

# Vehicles : DT : Year 1

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To investigate a variety of vehicles and their uses and features.	Children to explore and discuss a variety of different vehicles, their features and what they are used for. They will choose their favourite vehicle to compare, draw and label.	<ul style="list-style-type: none"> <li>Can children identify a variety of different types of vehicles?</li> <li>Can children identify the main features of a variety of vehicles?</li> <li>Can children identify the uses for a variety of vehicles?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li>Picture Cards</li> <li>Domino Cards (FSD? activity only)</li> <li>Sticky notes (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To investigate wheels, axles and chassis.	Children to understand how different parts of a vehicles help to make them work. They will practise attaching wheels to axles and chassis.	<ul style="list-style-type: none"> <li>Do children know what wheels, axles and chassis are?</li> <li>Do children know that there are two different ways of attaching wheels to axles?</li> <li>Can children experiment with a range of materials and techniques to combine wheels, axles and chassis?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Challenge Sheet</li> <li>Worksheet 2A/2B</li> <li>Wheels and axles (and/or materials that can be used as such)</li> <li>Card and cardboard boxes</li> </ul>
<b>Lesson 3</b>	To be able to investigate ways of creating and decorating the body of a vehicle.	Children to explore and discuss the different ways of creating the vehicle's body. They will use a variety of different boxes and modelling equipment to explore different ways of creating the bodies of vehicles.	<ul style="list-style-type: none"> <li>Can children choose materials to use as the body of a vehicle?</li> <li>Can children identify different ways of combining materials to create the body of a vehicle?</li> <li>Can children identify different ways of decorating the body of a vehicle including ICT?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 3A/3B</li> <li>Variety of materials, e.g. cardboard boxes, cartons, plastic bottles, card, etc.</li> <li>Variety of tools, e.g. scissors, glue, masking tape, etc.</li> <li>Access to computers (FSD? activity only)</li> </ul>
<b>Lesson 4</b>	To be able to design a vehicle.	Children to design their own vehicle using the techniques previously explored, as well as following the success criteria.	<ul style="list-style-type: none"> <li>Can children design a vehicle to include wheels, axles, chassis and bodies?</li> <li>Can children describe which materials and tools they will need to make their vehicles?</li> <li>Can children discuss their designs and say what they think and feel about them?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 4A/4B/4C</li> <li>Picture Cards (FSD? activity only)</li> </ul>
<b>Lesson 5</b>	To be able to make a vehicle based on a design.	Children to follow their designs to create and make their vehicles using a range of craft materials. They will need to make sure they are working safely and carefully.	<ul style="list-style-type: none"> <li>Can children follow a design to create a vehicle?</li> <li>Can children use a variety of materials and tools safely and effectively to create a vehicle?</li> <li>Can children identify ways in which they could improve their products and amend accordingly?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Designs from lesson 4</li> <li>Variety of materials dependent on designs, e.g. cardboard boxes, cartons, card, plastic bottles, paper, etc.</li> <li>Variety of tools e.g. scissors, masking tape, glue, etc.</li> <li>Materials for decoration, e.g. paint, crayons, ICT-based designs, etc.</li> </ul>
<b>Lesson 6</b>	To be able to evaluate a finished product.	Children will share their vehicles with their friends, making sure that wheels are working and the chassis is strong. They will then evaluate their vehicle using the worksheets provided, explaining how their vehicle could be improved if they were to make it again.	<ul style="list-style-type: none"> <li>Can children evaluate a finished product by identifying what they did well?</li> <li>Can children evaluate a finished product by identifying what could be improved?</li> <li>Can children identify ways in which they could improve their work with DT in the future?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Completed vehicles</li> <li>Worksheet 6A/6B</li> <li>Digital cameras (FSD? activity only)</li> <li>A4 paper (FSD? activity only)</li> <li>Question Cards (FSD? activity only)</li> </ul>

