ST LUKE'S CHURCH SCHOOL

Design Technology Curriculum

Year 1 to Year 6

Summer 1

Design Technology Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS (Expressive Arts)	Junk Modelling		Bookmarks		Design & Make A Rainbow Salad	
Year 1	Eat More Fruits and Vegetables		Stable Structures			Moving Mini Beasts
Year 2	Puppets		Vehicles			Perfect Pizzas
Year 3		Story books		Pencil Cases		Mini Castles
Year 4		Seasonal Stockings		Torches		Biscuits
Year 5	Building Bridges		Fashion and textiles (bags)		Slingshot Car	
Year 6	Programming Pioneers		Birdhouse Builders		Burgers	

Cookery Textiles Structures Electronics Mechanisms

The Aims of the National Curriculum for Design and Technology

- 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 high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Intent

Through high-quality design and technology teaching, our pupils will acquire a broad range of subject knowledge, which is developed each year from Reception through to Year 6. Our pupils will be inspired to use their creativity and imagination to design, make and evaluate within a variety of contexts. Through disciplines such as mathematics, science, engineering, computing and art, our pupils will solve real and relevant problems whilst taking risks and being resourceful. Our innovative projects will ensure that our pupils become citizens capable of contributing to the creativity, culture, wealth and well-being of the nation, whilst displaying a critical understanding of design and technology through history to the present day.

Implementation

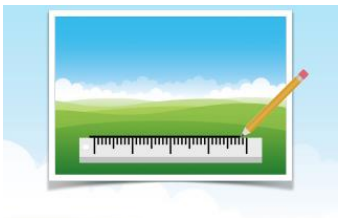
The St.Luke's Design and Technology curriculum takes influences from planning provided by Plan Bee and Kapow as this serves to support non-specialists while providing the backbone to an ambitious curriculum. We have taken the planning to form the basis of a curriculum which has been uniquely developed for us. Each year our pupils will refine the necessary skills to become capable citizens in design and technology, carefully developing these skills each year as they progress through school. In order to develop a critical understanding of the history of the subject, our curriculum has incorporated the teaching of some of the world's most influential people, as well as including some individuals from closer to home.

Reception

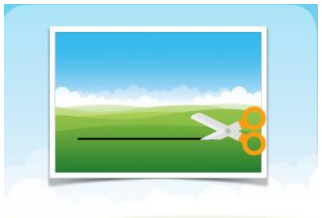
For further information about the knowledge content taught in Reception please refer to the separate EYFS curriculum document.

Summer 2 Year 1	Focus of Study: Mechanisms - Moving Mini Beasts
NC Objectives	Key Knowledge and Vocabulary
Designing *• Generate ideas based on simple design criteria.* *• Explaining what they will make.* *• Develop, model and communicate their ideas through drawings.* *Making* *• Make mock-ups* *•Plan by suggesting what to do next.* *• Select and use tools, explaining their choices, to cut, shape and join paper and card.* *• Use simple finishing techniques suitable for the product they are creating.*	Context for study: This is the first mechanisms unit that pupils will study at St. Luke's. This unit is the precursor to work studied in Year 2 with vehicles and Year 3 with story books. This unit will lay the knowledge foundation for students and complements work studied in Science in Year 1's animals including humans unit on animal life cycles. In this DT unit, pupils will create 3 different moving pictures; one using a sliding level mechanism, another using a lever and pivot mechanism and one using a wheel and pivot mechanism that will bring their mini beast pictures to life! Knowledge Content: To know that a mechanism is a tool used to control movement To know that a pivot allows a lever to move from side to side To know how the slider moves (up and down, forwards and backwards) To use sliders to make a story scene To identify the pivot That using card creates a sturdier final product. Robert Sabuda is an artist from Michigan. whilst at school he discovered paper can be used for many things other than drawing on. He started his career as an illustrator, he then started to write children's

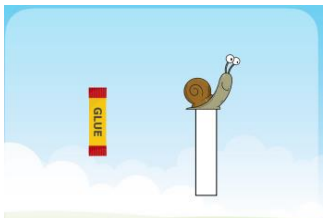
Evaluating *• Explore a range of existing books and everyday products that use simple sliders and levers.* *• Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.* *Technical knowledge and understanding* *• Explore and use sliders and levers.* *• Understand that different mechanisms produce different types of movement.* *• Know and use technical vocabulary relevant to the project.*	books. In 1994, he published his first pop-up book "The Mummy's Tomb". He is known worldwide for his pop-up paper engineering. Many of his books are based on traditional stories. Evaluating existing products: Explore a range of existing books and everyday products that use simple sliders and levers and pivots. Pupils should explore and use sliders and levers and identify how these books work. Vocabulary (Know and understand the meaning of these words and how to use them). Slider – a rigid bar moving forwards or backwards Slot – a cut something can be inserted into join – to connect fasten - to connect design - plan pivot – the point where a mechanism turns. Making Mock-ups using sliding mechanism : Pupils replicate the slider using teaching aids (click here for resources).



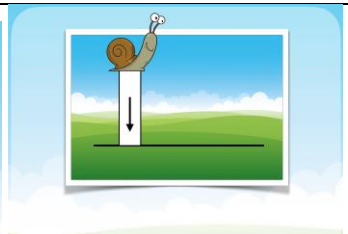
1. Draw a straight line on the background scene to show where you want the snail to move from and to.



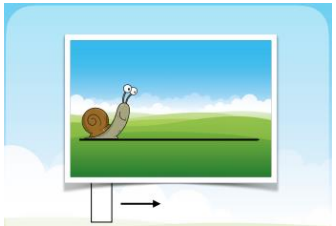
2. Use scissors to carefully cut along the line you have drawn to create a slot.



