

LKS2 Topic Title: Cogs and Levers

Term: Autumn 2

Weeks: 7 Weeks

Events:

Subject	NC Objectives	Learning Outcomes & Assessment
History	<p>Content</p> <p>They should note connections, contrasts and trends over time and develop the appropriate use of historical terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources.</p> <p>Aims</p> <p>How people's lives have shaped this nation and how Britain has influenced and been influenced by the wider world</p> <p>understand historical concepts such as continuity and change, and use them to make connections, draw contrasts, analyse trends</p>	<p>All children should be able to •</p> <p>Learn about inventors that started the idea of gears, pulleys and levers. Recognise how levers, pulleys and gears have developed over time. Label how the invention of such tools have helped us to live our lives today.</p> <p>Most children will be able to •</p> <p>Summarise a famous inventor presentation that shows how they started or developed gears/levers/pulleys. Show chronological order when showing the progress of such tools. Write a presentational piece that show inventions of such tools have helped us to live our lives today.</p> <p>Some children will be able to •</p> <p>Summarise a few famous inventors presentation that shows how they started or developed gears/levers/pulleys. Link this to how a famous sportsperson or someone well known has used these tools to effect/success. (Bike rider like Sir Chris Hoy) Write a presentation piece that compares and contrasts how inventions have helped/not helped us to live our lives today.</p>
D&T	<p>Content</p> <p>Design:</p> <p><input type="checkbox"/> use research and develop design criteria to inform the design of innovative, functional, appealing products</p>	<p>All children should be able to •</p> <ul style="list-style-type: none"> • Explore mechanical systems. • Draw a simple annotated design. • Start to generate ideas for design criteria.

that are fit for purpose, aimed at particular individuals or groups

generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make:

select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately

select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

investigate and analyse a range of existing products

evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

apply their understanding of how to strengthen, stiffen and reinforce more complex structures

understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

Aims

develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world

build and apply a repertoire of knowledge, understanding and skills in order to design and make

- Make a prototype and finished poster which has at least one lever/ linkage mechanism.
- Evaluate what they did well on their product and things they could improve

Most children will be able to •

- Explore how mechanical systems work.
- Draw a design which uses annotations to add some detail.
- Develop design criteria to inform the design of innovative products aimed at a particular audience.
- Make a prototype and well finished poster which aims to have two lever/linkage mechanisms.
- Use design criteria to help guide the evaluation process.

Some children will be able to •

- Answer in detail a range of questions about mechanical systems, identifying the input and output.
- Add detailed annotations to a design to show how different components move.
 - Base design criteria around the needs of the design brief.
 - Make a prototype and well-finished poster which uses up to three lever/linkage mechanisms.
 - Evaluate their product in detail against design criteria.

	<p>high-quality prototypes and products for a wide range of users</p> <p>□ critique, evaluate and test their ideas and products and the work of others</p>	
<p>Science</p>	<p>Yr3 Forces and magnets</p> <p>Yr4 Electricity</p> <p>Yr3 Content</p> <p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials</p> <p>Describe magnets as having two poles</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p> <p>Yr4 Content</p> <p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p>	<p>All</p> <p>I can ask simple questions about the world around me.</p> <p>I can observe closely, using simple equipment.</p> <p>I can perform simple tests.</p> <p>I can identify and classify.</p> <p>I can use my observations and ideas to suggest answers to questions</p> <p>I can gather and record data to help in answering questions.</p> <p>Most</p> <p>I ask relevant questions.</p> <p>I can set up simple practical enquiries, comparative and fair tests.</p> <p>I can make accurate measurements using standard units, using a range of equipment, for example thermometers and data loggers.</p> <p>I can gather, record, classify and presenting data in a variety of ways to help in answering questions.</p> <p>I can record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</p> <p>I can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>I can use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</p> <p>I can identify differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Some</p> <p>I can plan enquiries, including recognising and controlling variables where necessary</p> <p>I can take measurements, using a range of scientific equipment, with increasing accuracy and precision</p>

	<p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p>Aims</p> <p>Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics</p> <p>Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them</p> <p>Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.</p>	<p>I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models</p>
<p>PSHCE</p>	<p>Celebrating Differences (See Jigsaw Planning) Content</p>	<p>Yr3All</p> <p>understand that everybody's family is different and important to them</p> <p>Understand that differences and conflicts sometimes happen among family members</p> <p>I know what it means to be a witness to bullying</p> <p>know that witnesses can make the situation better or worse by what they do</p> <p>I recognise that some words are used in hurtful ways</p> <p>I can tell you about a time when my words affected someone's feelings and what the consequences were</p> <p>Most</p> <p>understand that everybody's family is different and important to them</p>