# Moving Minibeasts : DT : Year 2

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To be able to create a sliding mechanism	In this first lesson, children will find out what a sliding mechanism is, and how it can be used to make a simple moving picture. They will then explore the sliding mechanism themselves in their independent activities, making a variety of simple moving pictures with different minibeasts using the resources provided.	<ul style="list-style-type: none"> <li>Can children explain how a sliding mechanism works?</li> <li>Can children make their own moving pictures using a sliding mechanism?</li> <li>Can children evaluate the sliding mechanisms they have made, and identify areas where they could be improved?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Background Scenes 1A/1B</li> <li>Minibeast Pictures 1A/1B</li> <li>Strips of different lengths of card</li> <li>Scissors, glue/tape, rulers</li> <li>Challenge Pack A/B/C/D (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To be able to use levers and pivots to create a moving mechanism	Children are first shown a moving picture with a lever and pivot mechanism, and asked to explain how they think it works. They will then explore and discuss how it has been made, looking at how to hide the lever at the back of a picture too. Children then use the resources provided to create moving pictures of minibeasts using the lever and pivot mechanism.	<ul style="list-style-type: none"> <li>Do children understand the terms 'lever' and 'pivot'?</li> <li>Can children combine and join materials to make their own lever and pivot mechanisms?</li> <li>Can children explain how their lever and pivot mechanism works?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Background Scenes 2A/2B/2C</li> <li>Minibeasts 2B</li> <li>Strips of different lengths of card</li> <li>Scissors, glue, split-pins, hole, sticky-tack, sharp pencil</li> <li>Moving Parts Minibeasts (FSD? activity only)</li> </ul>
<b>Lesson 3</b>	To be able to create a wheel mechanism	Children are shown a third way in which to make a moving picture by creating a wheel mechanism. They will be encouraged to discuss how it works as a class before having the chance to practise making their own moving minibeast pictures using the wheel mechanism using the resources provided.	<ul style="list-style-type: none"> <li>Can children describe what a pivot is?</li> <li>Can children cut out and join components to create a wheel mechanism?</li> <li>Can children evaluate their work and identify areas for future development?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Minibeast Wheel Mechanism 3A/3B/3C</li> <li>Scissors, sticky tack, paper fasteners, beads</li> <li>Butterfly Life Cycle Poster (FSD? activity only)</li> <li>Butterfly Life Cycle Wheel Mechanism A/B (FSD? activity)</li> <li>Butterfly Life Cycle Instructions Card (FSD? activity only)</li> </ul>
<b>Lesson 4</b>	To design a picture with a moving mechanism	In this lesson children will apply what they have learnt about the three different types of moving mechanisms to design their own moving minibeast picture for an author who is creating a children's book about minibeasts.	<ul style="list-style-type: none"> <li>Can children design their own moving picture?</li> <li>Can children choose a suitable moving mechanism for their design?</li> <li>Can children explain how the mechanism will make their picture move?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Design Sheet 4A/4B/4C</li> <li>Tom's Sentences (FSD? activity only)</li> <li>Sentence &amp; Picture Design Sheet (FSD? activity only)</li> </ul>
<b>Lesson 5</b>	To make a minibeast-themed moving picture	Children will be encouraged to think carefully about the mechanism they are going to make, the equipment they will need, and their order of work, before beginning to create their moving picture based on their design from the previous lesson.	<ul style="list-style-type: none"> <li>Can children follow a design to create a picture with a moving mechanism?</li> <li>Can children work safely with a variety of tools and materials to create a moving mechanism?</li> <li>Can children identify ways in which they can improve their finished products?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Design Sheets from the previous lesson</li> <li>Card, scissors, rulers, glue, paper fasteners, tape, sticky-tack, coloured pencils</li> <li>Minibeast Pictures (optional)</li> <li>Blank Wheel Mechanisms (optional)</li> </ul>
<b>Lesson 6</b>	To evaluate a moving minibeast picture	In this final lesson, children will evaluate their completed moving minibeast picture. After beginning to discuss some evaluative questions with a partner and the class, children will then continue this self-assessment in their independent activities.	<ul style="list-style-type: none"> <li>Do children understand what it means to evaluate?</li> <li>Can children evaluate their own moving picture?</li> <li>Can children identify ways to improve their moving picture?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Completed moving minibeast pictures from previous lesson</li> <li>Evaluation Worksheet 6A/6B/C</li> <li>Evaluation Question Cards (FSD? activity only)</li> </ul>

