



There are plenty of quotes about bread.

Can you think of any? Here are a few to get you started...

"A loaf of bread", the Walrus said "Is chiefly what we need" - Lewis Carroll, 'Alice in Wonderland'

"Could we have some butter for The Royal slice of bread" - A. A. Milne, 'The King's Breakfast'

"Crawling at your feet," said the Gnat (Alice drew her feet back in some alarm), "you may observe a Bread-and-Butterfly. Its wings are thin slices of Bread-and-butter, its body is a crust, and its head is a lump of sugar." - Lewis Carroll, 'Through the Looking Glass'

"The law, in its majestic equality, forbids rich and poor alike to sleep under bridges, beg in the streets or steal bread." - Anatole France

Deliberation, n.: The act of examining one's bread to determine which side it is buttered on. - Ambrose Bierce, 'The Devil's Dictionary'

"If we were directed from Washington when to sow and when to reap, we would soon want bread." - Thomas Jefferson

"The people that once bestowed commands, consulships, legions, and all else, now concerns itself no more, and longs eagerly for just two things --bread and circuses!" - Juvenal (c. 40-130), a Roman satirist

activities



Wheat and Flour Use



What happens to wheat when it is cooked?

Aim:

To observe how materials change when heated.

Materials:

1 tablespoon Wheat grain
Saucepan

2 tablespoons Cooking oil
Oven

Method:

First place wheat in a bowl, cover with water, for 3 hours then drain. Heat the oil in the saucepan over a medium heat. Place the grain in the saucepan and heat until grains swell like puffed wheat.

Results:

What happened to your wheat?

Conclusion:

Can you give some reasons for the changes you observed? Think of some new and existing products that this cooked grain could be used for. What changes could you make to the above recipe and procedure to make the final product more appetising? Would people be interested in buying your new product? Would they eat it for breakfast, lunch, tea or as a snack? How will you market your product to the consumer?



A Christmas Tree Decoration

Make one of the dough recipes on this Activity Sheet. Mould into an angel, wreath (two strands of dough twisted together and joined to make a complete circle), a bell or anything else you would like on your Christmas Tree. Using a toothpick, make a large hole near the top of your decoration. Place on a baking tray. Brush your decorations with beaten egg yolk glaze. Bake in a moderate oven (about 160-180°C (325-350°F)) for about 45 minutes or until really hard and the egg yolk is a pleasant yellow-brown colour. Allow to cool. Thread string or cotton through the decoration's hole and tie tightly. Make a loop at one end to hang on the Christmas Tree. Varnish the shapes with clear polyurethane. Finish your creation with a ribbon tied into a bow.

So, you would like to make a 3-D model of your latest scientific or technical design, but you just don't know what to make it out of? Here to help you are heaps of neat non-edible dough and clay recipes to use for modelling. Have fun!

Uncooked

<p><i>Sawdust and Wheat Paste</i></p> <p>2 cups Sawdust, sieved 1 cup Wheat paste or Wallpaper paste (refer to Starch Activity Sheet) 1/2 cup Water, gradually added</p>	<p><i>Oatmeal Playdough</i></p> <p>1 cup Flour 2 cups Oatmeal 1 cup Water</p>	<p><i>Uncooked Playdough</i></p> <p>3 cups Flour 2 tablespoons Cornflour 1 cup Salt 1 cup Water, cold 2 teaspoons Salad oil</p>
<p><i>Vinegar Play Dough</i></p> <p>3 cups Flour 1 cup Salt 1 cup Water 1/4 cup Oil 2 tablespoons Vinegar</p>	<p><i>Glue Dough</i></p> <p>1 cup Flour 1 cup Cornflour 1/2 cup White liquid glue</p>	<p><i>Easy Dough</i></p> <p>1 1/2 cups Flour 3/4 cup Salt 3/4 cup Water</p>
<p><i>Oil Play Dough</i></p> <p>3 cups Flour 1 cup Salt 3 tablespoons Salad oil 1 cup Water</p>	<p><i>Soap Dough</i></p> <p>2 cups Flour 1/2 cup Salt 2 tablespoons Liquid Paint 1 tablespoon Liquid Soap Water</p>	<p><i>Refrigerated Play Dough</i></p> <p>1 1/2 cups Flour 1 cup Salt 1/2 cup Water 2 tablespoons Oil</p>

Mix dry ingredients together and make a well. All doughs can be coloured if desired. Combine food colouring or Tempera paint with water. Add the water and any other wet ingredients gradually, mixing as you go. Slowly add more water if needed to make the mixture cling. Knead until a soft, pliable dough is formed. Most doughs will keep well up to six weeks in an airtight container or alternatively in a sealed bag. Some doughs may need to be dampened occasionally. Just work a little water into the dough as it dries out. Refrigerated Play Dough is best kept in the fridge when not in use.