		<p>I appreciate my family/the people who care for me Understand that differences and conflicts sometimes happen among family members I know how to calm myself down and can use the 'Solve it together' technique I know what it means to be a witness to bullying know that witnesses can make the situation better or worse by what they do I can problem-solve a bullying situation with others I recognise that some words are used in hurtful ways I can tell you about a time when my words affected someone's feelings and what the consequences were I can give and receive compliments and know how this feels</p> <p>Some</p> <p>understand that everybody's family is different and important to them I appreciate my family/the people who care for me Understand that differences and conflicts sometimes happen among family members I know how to calm myself down and can use the 'Solve it together' technique I know what it means to be a witness to bullying I know some ways of helping to make someone who is bullied feel better know that witnesses can make the situation better or worse by what they do I can problem-solve a bullying situation with others I recognise that some words are used in hurtful ways I try hard not to use hurtful words (e.g. gay, fat) I can tell you about a time when my words affected someone's feelings and what the consequences were I can give and receive compliments and know how this feels</p> <p>Yr4 All I understand what an assumption is I understand what influences me to make assumptions</p>
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RE	See RE long term plan and RE Kirklees syllabus.	Yr3 All

	<p>Yr3: C1 Identity and belonging Understand the challenges of commitment to a community of faith or belief, suggesting why belonging to a community may be valuable, both in the diverse communities being studied and in their own lives. Pupils explore how festivals use the theme of light to represent the triumph of good over evil in a range of religious and secular traditions</p> <p>A2 Sources of wisdom Describe and understand links between stories and other aspects of the communities they are investigating, responding thoughtfully to a range of sources of wisdom and to beliefs and teachings that arise from them in different communities. Pupils study the beliefs and teachings of Islam, Judaism, Humanism and Christianity on charity and generosity and make links with the work of two charities</p> <p>Yr4: C1 Identity and belonging Pupils explore how festivals use the theme of light to represent the triumph of good over evil in a range of religious and secular traditions</p> <p>A2 Sources of wisdom Pupils study the beliefs and teachings of Islam, Judaism, Humanism and Christianity on charity and generosity and make links with the work of two charities</p>	<p>Recognise badges and symbols that represent a group Understand how light is an important theme in different religious festivals and how in general it can relate to good over evil Understand what charity means and provide simple examples.</p> <p>Most Recognise badges and symbols that represent a group Compare how diverse communities are valuable as well as family communities Understand how light is an important theme in different religious festivals and how in general it can relate to good over evil Understand what charity means and provide simple examples.</p> <p>Some Recognise badges and symbols that represent a group Compare how diverse communities are valuable as well as family communities Understand how light is an important theme in different religious festivals and how in general it can relate to good over evil Study text or festivals or different religions and make links to how they form good actions themselves.</p> <p>Yr4 All Understand how light is an important theme in different religious festivals and how in general it can relate to good over evil Understand what charity means and provide simple examples. Make a clear comparisons between the different religions in their use of light and also within their charitable work.</p> <p>Most</p>
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		<p>Understand how light is an important theme in different religious festivals and how in general it can relate to good over evil Study text or festivals or different religions and make links to how they form good actions themselves. Make a clear comparisons between the different religions in their use of light and also within their charitable work.</p> <p>Some Understand how light is an important theme in different religious festivals and how in general it can relate to good over evil Study text or festivals or different religions and make links to how they form good actions themselves. Make a clear comparisons between the different religions in their use of light and also within their charitable work. Make links to own self from knowledge.</p>
Computing	<p>Unit 3.2 We are bug fixers (See Switched on) Unit 4.2 We are Toy designers (See Switched on)</p> <p>Content Yr3 Debug programs that accomplish specific goals. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>Yr4 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Use sequence, selection, and repetition in programs; work with various forms of input and output.</p>	<p>Yr3 All Develop a strategy for finding errors in programs Build up resilience and a strategy for problem solving Increase their knowledge and understanding of Scratch</p> <p>Most Develop a number of strategies for finding errors in programs Build up resilience and strategies for problem solving Increase their knowledge and understanding of Scratch</p> <p>Some Develop a number of strategies for finding errors in programs Build up resilience and strategies for problem solving Increase their knowledge and understanding of Scratch Recognise a number of common types of bug in software.</p> <p>Yr4 All Design and make an on-screen prototype of a computer-controlled toy Understand basic inputs and outputs</p>