# Moving Monsters : DT : Year 3

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To investigate a variety of familiar objects that use air to make them work.	Children will think of objects that use air to make them work, then examine, sketch, label and/or describe a variety of these kinds of objects.	<ul style="list-style-type: none"> <li>Can children recognise familiar objects that use air to make them work?</li> <li>Can children describe how the objects use air to make them work?</li> <li>Can children suggest alternative uses for these familiar objects?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 1A/1B/1C</li> <li>Range of objects that use air (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To investigate techniques for making simple pneumatic systems.	Children will learn about simple pneumatic systems. They are then challenged to make a variety of simple pneumatic systems according to given instructions using basic equipment.	<ul style="list-style-type: none"> <li>Can children explain how simple pneumatic systems work using appropriate vocabulary?</li> <li>Can children create simple pneumatics systems?</li> <li>Can children suggest ways of using these pneumatic systems in moving monsters?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Syringes, tubing, balloons, plastic bottles, straws, etc.</li> <li>Challenge Cards A/B</li> <li>Worksheet 2A</li> </ul>
<b>Lesson 3</b>	To be able to gather ideas for creating moving monsters.	Children will begin to develop ideas about the use of pneumatic systems in a moving monster toy/model. They may then either attempt more complex challenges where they will build pneumatic systems according to given instructions, or design pneumatic systems for a given toy design.	<ul style="list-style-type: none"> <li>Can children investigate ways of using pneumatic systems with other materials to control movement?</li> <li>Do children know of different techniques for joining and fixing components?</li> <li>Can children make effective pneumatic systems?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Syringes, plastic bottles, tubing, card, straws, burger boxes, masking tape, etc.</li> <li>Challenge Sheet</li> <li>Worksheet 3A</li> <li>Monster Cards (FSD? activity only)</li> <li>Worksheet 3B (FSD? activity only)</li> </ul>
<b>Lesson 4</b>	To be able to design a monster including a moving pneumatic system.	Children will continue to develop their ideas about the use of pneumatic systems in a moving monster toy/model. They will then finish drawing, annotating and describing their own designs.	<ul style="list-style-type: none"> <li>Can children use their knowledge of pneumatic systems to design a moving monster part?</li> <li>Can children describe what materials and components they will need to create their monster?</li> <li>Can children identify areas that could be improved upon in their design?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 4A/4B</li> <li>A3 paper (FSD? activity only)</li> </ul>
<b>Lesson 5</b>	To be able to make a monster with a moving pneumatic part.	Referring to their designs from the previous lesson, children will create their moving monster toys/models.	<ul style="list-style-type: none"> <li>Can children create a monster based on a design?</li> <li>Can children construct an effective pneumatic system to control movement?</li> <li>Can children work safely and effectively with a range of tools and techniques?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Designs from lesson 4</li> <li>Syringes, plastic bottles, balloons, tubing, straws, card, masking tape, scissors, craft knives, etc.</li> </ul>
<b>Lesson 6</b>	To be able to evaluate a finished product.	Children will demonstrate their finished moving monster toys/models, then evaluate both their process and their finished product, either individually or with a partner.	<ul style="list-style-type: none"> <li>Can children identify successful areas of their finished products?</li> <li>Can children identify areas that could be improved upon?</li> <li>Can children describe what they would do differently if they were to make their moving monster again?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Finished moving monsters</li> <li>Worksheet 6A/6B</li> <li>Worksheet 6C (FSD? activity only)</li> </ul>