3. Stick the snail onto the top of the strip of card with glue.

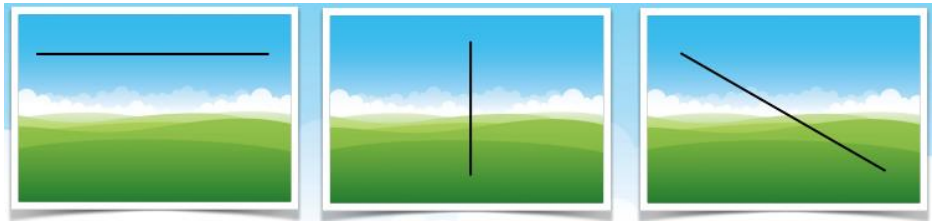


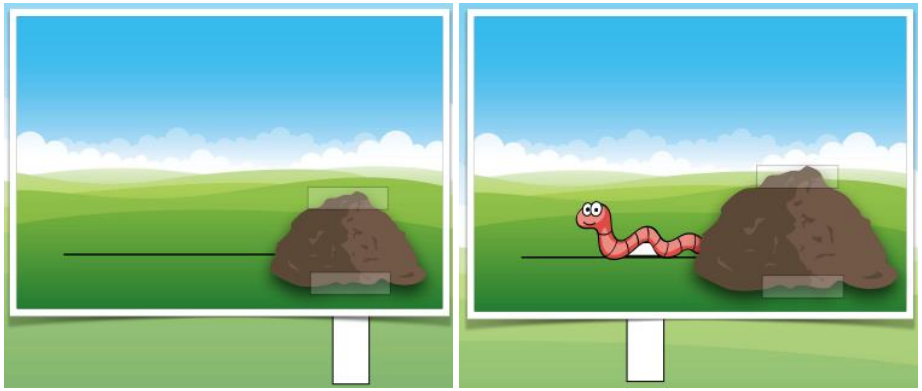
4. Push the strip of card through the slot you cut. Pull the strip down until the snail is sitting on the line.



5. Pull the strip of card (the handle) to the right to move the snail.

Once they have mastered this technique, challenge pupils to place their slot anywhere on the background scene.



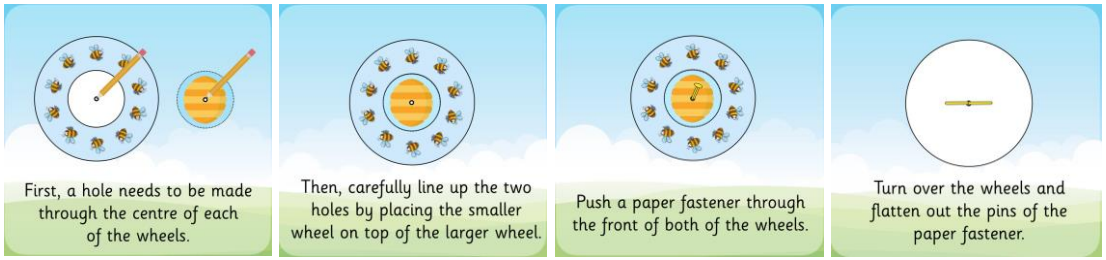
	Next, challenge them to use a sliding mechanism to make pictures appear and disappear e.g. a rock hiding a mini beast:  Pupils to talk and write about how they think the moving picture was made. Designing: • To know how to generate ideas based on simple design criteria. • To know who the product is for. • To know how it will move. • To know if they are using a slider/ lever. • To know the mechanism needs to work smoothly • To know how to develop and communicate their ideas through drawings. • To draw a mock of their design. Making Mock-ups using lever and pivots mechanism (click here for resources)

Model the use of the pivot and lever and explore how this moving picture works moving from side to side in an arc. Demonstrate that the level allows the picture to move from a fixed point that does not move. It does, however, allow the picture attached to it to move.

The pivot is made by making a hole in the level and the background scene and inserting a paper fastened to join them together (see below).

Challenge more confident pupils to use increasingly more complex pivots and levers e.g. ladybird, butterfly, caterpillar or stag beetle).

Making mock-ups using pivots and wheel mechanism (click here for resources).



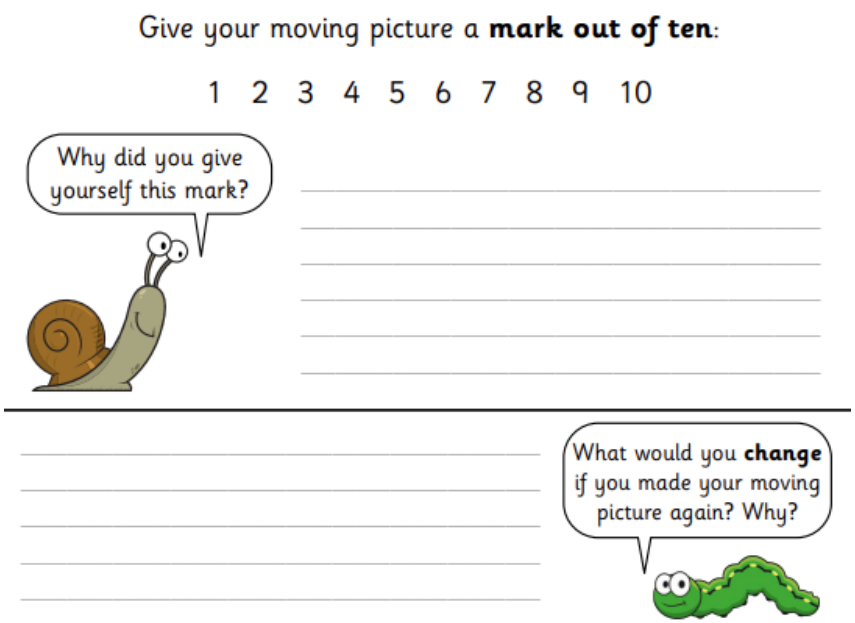
NB: thread a bean through the pins so that you can hold onto this as you turn the outside wheel.

Designing a final product

Remind the children that we have looked at three different ways of creating a moving picture: using a sliding mechanism, a lever and pivot mechanism, and a wheel mechanism. Create a design brief e.g. an

	author is planning to write a children's book for 3-5 year olds about minibeasts and needs your help with the moving pictures of different minibeasts. - choose a minibest - choose either a sliding, level and pivot or wheel mechanism. - Consider what the background scene will look like - Consider the equipment that will be needed to make the picture. Alternatively, provide some of the sentences from the author's book that need moving images. Challenge them to design a moving picture to go with one of the sentences. Making their final product Using their design sheet, pupils should make the mechanism needed for their moving picture. Ensure you have all of the equipment they need to hand ahead of the lesson. NB: Provide pupils with an order of work to facilitate safe working (first, next, after etc). Evaluating the final piece Refer back to the design brief and criteria they were given previously. Explain that when we evaluate something, we look at how successful it is. To do this we refer back to the design brief and criteria to see what worked well; to learn from any mistakes they made and to consider how to make it better.

I have made a successful moving picture.	
I used the tools and materials carefully and sensibly.	
I have improved my cutting skills.	
I can explain how the mechanism in my moving picture works.	
I found it easy to follow my design and create my moving picture.	
There is nothing I would change if I made it again.	