	<p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>Aims Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems Are responsible, competent, confident and creative users of information and communication technology</p>	<p>Most Design and make an on-screen prototype of a computer-controlled toy Understand different forms of input and output (such as sensors, switches, motors, lights and speakers)</p> <p>Some Design and make an on-screen prototype of a computer-controlled toy Understand different forms of input and output (such as sensors, switches, motors, lights and speakers) Design, write and debug the control and monitoring program for their toy.</p>
PE	<p>Dance/Gymnastics Content Develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics] Perform dances using a range of movement patterns Year 3 only: Swim competently, confidently and proficiently over a distance of at least 25 metres Use a range of strokes effectively [for example, front crawl, backstroke and breaststroke] Perform safe self-rescue in different water-based situations.</p> <p>Aim Develop competence to excel in a broad range of physical activities Are physically active for sustained periods of time</p>	<p>All Create movements that convey a clear stimulus, refining these movements into sequences Plan, perform & repeat sequences of movements, experimenting with ways of travelling and complex movements</p> <p>Most Create movements that convey a clear stimulus, refining these movements into sequences Plan, perform & repeat sequences of movements, experimenting with ways of travelling and complex movements Displays an understanding of fair play, working well with others and leading a small group</p> <p>Some Create movements that convey a clear stimulus, refining these movements into sequences</p>

	<p>Engage in competitive sports and activities Lead healthy, active lives.</p>	<p>Plan, perform & repeat sequences of movements, experimenting with ways of travelling and complex movements Displays an understanding of fair play, working well with others and leading a small group Utilise changes of direction, speed & level during performances/competition to succeed</p> <p>Year3 only throughout the year: Swim 25-50m unaided,demonstrates proficiency in a range of strokes at the surface and below</p>
<p>French</p>	<p>Core Unit 2 (See Salut scheme of work)</p> <p>Yr3 Content</p> <ul style="list-style-type: none"> • Saying the days of the week • Naming colours • Counting between 11 and 20 • Naming countries • Expressing likes and dislikes <p>Yr4 Content</p> <p>Revisit elements of Unit 2 And My Home</p> <ul style="list-style-type: none"> • Saying where they live • Identifying a variety of rooms and types of furniture • Saying what there is in the kitchen • Describing their daily routine 	<p>Yr3</p> <p>All children will:</p> <ul style="list-style-type: none"> • Recognise the days of the week when spoken in sequence. • Understand most of the colours. • Understand numbers up to 20. • Respond to questions about likes and dislikes with a single word. • Recognise negative responses to a question when given a visual prompt. <p>Most children will:</p> <ul style="list-style-type: none"> • Recognise the days of the week. • Name a variety of colours. • Understand numbers up to 20, including out of sequence. • Be able to express simple likes and dislikes using the first person. • Recognise a negative sentence when they hear it. • <p>Some children will:</p> <p>Confidently say which day it is.</p> <ul style="list-style-type: none"> • Understand that the way French colours are spelt and pronounced sometimes changes if they describe a feminine noun. • Use most or all numbers up to 20 out of sequence. • Write and say sentences about their likes and dislikes from memory with clear pronunciation. • Recognise negative sentences and be able to attempt forming their own.

		<p>Yr4 All:</p> <ul style="list-style-type: none">• Recognise a familiar sound when it is heard in a song.• Identify one or two key words from the story with support.• Copy out or repeat sentences which use numbers in simple descriptions.• Be able to repeat aloud full sentences about their homes and daily routines.• Write a word in French to respond to a spoken question.• Recognise sentences where the word order is different to English.• Identify an article with some help. <p>Most</p> <ul style="list-style-type: none">• Identify a given sound most times it appears when listening to a song.• Recognise some familiar words and phrases in a spoken story.• Use numbers and colours in descriptions.• Say and write from memory several sentences about where they live and their daily routine, with good pronunciation.• Respond to a spoken question with a written answer in a full sentence.• Confidently say sentences where the word order differs to English.• Be able to give the gender of a noun from its article. <p>Some</p> <ul style="list-style-type: none">• Identify different sounds that are repeated in a song.• Understand the basic meaning of a story by translating familiar words and phrases.• Add colours and other adjectives from previous units to descriptions.• Confidently say and write sentences about their home and daily routine from memory.• Write several full sentences in response to a spoken question.• Consistently use the correct word order when saying and writing French sentences.
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• Be confident in giving the gender of French nouns from their articles.