# Moving Toys : DT : Year 4

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To investigate toys with moving cam mechanisms.	Children will think of and investigate different moving toys. They will learn about cam mechanisms and explore different toys that use them.	<ul style="list-style-type: none"> <li>Can children recognise the movement of a mechanism within a toy or model?</li> <li>Do children understand that a cam mechanism will change rotary motion into linear motion?</li> <li>Can children investigate examples of cam toys and comment on how they work?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Examples of cam toys (if available)</li> <li>Question Cards</li> <li>Worksheet 1A/1B</li> <li>Worksheet 1C (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To investigate different types of cam mechanisms.	Children will explore and investigate different types of cam mechanisms and think about the shapes they will produce. They will be testing different shaped cams to see how they affect the linear movement of the follower.	<ul style="list-style-type: none"> <li>Can children describe how cams work using appropriate vocabulary?</li> <li>Can children explore how different shaped cams affect the movement of the follower?</li> <li>Can children make suggestions for how different cams could be used for different kinds of toys?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B</li> <li>Different shaped cams OR Cam Template sheet</li> <li>Framework Template sheet photocopied onto card</li> <li>Thick card</li> <li>Dowelling</li> <li>Tubing if necessary</li> <li>Worksheet 2C (FSD? activity only)</li> </ul>
<b>Lesson 3</b>	To investigate ways of strengthening structures for a moving toy.	Children to explore materials and investigate different ways of strengthening moving toy structures.	<ul style="list-style-type: none"> <li>Can children make suggestions for how they could make a sturdy structure for a moving toy?</li> <li>Can children experiment with a variety of materials, tools and techniques?</li> <li>Can children identify ways of strengthening a structure?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Materials (e.g. dowelling, wood, card, paper, etc.)</li> <li>Tools (glue, saws, scissors, etc.)</li> <li>Challenge Cards (FSD? activity only)</li> </ul>
<b>Lesson 4</b>	To be able to design a moving toy with a cam mechanism.	Children will use their previously learnt knowledge to design a moving toy with a cam mechanism. They will need to think about who the toy is for, what shape the cam will be, the structure, decoration and materials needed to construct it.	<ul style="list-style-type: none"> <li>Can children state the purpose and audience of their design?</li> <li>Can children design a moving toy with a cam mechanism?</li> <li>Can children describe how they will create their toy and what materials and tools they will need?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 4A/4B</li> <li>Large sheets of paper (FSD? activity only)</li> </ul>
<b>Lesson 5</b>	To be able to follow a design to create a moving toy with a cam mechanism.	Children will refer to their designs from the previous lesson to create their moving toys.	<ul style="list-style-type: none"> <li>Can children follow a design to create a moving toy?</li> <li>Can children work safely with a variety of materials and tools?</li> <li>Can children identify areas of their toy that could be improved upon?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Designs from Lesson 4</li> <li>Materials (e.g. dowelling, wood, cams, card, etc.)</li> <li>Tools (e.g. saws, glue, rulers, etc.)</li> </ul>
<b>Lesson 6</b>	To be able to evaluate a finished moving toy.	Children will demonstrate their finished moving toys, then evaluate both their process and their finished product, either individually or with a partner.	<ul style="list-style-type: none"> <li>Can children evaluate a finished product fairly?</li> <li>Can children suggest ways they could improve their product if they were to make it again?</li> <li>Can children recognise ways in which they have been successful?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Finished toys</li> <li>Worksheet 6A/6B</li> <li>Worksheet 6C (FSD? activity only)</li> </ul>