Resources needed:

Books and everyday products with levers and slider mechanisms
Pencil, scissors, glue, ruler, card, mini beast templates, split pins, colours, sellotape

Health and safety

When creating holes in the wheel mechanism image, use a pit of blue-tac or similar for pupils to poke a whole through the centre with a pencil so they do not cause themselves an injury. Ensure pupils are reminded about how to use scissors safely.

Outcome:

A moving picture.

Summer 2 Year 2	Cookery – Pizzas
NC Objectives	Key Knowledge and Vocabulary
Designing • Design appealing products for a particular user • Communicate these ideas through talk. *Making* • Use simple utensils and equipment safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. *Evaluating* • Taste and evaluate a range of fruit and vegetables *Technical knowledge and understanding* • Understand where a range of fruit and vegetables come from. • Understand and use basic principles of a healthy and varied diet. • Know and use technical vocabulary	Context for study: This unit follows on from the 'rainbow salad' unit of work in YR where children will have experience of naming common fruit and vegetables. They will have undertaken sensory activities to discuss the appearance, taste and smell of certain fruit and vegetables. This will also build on the Year 1 fruit and vegetable kebabs unit. This unit complements the work studied in Science where children will learn about human diet in more detail. In Year 4, children will develop their understanding of seasonal food and in Year 6 cooking a burger and exploring nutrition. Knowledge Content: Know that pizzas are usually seen as being unhealthy, containing a lot of fat from the cheese and carbohydrates from the dough and some highly processed toppings Pizza is okay as an occasional treat but to have it everyday would be unhealthy processed food: any food that has been altered in some way during preparation e.g. freezing, canning, baking, drying or adding chemicals. A varied diet means eating different things for a meal each week; getting 5 fruit & veg daily.

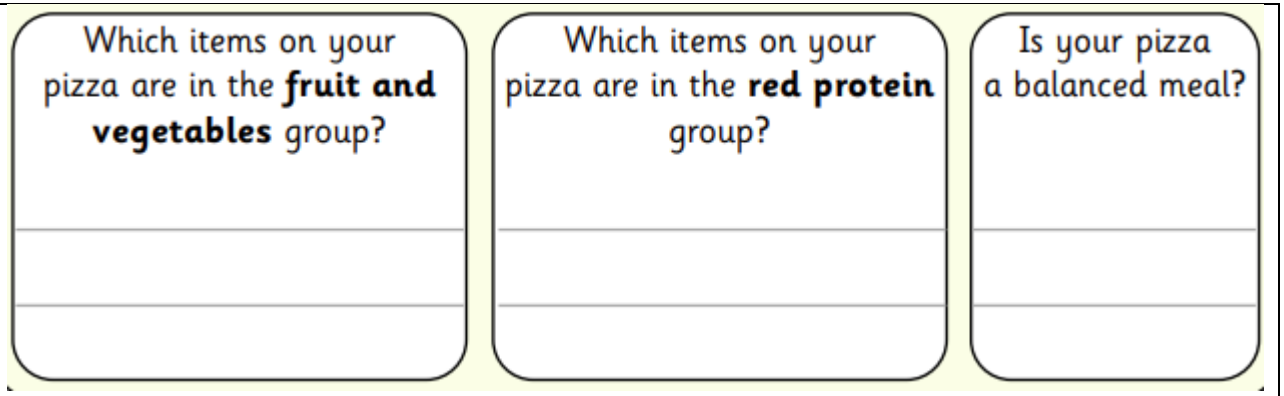
	Technical knowledge margarita – a type of pizza with tomato sauce and cheese topping seafood pizza – a type of pizza with tomato sauce, cheese, salmon and fish pepperoni pizza – a type of pizza with tomato sauce, cheese and pepperoni slices deep pan – a thick pizza dough base thin & crispy – a thin pizza dough base toppings – the food items you put on the top of your pizza Evaluate existing pizzas (NB: perhaps get the kitchen staff involved and look at pizza Friday in school and ask the kitchen for some extra pizza to sample in class! How do they prepare the pizzas for all our students?) Explore pizza topping preferences, likes and dislikes. Share the balanced plate

Explain that the balanced plate (or eat-well plate) helps people understand the types of food there are and how much of each type of food they should eat. Someone with a healthy diet eats food from each of the food groups. To make it a balanced diet they need to make sure they eat the right amount of food from each food group i.e. the bigger the group is the more of that food you should eat a day.

Explore the food groups as pepperoni pizza is made up of: a pepperoni pizza is a source of protein from the meat but it is a processed meat so it is high in fat. The cheese is a dairy product high in fat. The pizza base is a bread. The tomato sauce is made from vegetables, but it is the only vegetable on the pizza. Conclude that pizzas are not very healthy.

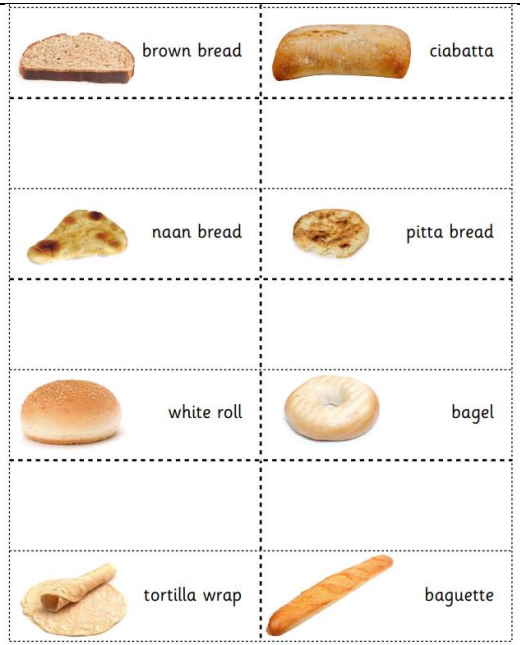
Explore how a pizza could be made to be healthier and compare examples with more vegetables, no or reduced cheese and a thinner, smaller base E.g.

Small amount of tomato, pepper and mushroom – a lot less than on the balanced plate.	More vegetables and less fat. A lot of bread and the only source of protein is from the mozzarella.
The right pizza is better than the left pizza. If you ate either pizza every day you would not have a balanced, healthy diet. To be healthy you should have a varied diet, meaning eating different things for a meal each week.	



