



Ivy, Holly, Oak What's it made of?

Lesson	IPC Learning Goal	NC Coverage	Activities	Resources / Vocabulary / Personal Goals
Entry Point		<u>JUNK MODELLING</u> After reading traction man to the class earlier in the day, play the following clip https://www.youtube.com/watch?v=0JySea288Qo Allow time for the children to look at the different missions that Traction Man goes on. What materials did you spot? Chn to work in groups of 3 or 4 and create the next setting for Traction Man's next mission e.g. A mountain top A dark cave A rescue mission under the sofa Using the different materials they have, chn to design their own mission for Traction man and create the creatures he is rescuing. Pictures as evidence in scrap books.		Recycled materials Celotape Glue Scissors Masking tape IPad (teacher) Scrap book
Knowledge Harvest		Chn to have a page of Traction Man printed on an A3 piece of paper. In pairs, chn to identify the different materials they can see in the image and any facts they know about those materials. Shrink down and stick into books as their knowledge harvest. (Keep the A3 pieces for the reflection at the end)		A3 paper Image from Traction Man Pens
Big Picture		A material is the substance used to make objects. Sometimes children confuse the word 'material' with 'cloth' or 'fabric'. For the purpose of this unit, we have used the word 'fabric' when we are referring to materials made from woven, knitted, felted thread or fibres.		
SC1	1.25 Know about the use of different materials	distinguish between an object and the material from which it is made	Discuss their science lesson on different materials – what materials can you think of? List the different materials and have images of the materials up on the board for them to label. Discuss the use of materials – why do we use them? Have a template of a hammer – what materials could you use for this? Allow time for discussion and feedback e.g. metal handle because metal is hard. (EXT – not all	Templates of everyday objects Word template Glue Pencils Books

metals are hard – have tin foil as an example so suggest steel)

<u>Year 1 children</u>	<u>Year 2 children</u>
LA Chn to have template of different objects that they would be familiar with. Chn to colour them in to match the material they would choose and then label it using a word mat.	LA Chn to have template of different objects that they would be familiar with. Chn to colour them in to match the material they would choose and then label it using a word mat.
MA and HA Chn to have template images of different objects they would be familiar with. Chn to write full sentences identifying what the material used for these objects are and as an extension, why.	MA Chn to have template images of different objects they would be familiar with. Chn to write full sentences identifying what the material used for these objects are and as an extension, why. HA Chn to draw images of everyday objects that they would find in their homes and explain the materials they would use and why.

SC2	1.28 to be able to sort materials into groups based on their properties	identify and name a variety of everyday materials, including	Recap on the different materials they can think of. What materials can you see around the classroom?	Coloured card Pencils IWB
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		wood, plastic, glass, metal, water, and rock	<p>Have a quiz on the board that describes an object in the classroom - e.g. it has a wooden handle and metal head. Chn to discuss the clues and how they were able to guess.</p> <p>Chn to work in mixed ability groups on tables. Each table to have feely bag with different objects. One child per table to pick an item and then describe the object using the materials it is made of. Chn to guess based on the description.</p> <p>After all the children have had a go, on coloured card, chn to create their own quiz based on different items they would find around the school. Then two tables to pair up and test each other.</p>					
SC3	1.29 understand that the use of which material are used depends on their properties	describe the simple physical properties of a variety of everyday materials	<p>Read the story of Traction Man to the children again (linking to literacy) or play the following clip https://www.youtube.com/watch?v=0JySea288Qo</p> <p>Chn to discuss the different materials they can spot on different pages.</p> <p>Have an image of Traction Man on the board posing the question: 'Why are spades made of metal and plastic?'</p> <p>Allow time to discuss. Go through the properties of materials PowerPoint. Why are they made of metal and plastic? Model writing the sentence to include properties and key vocabulary.</p> <table><tr><th><u>Year 1 children</u></th><th><u>Year 2 children</u></th></tr><tr><td>LA Chn to have an image of traction man with the question</td><td>LA Chn to have an image of traction man with the question</td></tr></table>	<u>Year 1 children</u>	<u>Year 2 children</u>	LA Chn to have an image of traction man with the question	LA Chn to have an image of traction man with the question	
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			<p>‘Why are spades made of metal and plastic?’ With adult support through scaffolded sentences, answer the question.</p> <p>MA and HA Chn to have different images of Traction Man with questions for them to answer using the properties of the materials to support their answers.</p>	<p>‘Why are spades made of metal and plastic?’ With adult support through scaffolded sentences, answer the question.</p> <p>MA Chn to have different images of Traction Man with questions for them to answer using the properties of the materials to support their answers.</p> <p>HA Chn to have an image of Traction Man posing a question with gaps. The chn to fill in the gap with different objects from the story and explain why they are made from that material using properties to support their argument.</p>	
SC4	1.27 to be able to describe the similarities and differences between materials	compare and group together a variety of everyday materials on the basis of their simple physical properties	<p>Chn to discuss the different objects that they can see in the classroom, their materials and the properties of those materials. On the board have different objects and ask questions for them to guess which one you are thinking of.</p> <p>Chn to then have a range of different materials at the front of the classroom and a range of hula hoops on the floor. Can we sort these objects by their material? Pictures for science scrap book.</p>	<p>Venn diagrams Carroll Diagrams Images of everyday objects Range of materials Hula hoops</p>	

