



Stage 10: Promoting and packaging products

Learning objectives:

- To design and conduct a fair investigation
- To investigate which material will keep food fresher for longer
- To design and make packaging
- To write and perform promotional material

Stage overview:

In this stage, the children work scientifically by setting up an investigation to compare the effectiveness of different packaging materials. Following this, the children learn about the impact that plastic packaging is having on the environment and they are challenged to make an eco-friendly alternative. The children then make their own beeswax wrap and use their Technology skills to design and make a packaging prototype with it.

The children then explore food advertisements and cross-curricular English opportunities are built in when they write and perform their own print and television advertisements.

Materials needed:

For the packaging investigation:

- Three A4 size materials to use for packaging e.g. aluminium foil, paper, fabric etc.
- Cling film
- 4 slices of bread for each group
- Stapler

For creating the beeswax wrap:

- Fabric crayons/pens
- Grated beeswax blocks or beeswax pellets
- A grater (if using beeswax in block form)
- Square pieces of white cotton fabric (one for each child)
- An iron
- Fabric scissors/ pinking shears
- Greaseproof paper
- Newspaper

For the promotion activity:

- Food advertisements from magazines
- Coloured paper and card
- Pencil crayons/ felt tip pens

Presentation notes:

Slide 2: Thinking time	<ul style="list-style-type: none">- Start the children's thinking by asking them to name all the different packaging materials that they have seen or used. E.g. plastic, glass, fabric, paper, cardboard, foil.
Slide 3: Investigation design	<ul style="list-style-type: none">- Explain that today we will be designing a fair test to compare the effectiveness of packaging materials.- Challenge the children to discuss how they could do this with their groups and allow time for them to feed back their ideas.- Check the children's understanding of a 'fair test'.
Slide 4: Fair testing	<ul style="list-style-type: none">- Use the power point to revise the meaning of a fair test and why it is important.- A fair test is a controlled investigation that compares two or more things. In order for a test to be fair or well controlled, we have to make sure that only one thing (this is called a variable) is changed and everything else is kept the same.- A variable is anything that can affect the results we are observing or measuring.- In our investigation, we will use three slices of bread from the same loaf. We will change the packaging that we place our bread in but keep everything else in its environment the same. Then we will observe what happens.- By only changing one variable (the packaging) we can observe which packaging keeps the bread fresh for the longest.
Slide 5: Investigation design	<ul style="list-style-type: none">- In groups, ask the children to think about variables that they will need to control (keep the same) for this investigation and how they will measure which packaging was the most effective.- Ask the children to write up their investigation plan. Ensure that they demonstrate their understanding by using the correct scientific vocabulary and explaining why they are changing their variables or keeping them constant.
Slide 6: Practical investigation	<ul style="list-style-type: none">- Explain that different groups will have slightly different research questions. Ask one group to set up their investigation in a warm place in the classroom, one group to set up in a cold place in the classroom, one group to set up outside in a covered area and one group to set up outside in an exposed area etc.- Ask the children to write a short paragraph to make a prediction about which packaging and environment combination will keep the bread fresh for longer and which will be the least effective.- Before setting up their investigation, the children need to make packaging pouches out of three materials. These should be kept the same size e.g. an A4 plastic wallet, an A4 envelope and two pieces of A4 size aluminium foil stapled together to make a pouch.- Model how to cut equally-sized observation windows in the opaque packaging materials to enable them to conduct their observations and cover the holes with small pieces of cling film.- The children should set up the investigation that they have planned. Ask them to also have a 'control' slice of bread so that they can compare their results with a piece of bread that is left in the same environment with no packaging at all.

Slide 7: Keeping observation journals	<ul style="list-style-type: none"> - Ask groups to observe their bread slices at regular intervals across a two week period, recording their observations with diagrams each time. - Ensure that it is made clear that the children should not remove the bread from the packaging at any point in the investigation- even at the end.
Slide 8: Drawing conclusions and presenting findings	<ul style="list-style-type: none"> - At the end of the two week period, ask the children to observe their final results closely and write a conclusion to explain what they have found and why they think this has happened. - Refer back to their predictions- were they correct? - Encourage the children to think critically about how they conducted their investigation. Was it well controlled? Could they have improved their design or fair testing? How? - Give the children the opportunity to prepare a short presentation to explain their groups' results and which material they would recommend for packaging food products. - Assess spoken language skills.
Slide 9- 15: Plastic packaging	<ul style="list-style-type: none"> - Use the power point to lead a discussion about non-recyclable plastic packaging.
Slide 16: Making an example of eco-friendly packaging	<ul style="list-style-type: none"> - Use the power point to take the children through each stage of making their own beeswax wraps as an alternative food packaging material.
Slide 17: Designing and making packaging	<ul style="list-style-type: none"> - Ask the children to think about a packaging design that they could make. Give the children the option of using their beeswax wrap but also give them the opportunity to design a different shape of packaging using other materials such as paper and card. - Ask the children to draw and label a sketch of their packaging. Remind them to think carefully about how they will make their product stand out from its competitors on a shelf. - The children should then make and decorate an example of the packaging and evaluate it against their design sketch. - Alternatively, the children could use www.tinkercad.com (a free computer aided design website) to create 3D images of their packaging designs.
Slide 18-19: Promotion	<ul style="list-style-type: none"> - Share the definition of promotion and ask the children to think of any real-life examples that they have seen
Slide 20: Exploring food advertising	<ul style="list-style-type: none"> - Give the children a selection of food advertisements from magazines and ask them to look at what the businesses have done to persuade customers to buy their product. Do they think it has worked? Would they be persuaded? How does the advert use photographs and persuasive language?
Slide 21: Designing promotional material	<ul style="list-style-type: none"> - The children should then take inspiration from the promotional material that they have examined to design their own written advertisement for their product. - Remind the children to describe/ explain how their product is better than their competitors' products. - Remind the children to include the price and special offers e.g. lower introductory price, buy one get one free etc.

Slide 22: Performing promotional material

- Ask the children to work in groups to plan and perform a television or radio advertisement for their product.
- Remind them to speak at a clear pace and volume when they are presenting.
- Assess spoken language during their performance.
- The children could use green screen technology to record their television advertisement. This could be achieved by using a green cloth or paper as the background, finding a suitable background image on the internet and saving it to a tablet. The children could then use the Dolink green screen or Movie v2.2.7 Ipad applications to film their advertisements.

National Curriculum Links:

Science	Working scientifically	<ul style="list-style-type: none"> - Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - Using test results to make predictions to set up further comparative and fair tests - Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other
	Properties and changes of materials	<ul style="list-style-type: none"> - Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
Design and Technology	Design	<ul style="list-style-type: none"> - Use research and develop design criteria to inform the design of innovative, functional, appealing products 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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
Computing		<ul style="list-style-type: none"> - Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.