Investigating pizza bases

Ascertain whether pupils know where a pizza base goes on a balanced plate. Establish that a pizza's base is a bread-based product known as pizza dough. Explore which type of bread would be the most suitable for a pizza base. Consider providing opportunities for pupils to try tasting some of the different types of bread if there's time.



Explore which bases would not be strong enough to support the wet tomato sauce e.g. brown bread or tortilla wrap. Establish that a more rigid, hard pizza base is required.

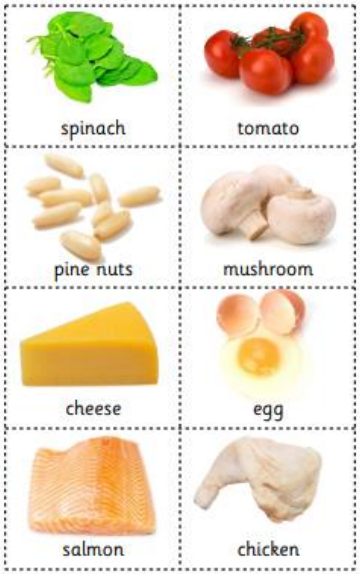
Which bread do you think will make the bast pizza base and why?

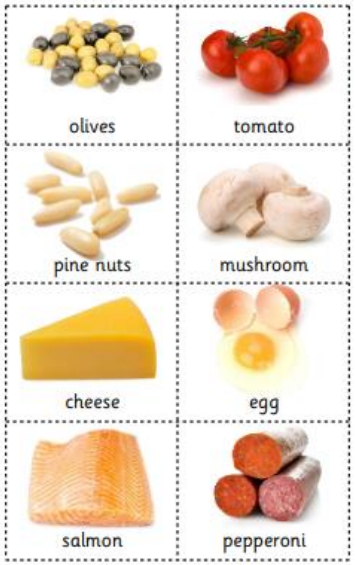
Will the tomato sauce topping drip through or make the bread too wet?

Considering pizza toppings

Explore the children's favourite pizza toppings. Share pictures of different toppings. Which can they name? Are they considered healthy or unhealthy? To which food group do they belong?

Consider providing different toppings for pupils to taste if time is available but always check for any food allergies or intolerances. Pine nuts are a seed, not a nut but check before using them.

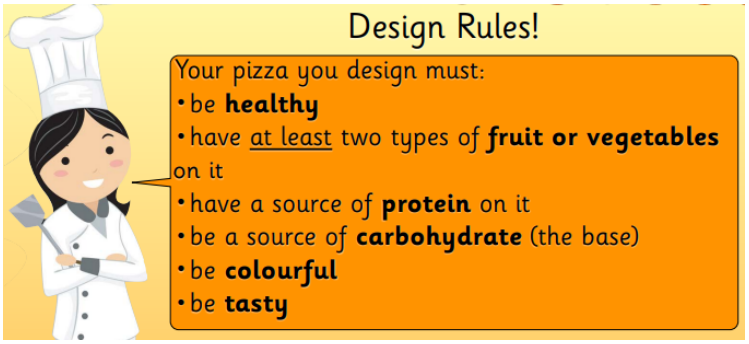


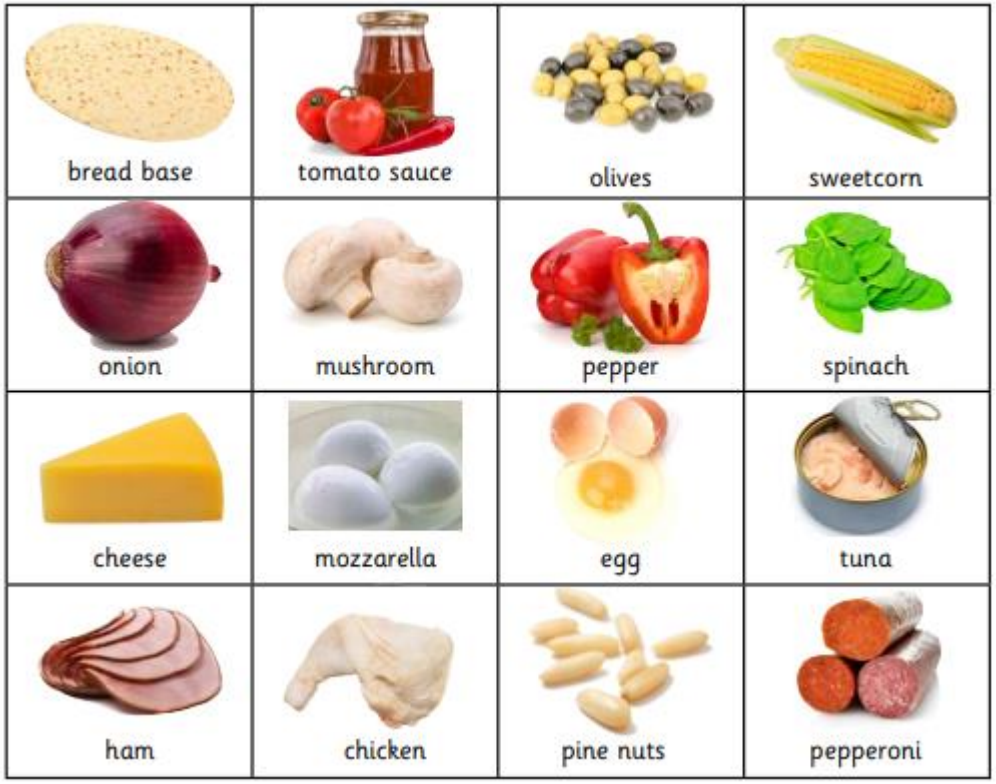


Can pupils sort the different toppings into either plants or animals? If tasting, can they use adjectives to describe the foods they have tried?

crumbly	sticky	juicy	sweet	sour
soft	smooth	spicy	salty	bland

Designing their chosen pizza

	Remind children of the importance of eating healthily. Tell children that they are now going to design their own healthy pizza. Outline design critiera: base, vegetables and healthy – they must be colourful and be tasty and should have items from each food group. Explore how to make sure the pizzas will be tasty and healthy.  An example design criteria Word bank:



An optional design sheet can be found here but you can create your own if you prefer. As a class, it is a good idea to create a shared design e.g. same base and tomato sauce topping. Next, establish a list of toppings pupils would like ready for the next lesson where they will be making them.