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SC5	1.04 be able, with help, to conduct simple investigations	identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper	Have Traction Man up on the board again – pose the question ‘What material would be best for Traction Man’s underwater suit?’	Plastic Tin foil Lollipop sticks Fabric Paper Bowl				

		<p>and cardboard for particular uses</p>	<p>Discuss what kind of materials would you suggest and why – link to properties of materials – which would be more suitable? Metal or plastic? Fabric or wood? Discuss and share their answers.</p> <p>Explain to the children that they are going to make a suit for Traction man to use during his underwater adventures.</p> <p>Each table to have a different material for them to use Plastic Metal (fin foil) Paper Fabric Wood (lollipop sticks)</p> <p>Chn to use their material to create a suit for Traction man to use. (20-30 minutes)</p> <p>As a class – children to dress up their tester for Traction Man and then test this outside with a bowl of water – which material will allow Traction Man to stay dry?</p> <table><tr><th><u>Year 1 children</u></th><th><u>Year 2 children</u></th></tr><tr><td><p>Year 1 children to write their prediction of what material they think is the most suitable for an underwater suit.</p><p>After conducting their test, leave a space for pictures and then write their conclusion.</p></td><td><p>Year 2 children to write their prediction of what material they think is the most suitable for an underwater suit.</p><p>After conducting their test, leave a space for pictures and write their results in a results table with a simple yes or no for a good material.</p></td></tr></table>	<u>Year 1 children</u>	<u>Year 2 children</u>	<p>Year 1 children to write their prediction of what material they think is the most suitable for an underwater suit.</p> <p>After conducting their test, leave a space for pictures and then write their conclusion.</p>	<p>Year 2 children to write their prediction of what material they think is the most suitable for an underwater suit.</p> <p>After conducting their test, leave a space for pictures and write their results in a results table with a simple yes or no for a good material.</p>	<p>Water</p> <p>Action figures</p> <p>Results template</p>
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				Then write their conclusion.	
SC6	1.26 know what happens when materials are squashed, bent, twisted, stretched, heated or cooled.	find out how the shapes of solid objects made from some materials can be changed	<p>Chn to discuss their science lesson where they looked at what happened to solid materials if they were bent, twisted stretched etc.</p> <p>Go back over their results to show that a solid object can change it shape. Demonstrate this with different materials e.g. a pipe cleaner and paper clip.</p> <p>Children to discuss any other way they can think of that a material could be changed – discussion time and feedback. If unsure show them a picture of ice and chocolate – how can I change these shapes? Discuss heating and cooling – how would this affect these shapes?</p> <p>Chn to perform a simple investigation – what will happen if you heat and cool chocolate?</p> <p>Have an image of Traction Man up on the board – Traction Man is on another mission to save the chocolate bar from the evil freezer and candle! They have got the chocolate bar hostage. What happens if the candle heats the chocolate and the freezer cools it?</p> <p>Chn to then work in tables – have pieces of chocolate for them to hold over a candle in a metal spoon to see what happens if they melt it.</p> <p>Then children to look at and observe what has happened to chocolate when it has been in the freezer</p> <p>How does it feel?</p> <p>Can you notice anything different?</p> <p>How has it changed?</p> <p>What caused the change and why?</p>		

Chocolate
Tea light
Metal spoons
Matches
Freezer
Paper plates
Pencils
Books

			<p><u>Year 1 children</u></p> <p>Year 1 children to write their prediction in their books using a scaffolded sentence on the board to support them. Then to draw a picture of the chocolate being heated and a piece of cooled chocolate with labels. Write their conclusion to say how heating and cooling chocolate can change the shape.</p>	<p><u>Year 2 children</u></p> <p>Year 2 children to write their prediction of what will happen.</p> <p>Draw their diagrams to include labels.</p> <p>Write the results of what happened when they heated the chocolate and their observations of what happened to the cooled chocolate.</p> <p>Write their conclusion that heating and cooling a solid shape can change the shape.</p>	
Reflection			<p>Go back to their A3 images of traction man and the materials that they were able to spot. Using a different coloured pen, children to add information that they have learned to their A3 sheet. CT to photocopy it to A4 and put at the end of the unit to show the progression that they have made.</p>	<p>A3 pieces of paper Different coloured pens</p>	