<p><i>Hand/Footprints</i></p> <p>2 cups of flour 1/2 cup of salt 3/4 cup of warm water</p> <p>Mix ingredients together in a bowl. Slowly add water if the dough is dry. Make a ball of dough then flatten to 3 centimetres thick. Press a hand, foot, shell, leaf or any other object into the dough to make an imprint. Bake or air dry.</p>	<p><i>Bread Clay</i></p> <p>6 slices white bread 6 tablespoons white glue 1/2 teaspoon detergent or 2 teaspoons glycerine Food colouring</p> <p>Remove crusts from bread. Knead bread with glue. Add either detergent or glycerine. Knead in food colouring until no longer sticky.</p>	<p><i>Jewellery Clay</i></p> <p>3/4 cup Flour 1/2 cup Salt 1/2 cup Cornflour Warm water</p> <p>Mix dry ingredients together. Gradually add warm water until the mixture can be kneaded into shapes. Make beads by rolling the dough into little balls, piercing the balls with toothpicks, and allowing the balls to dry. Paint and string the beads.</p>
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Cooked

<p><i>Recipe One</i></p> <p>2 cups flour 2 tablespoons cooking oil 1 cup salt 2 teaspoons cream of tartar 2 cups water Food colouring</p>	<p><i>Recipe Two</i></p> <p>1 cup Flour 1/2 cup Salt 2 teaspoons Cream of Tartar 1 tablespoon Cooking Oil 1 cup Water Food colouring</p>	<p><i>Recipe Three</i></p> <p>1/2 cup Flour 1 cup Salt 1 cup Water</p>
<p>In a large saucepan, mix all ingredients and cook over a low to medium heat. Stir constantly until a ball forms. Turn out onto floured surface. Allow the dough to cool a bit before kneading in Food colouring and enough flour to make a pliable dough.</p> <p>Store in airtight container. Keeps for two months or longer.</p>		
<p><i>Microwave Play Dough</i></p> <p>Combine in bowl: 2 cups Flour 1 cup Salt 1/2 cup Cornflour 1 tablespoon Alum, powdered</p> <p>Gradually stir in: 2 cups Water 1 tablespoon Cooking Oil</p> <p>Microwave on High power for 6 minutes, stirring every minute. Cook until a ball forms. Turn onto floured surface. Allow the dough to cool before kneading in food colouring and enough flour to make a pliable dough. Store in airtight container. Keeps for two months or longer.</p>	<p><i>Salt Dough</i></p> <p>2 1/3 cups Water 2 cups Salt 3 cups Flour, plain 1 cup Flour, whole grain Food colouring</p> <p>In a large saucepan dissolve salt in boiling water. Remove from heat. Mix the flours together in a large bowl. Add the salt water to the flours and stir. Turn onto floured surface. Allow the dough to cool before kneading in food colouring to make a pliable dough. Store in airtight container. Keeps for two months or longer.</p>	<p><i>Dryer Lint Clay</i></p> <p>1 1/2 cups Lint from the dryer 1 cup Water 1/2 cup Flour Food colouring</p> <p>Place the lint in a saucepan and cover it with the water.</p> <p>When the lint is saturated, add the flour and stir until it is smooth. Add drops of food colouring. Cook the mixture over low heat, stirring constantly, until it forms peaks and holds together. Cool before using.</p>

Here are a few tips when modelling the dough:

To make hair, push dough through a sieve and slice off the length needed. Use a concentrated food colouring not a diluted one. If too much food colouring is added the dough will become sticky. To return to original dough consistency add more flour. The thickness of your models will determine how long it will take to dry your models. Always keep the dough in a airtight container to stop it hardening.

Once your models have been made, you can air dry your designs over one or two days or bake them on a foil covered cookie sheet at 120°C (250°F) for 2 to 3 hours for a puffed look. Check your shapes every 20 minutes after the first 2 hours of baking. When completely cooled, paint or use markers to add details. To protect and preserve your shapes and to give a glossy finish, brush or spray the shapes with gum Arabic, clear varnish or equal parts glue and water.