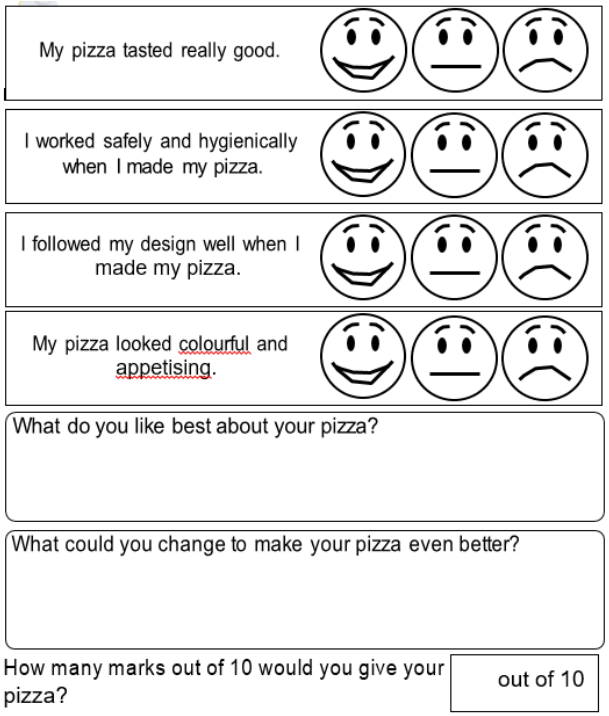
Making

Remind children of their design and how they want it to the look. Make food safety rules clear here: always wash your hands before working with food. Make sure the work surfaces are clean. Ensure any long hair is tied back and any jewellery taken off. Although the use of knives is not

absolutely essential to all toppings, any use should be carefully supervised with adult help if needed. Use of the grater to grate the cheese should be done carefully so as to minimise any injuries.

Evaluating

Ask children whether they liked their pizza and why. If they were to create it again, what would they do differently? Use an optional evaluation sheet here or create your own if you prefer.



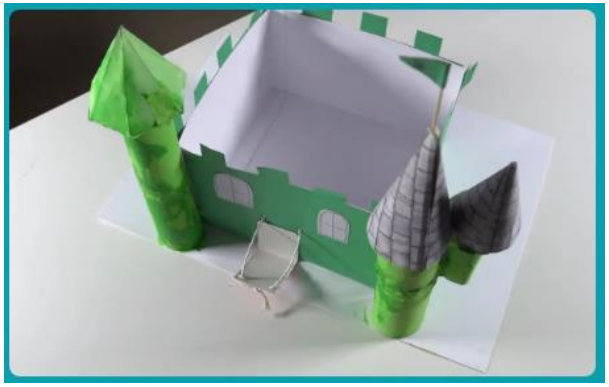
Health and Safety:

NB: Ensure parental information is obtained before introducing any foods into the classroom to check for any food allergies or intolerances.

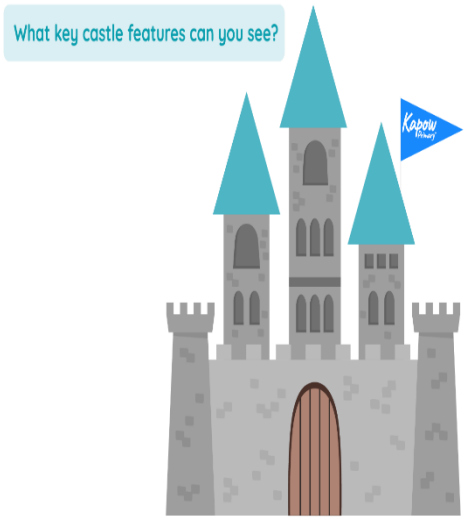
	Resources needed: Ready-made pizza bases, tomato puree or appropriate tomato-based sauce, cheese (mozzarella or cheddar) and a variety of toppings e.g. peppers, onions, mushrooms, pepperoni Chopping boards Grater Outcome: To make a pizza with a variety of toppings and bases.

Summer 2 Year 3	Structures – Mini Castles
NC Objectives	Key Knowledge and Vocabulary
Designing • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and CAD *Making* • 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	Context for study: This unit is the precursor to learning in Year 5, where the children will make a bridge that can support weight. Their knowledge of structures was first explored in Year 1 where they created stable structures for a variety of purposes using different joins. In this unit, pupils will use their knowledge of shape to design and construct a complex structure from simple geometric shapes and using nets which they have studied in maths. Knowledge Content: To understand that wide and flat-based objects are more stable. To understand the importance of strength and stiffness in structures

construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities *Evaluating* • 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 *Technical knowledge and understanding* • apply their understanding of how to strengthen, stiffen and reinforce more complex structures	To know the features of a castle and the purpose of each feature: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse. To know that a façade is the front of a structure. To understand that a castle needed to be strong and stable to withstand enemy attack. Curtain walls: tall, thick curtain walls surrounded the castle like a strong shield. There were very few doors in the walls which limited access to the castle. Towers: Towers were also a part of the curtain. They allowed people to look around and keep watch outside the castle's walls as well as being used to keep prisoners. Battlements: Battlements were the series of raised (merlons) sections with gaps (crenels) between them running along the top of a castle wall. Drawbridge: A drawbridge was a type of bridge linking the castle gatehouse to the opposite bank of a moat or ditch. It could be raised or lowered by ropes or chains (consider for an element of challenge for more able pupils). Flags: were a symbol of the Lord of the castle and identified who lived there. Turret: A small tower that extends above a building, typically at a corner. Moat: There was usually a moat or a deep ditch around the castle to make it more difficult for enemies to enter the castle. Technical knowledge Scoring creates a crease in a piece of paper or card that will allow it to fold easier and result in clean edges that look better (a ruler will help children to create a deep enough crease).

	Multiple shapes (2D and 3D) are combined to form a strong and stable structure. How to strengthen, stiffen and reinforce more complex structures.  Exploring the features of a castle. Ascertain pupils' prior knowledge of the features of a castle: towers, turrets, battlements, moat, gatehouse, curtain walls, drawbridge and flag.

Using a variety of castle images (or perhaps even a trip!) explore the common geometric shapes that pupils can identify.



Using a plain sheet of A4 paper, the children are to draw their own castle designs (encourage them to use a ruler). If necessary, revisit images to remind the children of each of the castle features. When children have completed their drawing, they should label the features they have included. If time allows, ask the children to give a definition for each of the features they have used and add colour to their castle drawings. For resources to help with this, click here.

