activities

Bread Recipe

A Designer Bread Surprise!

Your class or friends could be surprised with a newly designed bread each week. With two other people design a bread by adding interesting things such as apple or garlic to the recipe found in the Information Sheet called ‘Bread Recipe’. Write your recipe down and make it. The rest of the class can sample your bread and fill in a questionnaire. The questionnaire should ask questions like “What did you like about our bread?” “What do you think is in our bread?” Collate your answers and display them. After everyone has designed and made a bread, the best overall bread can be chosen.

E What goes into bread?

Set out small samples of flour, salt, and water. Taste each sample (to collect the flour and salt use a wet finger). How would you describe each taste? Try tasting different mixtures of these ingredients, such as flour and salt, flour and water, salt and water, flour, salt and water. Which mixture tastes the best? What would make the mixture taste even better?

A Describe the difference between the taste of butter on bread, and butter on toast. What kind of changes have taken place? Do you think it is possible to change the cooked bread back to its original form?

Q When bread is very well-toasted, a new substance is formed. Do you know the name of this new substance? The black solid that can be scraped off with a knife is called carbon. Can you think of other things that produce carbon? Find out what the scientific term is for changes such as burning, which produce new substances. What other new substances are produced when bread is burnt?

E Try toasting sandwich and toast slices of different types of bread. Toast them for the same length of time and use the same heat control on your toaster for the different slices you use. Make sure the distance from the bread and the heat is the same. If you put a thick slice in a narrow toaster, you will not get very reliable results. After toasting all your samples what do you notice? Why do some breads toast darker than others? Which bread do you think is the best to toast? Which thickness is the best to toast?

A Find out how people like their toast cooked and see if you can make it for them.

NEW ZEALAND FLOUR & BREAD INFORMATION CENTRE 1997. PO BOX 30, LINCOLN, CANTERBURY

R For fun, try making Fairy Bread. All you need is buttered bread with hundreds and thousands sprinkled over the top - great for party food!

E A good piece of toast should be crisp on the outside and soft inside. When we toast bread for too long the inside dries out and becomes hard, and the outside will go from brown to black. How do you like your toast? Some people like it burnt! How can you toast bread differently? Can you toast it so it is soft on the inside and the outside? Try toasting bread so it is crisp throughout but not burnt. To do this you need to think about temperature and length of time the bread is baked.

A The Great Toast Technology Challenge

A luxurious holiday resort offers guests breakfast in bed at the weekends. After a short trial the resort realises there is a problem with keeping toast crisp and steaming hot for some people and crisp and cold for others. You are to design a storage holder that stores up to 10 pieces of toast, 5 of which are kept crisp and hot and the other 5 crisp and cold. The holder must be able to fit in a space that measures 20 centimetres by 20 centimetres because there is not much room on the trolley. Apply for a patent to protect your design from being stolen by another person.

A The Best thing since Sliced Bread.

How has the invention of the toaster and having the choice of sandwich and toast slice bread made an impact on our lifestyle? Interview people asking questions about the past, present and the future of the toaster and sliced bread. Present your information in a table. The example below describes how the toaster and sliced bread made an impact in the past.

Impact on lifestyle	Toaster	Sliced bread
Past	A toaster was thought of as a piece of art for display. Much time was spent on keeping the chrome clean and shiny. It was a necessary kitchen appliance.	Toasted sliced bread for breakfast was quick and could be eaten on the way to work.
Present		
Future		

E From Bread to Toast

Aim

To identify the changes from bread to toast due to the presence of heat energy.

Materials:

White bread
String
Toaster
Graph paper
Weighing scales

Method:

1. Introduce and define key words. For example:

Initial state: What the bread is like before anything happens to it.

Size: The perimeter and the area of a slice of bread.

Shape: The external form of a slice of bread, e.g. round, square, squashed, sharp edges.

Weight: The heaviness of a slice of bread when weighed.

Colour: The whiteness, yellowness or greyness of the crumb. The crust colour can vary from pale yellow to a very dark brown.

Texture: A substance's tissue structure can be described as soft, hard, firm, crumbly, brittle, tender, tough, dry, moist, doughy, open, coarse, even, smooth, etc.

Taste: The sense by which we detect flavours such as sweet, sour, salty and bitter.

Final state: What the bread is like after changes have been made to it.

2. Take two slices of bread from one loaf. Toast one slice (final state) and compare it with the untoasted slice (initial state). For each state, draw a picture and look at its size, shape, weight, colour, texture and taste. To examine the size, find the area and perimeter. To find the area, place the bread/toast on a piece of graph paper. Draw around the slice. Count the squares inside the outline. Count more than $^1/_2$ squares as a whole. To find the perimeter, use a piece of string to measure the outline on the graph paper. Use a ruler to measure the string.

Results

Display your findings in a table.

	Initial state - bread	Final state - toast	Difference between the two
Size - Area (cm^2)			
- Perimeter (cm)			
Shape			
Weight (grams)			
Colour			
Texture			
Taste			

Conclusions

How did you know a change had occurred? What changes occurred in the slice of bread? Why did these occur? (Because the toasting process evaporates the moisture in the bread) What caused the change from bread to toast? What else is changed by heat energy?