# Making African Instruments : DT : Year 5

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To investigate and analyse African musical instruments.	Children will listen to and appraise some traditional African music and discuss the music as a genre. They listen to the music to identify the types of instruments they can hear before moving on to researching and analysing a selection of African instruments and how they make their sounds.	<ul style="list-style-type: none"> <li>Can children name a variety of traditional African musical instruments?</li> <li>Can children investigate and analyse a range of African instruments?</li> <li>Can children present information about African instruments in a clear and detailed way?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Variety of African instruments</li> <li>Music Appraisal Sheet 1A</li> <li>Picture Cards</li> <li>Question Cards</li> <li>Worksheet 1A/1B/1C</li> <li>Challenge Card 1A/1B (FSD? activity only)</li> <li>Instrument Facts Template (FSD? activity only)</li> </ul>
<b>Lesson 2</b>	To explore kalimbas, how they work and how they can be recreated.	Children begin by exploring and discussing a kalimba in more depth. They are asked to look at the keys of the instrument and discuss how the length affects the sound they will make before testing and proving their ideas using lolly sticks. They investigate the best material to make the keys for their own kalimba and include this in their designs.	<ul style="list-style-type: none"> <li>Can children identify suitable materials to make the keys of a kalimba?</li> <li>Are children able to generate success criteria based on previous research and observations?</li> <li>Can children identify how a kalimba makes sound and how the pitch is changed?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 2A/2B/2C/2D</li> <li>Test Questions 2A/2B</li> <li>Metal hair grips, lolly sticks, paper clips, cotton buds</li> </ul>
<b>Lesson 3</b>	To select suitable tools and materials to create a kalimba.	Children are challenged to identify areas of a kalimba that need to be strong and secure to make a successful replica. They follow their designs making sure they consider the decorations for their instrument as well as making it functional.	<ul style="list-style-type: none"> <li>Can children follow a design to create a kalimba?</li> <li>Are children able to select appropriate materials and tools to create a kalimba?</li> <li>Are children able to offer suggestions and alternatives when faced with a challenge when making a kalimba?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Kalimba Method Sheet 3A</li> <li>Construction materials: Paper bowls, corrugated card, lolly sticks, PVA glue/glue gun*/staple gun*, children's chosen key materials.</li> <li>Wire cutters</li> <li>Decorating materials: paint, tissue paper</li> <li>*appropriate risk assessments and adult supervision need to be undertaken for glue gun and staple gun use.</li> </ul>
<b>Lesson 4</b>	To investigate and design a strengthened body of an African percussion instrument.	Children look in more detail at the percussion instruments: shekeres and djembe drums. They think about how they make their sounds and the materials that these traditional instruments are made from. Taking into consideration which parts they need to be strong, the children design their own djembe drum or shekere using recycled materials or construct the main base for their instrument.	<ul style="list-style-type: none"> <li>Can children describe what a percussion instrument is and how it is played?</li> <li>Are children able to identify areas in which a design will need to be strengthened or reinforced?</li> <li>Are children able to suggest different methods to strengthen or reinforce their designs?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Example drums and shekeres</li> <li>Worksheet 4A/4B</li> <li>Recycled construction materials*</li> <li>Instruction Sheet 4A/4B (FSD? activity only)</li> <li>Masking tape (FSD? activity only)</li> <li>Papier mâché materials (FSD? activity only)</li> <li>Bowls to support balloons (FSD? activity only)</li> <li>Paper cups (FSD? activity only)</li> <li>Balloons (FSD? activity only)</li> </ul>
<b>Lesson 5</b>	To create an African-inspired percussion instrument.	Children will construct and decorate their percussion instruments following their design from the previous lesson. They will need to think carefully about the decorations that they want to achieve and plan this into their method accordingly.	<ul style="list-style-type: none"> <li>Can children use existing examples of percussion instruments to draw inspiration?</li> <li>Are children able to follow their designs to make a functional instrument?</li> <li>Can children create an effective overall decoration for their African-inspired instrument?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Recycled construction materials</li> <li>String</li> <li>Beads</li> <li>Materials to make the skin of a drum e.g. cling film, paper, balloons, foil, fabric</li> <li>Picture Cards 5A</li> </ul>
<b>Lesson 6</b>	To use our products in a performance and evaluate their effectiveness.	Children will evaluate their product against a set of success criteria that they have generated themselves. They have the opportunity to perform using their instruments in order to complete a rich evaluation, based around the functionality of their products.	<ul style="list-style-type: none"> <li>Can children evaluate a performance based on the functionality of the instruments?</li> <li>Can children evaluate their overall end product?</li> <li>Can children consider the views of other when evaluating their product?</li> </ul>	<ul style="list-style-type: none"> <li>Slides</li> <li>Worksheet 6A/6B/6C</li> <li>Children's instruments</li> <li>Worksheet 6D (FSD? activity only)</li> </ul>