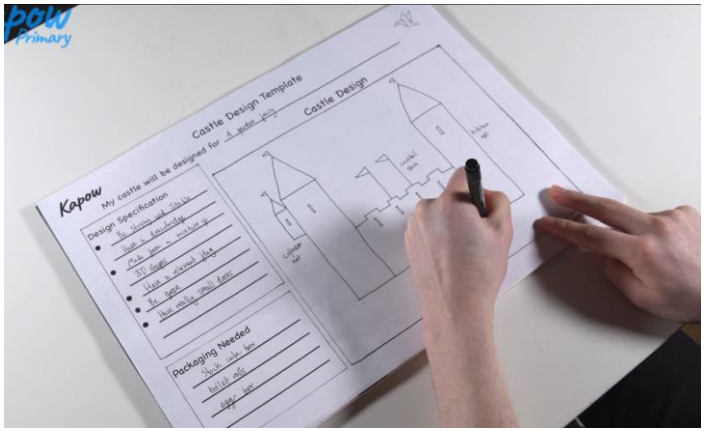
	Material properties: • **Stable/Stability** – When something is firmly fixed or not likely to change or move, for example, a house, a mountain. • **Strong/Strength** – Something that is strong and not easily broken, for example, wood, brick, building. • **Stiff/Stiffness** – A material or object that does not bend easily, for example, metal/a metal pole/climbing frame. **Ask the children**: • Why are these properties important for structures? (So that the structure is stable and does not fall over, bend or break when used.) • Why are the features of a castle important? What did they do for the people living inside them? (The features of a castle helped to protect the people living inside them and keep the enemies away to defend the land.) • Why were a castle's stability and strength important? (It was important for a castle to be stable and strong because otherwise, it would be much easier to break through for enemies to attack and take over the land.) Ask pupils to think about where else they see these shapes, e.g. toilet/kitchen rolls, a variety of food packaging. Ask children to start collecting any objects they think they might need to make their own castle using these shapes. What else might be important other than the shape? (material). Designing a castle

	Children follow a design specification to create a castle, labelling their drawings with the shapes and subsequent nets and recycled materials they will use to make it. Time spent experimenting making a castle out of 3D shapes should mean that they're more aware of the limitations of what they will be able to create. There are intentionally fewer lessons in this unit to allow sufficient time to practise building 3D shapes from the nets after the design has been completed. They will be using mainly cylinders to create the turrets and towers for their castle and cones for the top of their towers. They can also stack shapes to make more complex parts and can combine their nets with recycled materials. Regardless of who their castle is being made for, the process of creating it will be pretty much the same. Using the castle design template, the children will add four design specification points that were agreed as a class and then add 2 of their own to represent their chosen purpose or person. Example Design criteria: Be strong and stable Be made from a mixture of 3D shapes made from nets and packaging Have a flag relevant to the person or purpose

Have a drawbridge (more able).

Pupils can then choose 2 criteria specific to the purpose or person. For example, a castle is being created for a garden fairy so it must be green to camouflage in the forest and to have very small doors.

Children draw their castle design as 2D shapes because drawing 3D shapes is too complex for the age of the pupils. However, if you feel some may be up to the challenge, then do give them an additional challenge after this.



Step 1: Draw a castle base to represent the curtain wall of the castle.

Step 2: Add the battlements

Step 3: Use rectangles to represent the cylinders that will be the towers.

Step 4: A turret can be made up of another rectangle for a cylinder

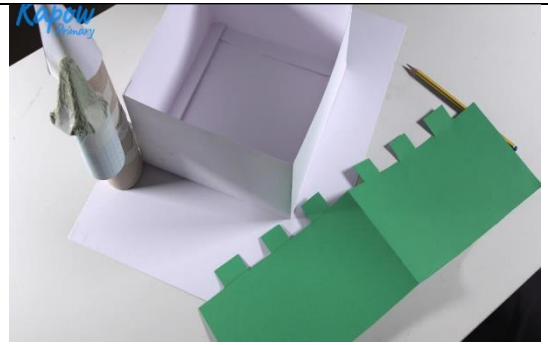
	Step 5: Use a triangle to represent the cone for the roof. Step 6: Add a drawbridge and a flag to the design Step 7: Add any specific design criteria e.g. small doorways for the fairy character Step 8: Label the features with the title and corresponding 3D shapes or packaging NB: A tower could be made from a kitchen roll tube with cardboard cut outs for the turret for example with . A stock cube box could be used for the drawbridge and some card and a cocktail stick for the flag. For more guidance on this, watch the video here. For the design template above click here. Constructing 3D nets From nets children will construct 3D geometric shapes which will then be used to build their castles within the next lesson. For help and advice with this and to view construction techniques to create neat structures click here. Pupils will have the opportunity to learn how to create their own nets. **However, this may prove challenging for pupils so be prepared with some pre-made nets ahead of the lesson. Make sure you also make some nets ahead of the lesson so pupils can see what they're aiming for and how the nets become 3D shapes.** **For a pupil video modelling these techniques, click here.** When working with the Kapow nets, a solid line represents a cut and a dotted line represents a fold. Show the children how to cut carefully and accurately to achieve a high quality result. Teach them how to use the part of the scissors near the pivot as this is the sharpest part so produces the cleanest cut

	(pupils should be familiar with the term 'pivot' as they will have covered it several times in our curriculum). It also slows down cutting so pupils can concentrate of staying on the lines. Scoring over the folded lines should be done with clean hands and a ruler. Crisp folds will create stronger, more stable folds that are less likely to crumple. All scoring should happen before assembly while the net is flat on the table. Assembly is where the nets can become grubby as the glue can smear over the surfaces from hands which can transfer dirt onto the work. Show them how to use the glue stick carefully to avoid this as much as possible. Some smearing is inevitable but it's important to try to reduce this as much as possible to have a clean finished product. More able pupils should be shown how to create their own nets instead of using templates. They can either make the same shapes but to a different scale or they can make new shapes of greater complexity. Working on square grid paper is best so they can take advantage of the right angles and straight lines. Using a ruler, draw the outline of the base shape. Show them how to count the grids squares to calculate the dimensions of the sides. Replicate the base shape from one of the sides for the top. Finally, they need to draw the tabs. Remind them not to make these too narrow as they're easier to glue when wider. Encourage children to have a tidy workspace and leave their shapes somewhere where they will retain their shapes, ready to continue making and assembling their castles in the next lesson. Building a castle

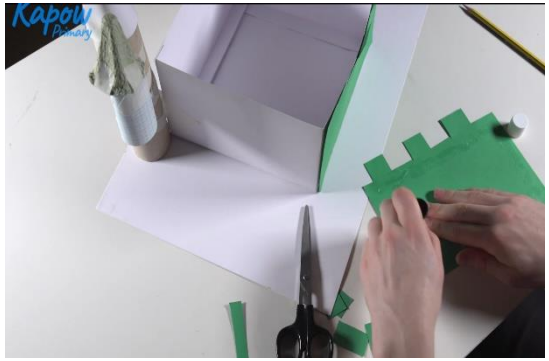
For guidance on how to teach the children to make the configurations, façades, flags and drawbridges, click here. Have some pre-made shapes ready for your demonstration. A pupil video is also available here.

