

LENT TERM 2
DESIGN AND TECHNOLOGY – YEAR 2 - MEDIUM TERM PLANNING – STRUCTURES AND MECHANISMS
(Model of working bridge)

LESSON 1	LESSON 2	LESSON 3
<p>TECHNICAL KNOWLEDGE MAKE</p> <p>LEARNING INTENTION: To know that a slider mechanism directs movement.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Use sliders. • Explain what they are making and why it fits the purpose. <p>Aim: Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p>	<p>TECHNICAL KNOWLEDGE MAKE</p> <p>LEARNING INTENTION: To know that a lever mechanism moves around a fixed point.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Use levers. • Explain what they are making and why it fits the purpose. <p>Aim: Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p>	<p>TECHNICAL KNOWLEDGE MAKE</p> <p>LEARNING INTENTION: To know that linkage mechanisms combine levers and sliders.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Use levers and sliders. • Measure, mark out, cut and shape materials and components, with support. <p>Aim: Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p>
<p>Key Vocabulary: mechanism, device, motion, force, sliders, direct movement, straight</p>	<p>Key Vocabulary: mechanism, device, motion, force, lever, pivot, arc</p>	<p>Key Vocabulary: mechanism, device, motion, force, linkage, levers, sliders, pivots, base, joint, free moving.</p>
<p>Recap and Retrieval</p> <ul style="list-style-type: none"> • The part of a machine that brings about movement is called the mechanism. (Y1 Recap) 	<p>Recap and Retrieval</p> <ul style="list-style-type: none"> • The part of a machine that brings about movement is called the mechanism. (Y1 Recap) • A slider mechanism moves in a straight line. 	<p>Recap and Retrieval</p> <ul style="list-style-type: none"> • The part of a machine that brings about movement is called the mechanism. (Y1 Recap) • A slider mechanism moves in a straight line. • A lever mechanism is a bar that moves around a fixed point called a pivot.
<p>Key Knowledge:</p> <p>Child:</p> <ul style="list-style-type: none"> • The part of a machine that brings about movement is called the mechanism. 	<p>Key Knowledge:</p> <p>Child:</p> <ul style="list-style-type: none"> • A lever mechanism is a bar that moves around a fixed point called a pivot. 	<p>Key Knowledge:</p> <p>Child:</p> <ul style="list-style-type: none"> • A linkage mechanism combines levers and sliders.

- A slider mechanism moves in a straight line.

Teacher:

- A slider can move up and down or from side to side.
- It is made up of a slider and slider support to direct the movement.
- Real-life examples of slider mechanisms include door bolts and drawers.
- People build machines to make their work easier.
- A machine is made up of different parts that all work together to perform a task.
- Individual parts of a machine are called components.

Teacher

- The amount of movement depends on the position of the pivot.
- Levers move an object in an arc shape.
- Real-life uses of levers include scissors and seesaws.

- It consists of two or more bars joined together by pivots.

Teacher

- Fixed pivots attach the linkage mechanism to a fixed base to keep the joint still.
- Moving pivots join two bars together, but the bars can still move freely.
- Real-life uses of linkages include toolboxes and scissor lifts.

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DESIGN AND TECHNOLOGY – YEAR 2 - MEDIUM TERM PLANNING – STRUCTURES AND MECHANISMS (Model of working bridge)

LESSON 4	LESSON 5	LESSON 6
<p>DESIGN</p> <p>LEARNING INTENTION: To know that a product or project is usually guided by a set of design criteria.</p> <p>Skills:</p> <ul style="list-style-type: none"> Describe design using pictures, words, models, diagrams, begin to use ICT. Design products for themselves and others following design criteria. <p>Aim: Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.</p>	<p>MAKE</p> <p>LEARNING INTENTION: To know that a working model needs to have the correct mechanism.</p> <p>Skills:</p> <ul style="list-style-type: none"> Choose suitable materials and explain choices depending on characteristics. <p>Aim: Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p>	<p>EVALUATE</p> <p>LEARNING INTENTION: To know that products can be evaluated against criteria for success.</p> <p>Skills:</p> <ul style="list-style-type: none"> Describe what went well, thinking about design criteria. Talk about what they would do differently if they were to do it again and why. <p>Aim: Critique, evaluate and test their ideas and products and the work of others.</p>
<p>Key Vocabulary: design, criteria, product, project, mechanism, linkage</p>	<p>Key Vocabulary: bridge, lift, mechanism, device, motion, force, linkage, levers, sliders, pivots, base, joint, free moving</p>	<p>Key Vocabulary: mechanism, design criteria, compare, evaluate, strength, weakness, outcome, improve, success</p>
<p>Recap and Retrieval</p> <ul style="list-style-type: none"> The part of a machine that brings about movement is called the mechanism. (Y1 Recap) A slider mechanism moves in a straight line. A lever mechanism is a bar that moves around a fixed point called a pivot. A linkage mechanism combines levers and sliders. 	<p>Recap and Retrieval</p> <ul style="list-style-type: none"> The part of a machine that brings about movement is called the mechanism. (Y1 Recap) A slider mechanism moves in a straight line. A lever mechanism is a bar that moves around a fixed point called a pivot. A linkage mechanism combines levers and sliders. A product or project is usually guided by a set of design criteria. 	<p>Recap and Retrieval</p> <ul style="list-style-type: none"> The part of a machine that brings about movement is called the mechanism. (Y1 Recap) A slider mechanism moves in a straight line. A lever mechanism is a bar that moves around a fixed point called a pivot. A linkage mechanism combines levers and sliders. A lever mechanism will work best for creating a bridge which is able to lift.
<p>Key Knowledge:</p>	<p>Key Knowledge:</p>	<p>Key Knowledge:</p>

<p>Child:</p> <ul style="list-style-type: none">• Design criteria is a list of things that a product must have.• A product or project is usually guided by a set of design criteria. <p>Teacher:</p> <ul style="list-style-type: none">• Properties of components and materials determine how they can and cannot be used.	<p>Child:</p> <ul style="list-style-type: none">• A bridge can be lifted to allow boats to pass under.• A lever mechanism will work best for creating a bridge which is able to lift. <p>Teacher</p> <ul style="list-style-type: none">• Corporation Bridge is a bridge in Grimsby.• The bridge is a Scherzer Rolling Lift Bascule bridge.• There are different lever construction techniques.• Moving mechanisms are made using stiff materials, such as card, plastic or metal, so as not to bend or break when force is applied.	<p>Child:</p> <p>Teacher:</p> <ul style="list-style-type: none">• Materials should be cut, joined and finished carefully and appropriately to make sure the product works, looks appealing and achieves the design criteria.• (Y1 recap) A strength is a good quality of a piece of work.• (Y1 recap) A weakness is an area that could be improved.
<p>Assessment Cumulative quiz. Retrieval practice.</p>		