WINTERTON FEDERATION MEDIUM TERM PLAN SCIENCE Spring 2 YEAR 2

| Squash, Bend, Twist | Learning Objective | Activity – Switched On Science | STEM Activities | Success Criteria |
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| Session 1 | To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | <p>Ask children to squash themselves really small; then stretch.</p> <p>Then explore a range of resources:-</p> <p>Squash me: Half-filled balloons, Blu Tac, bath sponges, cushions, Flump sweets, playdough</p> <p>Bend me: Pipe cleaners, florist wire</p> <p>Twist me: Fabric, rope, playdough</p> <p>Stretch me: Elastic, fabric, playdough, socks, tights</p> <p>Think about what they have to do in order to squash, bend, twist or stretch something. Do they have to use a push or a pull (force)? So with squashing, children may say they need to use a push (force), whereas when they stretch something they need to use a pull (force). Ask children to think about the material that the shape is made from, is it a material, like playdough that can be easily squashed where wood is hard to squash.</p> | | <p>I can differentiate between stretch, bend, twist, and squash</p> <p>I can say what I have to do to stretch, twist, bend and squash something.</p> <p>I can relate the ability to change the shape of an object to the material it is made from</p> |
| Session 2 | To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | <p>Sort an assortment of objects that can be squashed, bent, twisted and stretched. Use PowerPoint Slide 6 as a focal point for discussion on how to sort the objects into different boxes or hoops. This activity provides a good assessment of whether the children understand these terms and can classify them into the appropriate groups.</p> <p>Discuss with their partner or group what kind of material the object is made from. So, is it soft, flexible, rigid or elastic? Get them to think about changing the shape of the object but also how the material it is made from allows it to be squashed, bent etc.</p> | | <p>I can differentiate between stretch, bend, twist, and squash</p> <p>I can sort into groups with overlapping sets.</p> |
| Session 3 | To find out how the shapes of solid | Use PowerPoint Slide 9 and discuss the questions. Whilst it does take some time | | I can use scientific vocabulary to describe how I changed the |

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| | <p>objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> | <p>to blow up balloons for all children (unless this is done over a week, group by group) most children will find this a fun activity. The best shape to use are long ones, which are not fully inflated so that they can be squashed, stretched, twisted and bent. Give children the opportunity to work in pairs and explore a balloon, changing its shape in different ways. If you have enough balloons some children working in pairs could try to create an animal. If they do this then suggest that they use a camera or tablet to take photographs which could be printed out and placed in their books or a class Big Book (Floor book) with annotations / sentences to describe how they change the shapes using correct scientific vocabulary</p> | | <p>shape of the balloon and can say that the material can be changed. I recognise that the material allows the shape of the balloon to be changed and also that the air inside can be squashed.</p> |
| <p>Session 4</p> | <p>To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> | <p>Before this session read the book Socks by Nick Sharratt and Elizabeth Lindsay which shows lots of different socks and is great for 'word play' on socks. Give out a selection of socks from babies, to adults, thin to thick, hiking socks and ask them to sort in as many different ways as they can, which might include, size, shape, colour, length, fabric, thick, thin. Think about a question that they could test, support - 'Which..?' This might lead to children asking: Which sock is the warmest? Which sock is the biggest? Which sock is the stretchiest? Use PPT 10. Encourage children to think about and make decisions about what to use to measure and how they will record their activity and how far the sock stretched. Use maths related to their ability. Ask children to draw a table and think about the headings, so that data is recorded appropriately. Each group could complete a bar graph or the teacher could have a whole</p> | | <p>I can use scientific vocabulary to describe how I changed the shape of the sock and can say that the material can be changed. I can recognise that the material allows the shape of the socks to be changed and that the material is stretchy and returns to its original shape</p> |

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| | | class session where children place their data on a bar chart. Finally children should use the data to answer their original question. | | |
| Session 5 | To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching | Problem-solving challenge where children make a model from dough by stretching and squashing the material. Choose a favourite book and character from that book e.g., The Gruffalo by Julia Donaldson or The Very Hungry Caterpillar by Eric Carle, or the troll from the traditional story Billy Goats Gruff. The children choose their favourite character and then make the character out of playdough, Plasticine™ or clay. | | |
| Session 6 | To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching | <u>Flying Mouse Challenge from Switched on Science – page 36.</u> | | I can explain that I can squash the bottle, then the air and make the rocket mouse move. I am able to suggest how to use forces to make the mouse move certain distances or heights |