Construct the ground using A3 card and the castle walls using A4 card.

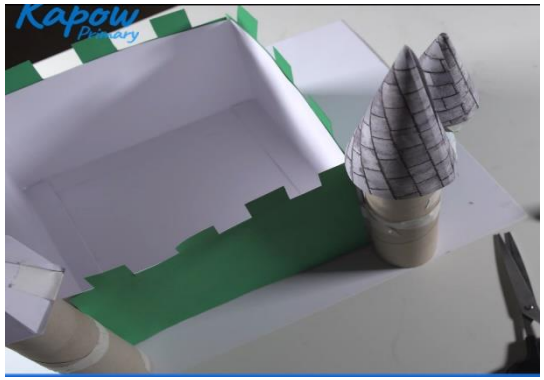
Don’t worry if the mixture of kitchen rolls and handmade nets look messy at this stage: this is what the façade is for. Façades are typically used to improve the appearance of a building by covering up the underlying structure and that’s exactly what the pupils will do. The children can use the façade for any nets that aren’t decorated or where their decoration didn’t go to plan and/or where they’ve used commercial packaging and wish to cover it up.



The best way to make the façade is to focus on one side of the castle at a time. Take a piece of paper or thin card that's bigger than the side of the castle and draw out the shape of the desired façade to cover up the underlying structure. Include any additional features at the top such as battlements.

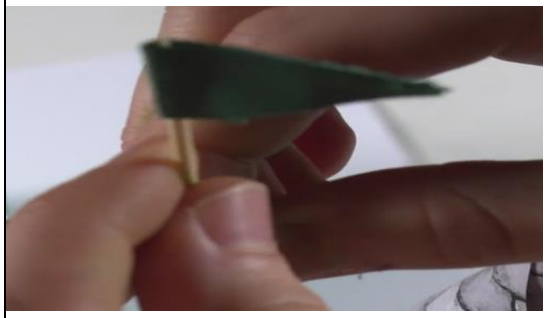


Simply cut the paper to size, colour or decorate and apply glue to the back and attach to the structure. The glue sticks are preferred here as they're quicker to dry.

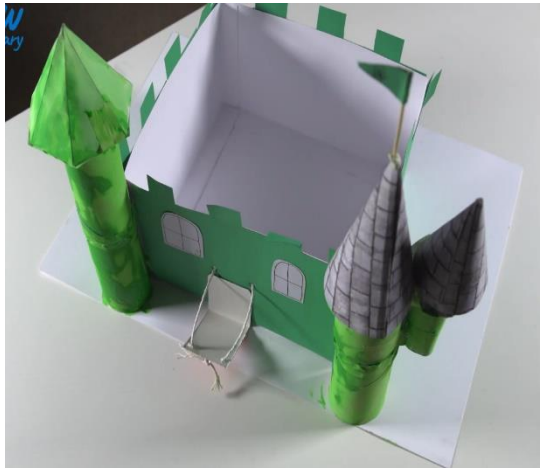


Pupils who've worked more quickly could also create facades for the inside and any exposed areas of the top of their castle.

Consider printing material textures such as stonework which could be applied for a more realistic finish.



Flags can be made easily using a cocktail stick for the flagpole and coloured card wrapped around the top in a flag shape and glued to itself. Place a small ball of bluetac on the top of the castle or a turret and insert the cocktail stick to secure it.



Drawbridges can be made from thick card and cut to size. Simply use string or elastic bands for the chains and attach with some tape or piece a hole through the structure and the bridge which you can thread the string through and tie a knot on the other side.

This final lesson in the unit may require more than the usual lesson time which is why this unit appears shorter.

Evaluating

Set up the tables so that in each child's place is their final castle and their original design brief.

Children consider if their castles look like the original design or whether they have changed (this is okay as long as children can give reasons for why they kept to the original design and/or why they changed evolved their castles along the design journey.

Ask children to consider if they think their final castle is suitable for the purpose for which it was designed. Ask for some to explain why/why not. What are they happy with or would they like to change something?

Resources needed:

Pre-made nets (click here)

	Coloured card A4 Plain card A3 Rulers Masking tape Glue sticks Square grid paper (optional) Outcome: A mini castle for display purposes.

Summer 2 Year 4	Cookery – Biscuits
NC Objectives	Key Knowledge and Vocabulary
Designing • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and CAD *Making* • select from and use a wider range of tools and equipment to perform practical	Context for study: This unit is a baking unit and is follows the Year 2 pizza unit, where the children will explore appropriate pizza bases and a variety of toppings. Their knowledge gained in this unit complements the Science curriculum in terms of a healthy lifestyle and the different food groups. Pupils will explore the features of biscuits, using taste, texture and appearance. They will follow a recipe with support and adapt a recipe using additional ingredients. Knowledge Content: To know that the amount of an ingredient in a recipe is known as the 'quantity'.