# Chinese Inventions : DT : Year 6

	Learning Objective	Overview	Assessment Questions	Resources
<b>Lesson 1</b>	To understand how the four great inventions of China shaped the world.	Children are introduced to China's four greatest inventions. They investigate the history of the invention of the moveable-type printing press and the ancient process of paper making. They then reflect on how these inventions may have changed the lives of people who used them.	<ul style="list-style-type: none"> <li>• Can children name some significant inventions?</li> <li>• Are children able to describe the process of making paper?</li> <li>• Can children name a way in which the invention of paper, or the moveable-type press changed the world?</li> </ul>	<ul style="list-style-type: none"> <li>• Slides</li> <li>• Worksheets 1A/1B/1C</li> <li>• Challenge Cards 1A/1B/1C/1D/1E</li> <li>• Equipment stated on Challenge Cards</li> <li>• Different types of paper</li> <li>• Paper-Making Sheet 1A</li> <li>• Equipment listed on Paper Making Sheet 1A</li> </ul>
<b>Lesson 2</b>	To understand how the four great inventions of China shaped the world.	Children investigate the next two of China's great inventions: gunpowder and the compass. They are asked again to think about how these inventions would have changed the way things were done after they were invented. They look at the design of simple compasses and think about advantages, disadvantages and improvements for each design.	<ul style="list-style-type: none"> <li>• Can children name an ancient use of gunpowder or compasses?</li> <li>• Are children able to evaluate a product's advantages and disadvantages?</li> <li>• Are children able to follow a simple method for constructing a product?</li> </ul>	<ul style="list-style-type: none"> <li>• Slides</li> <li>• Challenge Cards 2A/2B</li> <li>• Cork slices, plastic cups, needles, magnets, cotton thread, water</li> <li>• Worksheets 2A/2B</li> <li>• Worksheet 2C (FSD? Activity only)</li> <li>• Feng Shui Card 2A (FSD? Activity only)</li> </ul>
<b>Lesson 3</b>	To investigate water-powered machines.	Children will explore the use of water power when building early machines in ancient China. They will think about the uses of these machines as well as the components such as gears and cranks which make the machines move in different ways. They think about the other uses of water to make simple machines such as water clocks and water wheels which inspired Su Song's astronomical clock tower.	<ul style="list-style-type: none"> <li>• Can children explain what a machine is?</li> <li>• Are children able to describe how a transmission of gears move in comparison to each other?</li> <li>• Are children able to take a simple design and modify it to suit their needs?</li> </ul>	<ul style="list-style-type: none"> <li>• Slides</li> <li>• Challenge Cards 3A/3B</li> <li>• Resources listed on Challenge Card 3A</li> <li>• Worksheet 3A (FSD? activity only)</li> <li>• Construction kits (FSD? activity only)</li> <li>• Gear Template (FSD? activity only)</li> <li>• Split pins (FSD? activity only)</li> <li>• Challenge Card 3C (FSD? activity only)</li> </ul>
<b>Lesson 4</b>	To test materials to build a kite.	Children will use their knowledge and understanding of materials and their properties to predict test results and evaluate different materials to be used to make the sail and the frame of a kite by making prototypes. They will need to think carefully about which properties make the materials desirable for these purposes and which properties they might want to avoid when choosing what to build a kite from.	<ul style="list-style-type: none"> <li>• Can children identify different properties of a selection of materials?</li> <li>• Are children able to select desirable properties of materials to fit a design?</li> <li>• Can children evaluate a prototype's success?</li> </ul>	<ul style="list-style-type: none"> <li>• Slides</li> <li>• Worksheets 4A/4B/4C</li> <li>• Kite Template 4A</li> <li>• String</li> <li>• Sail materials to test</li> <li>• Frame materials to test</li> </ul>
<b>Lesson 5</b>	To design a kite based on a set of design criteria.	Children use their learning from the previous lesson to decide upon materials to build a kite from. They will generate design criteria for their kites and be conscientious in meeting these criteria within their design. Alternatively they can design their kite to meet a given design brief.	<ul style="list-style-type: none"> <li>• Can children write design criteria?</li> <li>• Are children able to follow design criteria when designing a product?</li> <li>• Are children able to use previous prototyping to apply to their design process?</li> </ul>	<ul style="list-style-type: none"> <li>• Slides</li> <li>• Picture Cards 5A</li> <li>• Worksheets 5A/5B/5C</li> <li>• Challenge Card 5A</li> </ul>
<b>Lesson 6</b>	To make and evaluate a kite.	Children use their designs to build and evaluate their own kite using the materials they chose. They must think carefully about how to finish their kite to improve the aesthetics and make sure they are still meeting design criteria. When evaluating their design they have the opportunity to share and receive peer feedback and take this on board.	<ul style="list-style-type: none"> <li>• Can children choose between a variety of tools to make their product?</li> <li>• Can children solve problems when making their product?</li> <li>• Can children evaluate their product based on design criteria?</li> </ul>	<ul style="list-style-type: none"> <li>• Slides</li> <li>• Worksheets 6A/6B</li> <li>• Materials based on children's designs</li> <li>• Materials to decorate e.g. paint, tissue paper, glue etc.</li> <li>• Comment Cards</li> </ul>