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 *Evaluating* • 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 *Technical knowledge and understanding* • apply their understanding of how to strengthen, stiffen and reinforce more complex structures	To know that safety and hygiene are important when cooking. To know the following cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping. To know that products often have a target audience. To know the different food groups Vocabulary Buttery – a smooth and soft biscuit that resembles the taste of butter Ingredients – the food used in a recipe Taste – the flavour of a food Crunchy – a biscuit with a firm texture that makes a noise when eaten or snapped. Target audience – groups of people that a product is made for. Texture – the feel of a food when eaten. Exploring packaging Ahead of this lesson, you will need to gather a variety of packages for biscuits (plastic, cardboard or a mix of both) aimed at a younger and older audience -What is the packaging made of? -What colours and other graphics can you see? -What information is included in the packaging? (the name, ingredients, nutritional information). Introduce the term 'target audience' and refer to this throughout the unit. Explain that the target audience is the people the biscuit makers or company think will buy the biscuits. Show the children a packet of biscuits targeted at children or a younger audience e.g. iced ring biscuits. -How can you tell these biscuits are aimed at children? (coloured icing; cartoon graphics; colourful packaging). Ask the children to discuss other groups of people who might buy biscuits. Explain that they should use the packaging on their table as inspiration or their prior knowledge of different types of biscuits. Guide

	them to identify groups such as: families, people at work, older people, people who are health conscious, tourists, tea drinkers, party hosts and gift givers. Explain that the packaging will help them to identify the target audience. However, the biscuits themselves should also be considered. **Target audiences** Below are some target audiences to discuss with the children with explanations as to why biscuits suit these groups of people. 1. Families: parents and children often enjoy biscuits as a snack or treat. 2. Students: ideal for quick snacks during study sessions. 3. Office workers: often consumed during tea breaks or meetings. 4. Older individuals: biscuits can be a preferred snack for older people. 5. Health-conscious consumers: those looking for healthier or special dietary options, for example, gluten-free or low-sugar biscuits. 6. Tourists: visitors may purchase traditional British biscuits as souvenirs. 7. Fitness enthusiasts: some may opt for protein or energy biscuits. 8. Tea and coffee lovers: biscuits are commonly paired with hot beverages. 9. Party hosts: used for entertaining guests during gatherings or celebrations. 10. Gift givers: biscuits in decorative tins or boxes can be popular gifts. Evaluating existing biscuits – taste testing biscuits The taste testing activity allows the children to taste and describe biscuits to familiarise themselves with existing products and their ingredients. Describing the tastes and textures is a key skill when designing recipes and can be tricky with limited prior experience of flavours. Ask children what they know about biscuits. What are they? Who buys them? What kinds do you know? How do they taste? What shape are they?

Watch the BBC video clip inside the factory – a river of chocolate digestives by clicking here. Discuss how the biscuit's unique identity is due to its ingredients and appearance. Explain that the children wil aim to design their own unique biscuits during the course of this unit.

CHECK FOOD ALLERGIES AND/OR INTOLERANCES AHEAD OF THIS LESSON. IF UNSURE SEEK ADVICE.

Break the biscuits into pieces and arrange them on paper plates. Place on each table, ensuring one piece of biscuit is available for every child to taste. Revisit the definition of texture and appearance.

Explore some of this vocabulary ahead of the taste testing to see which they know: buttery, crunchy, ingredients, target audience, taste, texture. Use the taste testing biscuits resource found here and use a word bank like the one found here.

Encourage the pupils to select a biscuit and write the name in the box. Look at it carefully and add a word to the appearance box. Taste it. Add words to the taste and texture boxes. Find the packaging it came in and describe the material (plastic or cardboard, rigid or flexible, opaque or transparent – link to Science).

Biscuit	Taste	Texture	Appearance	Packaging	Target audience

	Basic biscuits Ahead of the lesson, watch these short videos. The recipe is available here. Teacher video: progression in sifting skills click here. Teacher video: progression in mixing and stirring skills click here. Teacher video: progression in cutting out skills click here. Teacher video: progression is measuring skills click here. You will need the following equipment: Per group of five children: 1 large mixing bowl; 1 small bowl; 1 white chopping board; 1 sieve; 1 electronic scale; 1 biscuit cutter; 1 baking tray; 1 wooden spoon; 1 large spoon; 1 measuring spoon; 1 rolling pin; 1 sheet of baking paper. Ingredients per five children: 250g butter; 1 egg; 140g caster sugar; 2sp vanilla essence; 300g plain flour; Access to an oven, sink and fridge will be required. Consider asking the kitchen to bake your biscuits once they're ready to go in the oven. Children can watch from the hatch. Show the pupils the preparation video by clicking here. Vocabulary Combine – mixing two or more ingredients together Hygiene – keeping things clean Sift – the process of removing lumps and adding air Cream – mixing butter and sugar together Sieve – a piece of kitchen equipment often used to remove lumps Wooden spoon – a piece of kitchen equipment for stirring and mixing.

	Explain to the children what is good food hygiene and how to be careful when cooking. Give roles to each pupils so they are clear on what they are doing. Roles can be swapped if time allows. Explain that some pupils may like to add something to their basic biscuits e.g. fruit or chocolate chips. Encourage then to think about the flavour and texture of the fruit for example. What type of fruit is commonly used in biscuits? Explore some ingredients that are not good choices. Arrange the children in groups of five and hand out the role cards if appropriate. Explain that the cards show most of the steps needed to make a basic biscuit recipe. Inform the children that they will learn how to make it as a group. Organise the classroom so each table has the necessary equipment, ingredients (see Have ready) and the Resource: Basic biscuits recipe (one per group). Model each stage and refer to the recipe. Display the Pupil video: Basic biscuit preparation skills for examples of some of the skills used in the recipe. Ensure the children understand which task is associated with each role on the role card so the children can identify which member of the group will carry out the action. While you model, ask: Why do you think you need to mix the sugar and butter? (So that the sugar is combined well and not in lumps.) What does sieving do? (Removes lumps and puts air in the flour.) Why do you think you are using a cutter for the biscuits? (So they are a uniform size and shape.) What would happen if you made one biscuit larger than all the others? (It would take longer to bake than all the others.) Continue with the recipe until the biscuits are cut and on a baking tray. The biscuits can be baked immediately or later in the day.

	Health and safety Remind pupils of the importance of using equipment in the correct way and hot surfaces like ovens or hobs. Remind pupils to protect their clothing and hair. Evaluating Explain to the children that they will evaluate each other's biscuits during this lesson. Decide as a class some criteria to evaluate the biscuits against. Ask the children: who did you create the biscuits for? How did you make the biscuits unique? (adding new ingredients). Arrange the children in their groups and place the biscuits on the tables. Use the evaluation form found here. You will need to break the biscuits up in order to have enough for everyone. Remember to check for food allergies and/or intolerances. Display the questions the children should ask each group when they visit them. Explain that these questions will help them better understand each other's products. Explain that the children should ask the questions, listen to the group's responses and tick the box if they feel the group has met the criteria. Remind them to be positive and if they like something, they should tell the group. Pair each group with another group and allow time for them to ask questions and fill in the forms. Repeat until the form is complete and every group has been evaluated. Outcome: Biscuits for an intended audience.