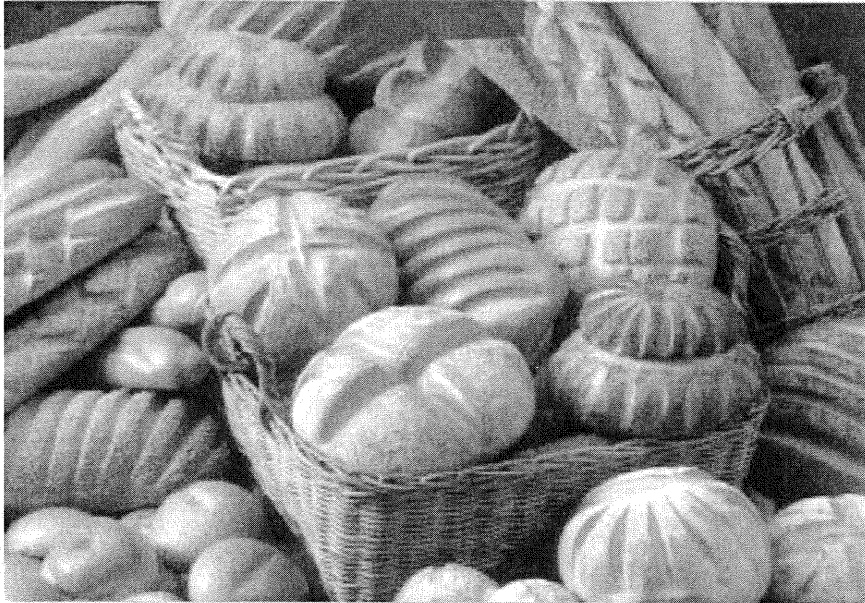


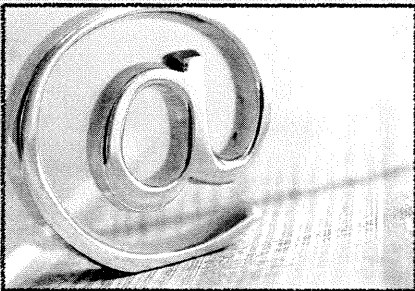
BREAD PRODUCTS

SPRINGBANK COMMUNITY HIGH SCHOOL



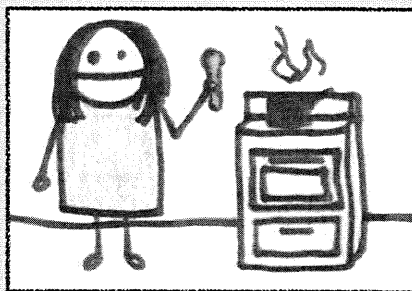
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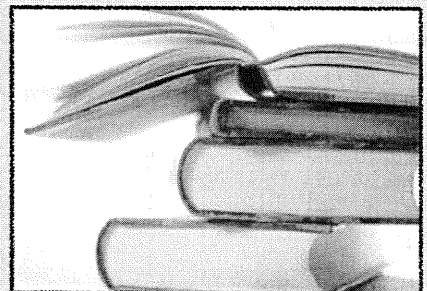
QUESTIONS?

EMAIL: sklatt@rvschools.ab.ca



MISSED A LAB?

See Mrs. Klatt for an approved at home lab evaluation form for your parents.



IS YOUR WORKBOOK COMPLETE?

This workbook must be done in time to cook. Make sure you use your class-time.

History of Bread

A loaf of bread - that humble item on every shopping list, is too often taken for granted.

We have been making bread for at least 8000 years, in the days when the tools to hoe, cut and grind were all made of stone. The crushed flour mixed with water and cooked on a flat stone over a fire gave a bread that was very different from the sliced white loaf of today. It was hard on the teeth (as seen from human remains) and an example of bread from 4000 years ago can be found at the British Museum.

According to the legend, a young Egyptian once forgot to cook his dough and left it long enough to ferment before eventually baking what became the first leavened bread. The Egyptians were expert wheat growers and sold their excess to the Greeks, who developed bread making skills.

The Romans learnt from the Greeks and even started a college for bakers. It is said that there were 258 bakers' shops in Rome by the year 100bc. In the preserved Pompeian bakery, loaves had been stamped with the maker's initials, and there was a public oven where the populace could bake their home-made bread. When Cassius came to Britain with his conquering army, it is said that he had his bread sent all the way from Rome, rather than eat the local produce. The Romans imported the hard wheat which would not grow in the northern latitudes and brought us the rotary mill stone and watermill. As with roads, sanitation and central heating, much baking knowledge was lost when the roman empire collapsed.

The staple food crops of the Saxon were rye, barley, oats, millet, beans and peas. Bread made from wheat was a luxury.

When the Normans came a few centuries later, their greater use of yeast in beer and brewing revived the yeasted loaf, although local soft wheat did not rise very well. The large round flat loaves were frequently used as plates, called trenchers. A good trencherman could eat his dinner and his trencher. The cakes or loaves eaten by the agricultural population were usually made from a coarse meal of rye, sometimes mixed with barley, oats, wheat or beans.

Millers were often accused of taking more than their fair share of the flour, so bakers too, were accused of stealing dough. Honest bakers formed themselves into a guild: "the fraternity of st clement of the mystery of bakers". This conducted spot checks for the weight, quality and price of bread. The unpleasant and humiliating penalties for selling underweight loaves led bakers to protect themselves by baking an extra 'make-weight' loaf to every dozen - hence the baker's dozen. The guild also set conditions for apprentices, one of which was that they were not to be served salmon (then a cheap and common fish) more than twice weekly. The apprentices took seven years to learn the mystery which was largely concerned with the maintenance of the foaming yeast culture or barm. Remember this next time you reach for the sachet of dried yeast or run to the supermarket for a pack of pre-packed fresh yeast to put in the bread making machine!

English bread was generally made of mixed grains until well into the Victorian age. Barley and rye breads took longer to digest and were favoured by labourers, whilst the rich enjoyed expensive white wheat bread.

In the 19th century, imported wheat became plentiful and was milled in the ports for distribution by rail to the growing urban population, to the detriment of rural wind and water mills. Parliament put such heavy taxes on imported wheat that the price of bread rose to as much as 2/6 a loaf when some wages were only three shillings a week. People revolted against these laws with the result that they were repealed in 1846.

The 20th century saw the mass production of bread, with some of the sliced white loaves of the later decades bearing little resemblance to the tasty hand-crafted product. The turn of the 21st century has seen the rise of the domestic bread making machine - a clean effortless way to enjoy fresh wholesome bread baked to one's own taste. It seems ironic that after so many centuries in which the wealthier citizens demonstrated their status by buying the whitest wheat bread from someone else's oven, the same sector of society now seek out mixed grain wholemeal flours to bake in their own kitchens!

1. DEFINE: (2)

GLUTEN -

FERMENTATION -

2. DEFINE QUICK BREADS AND YEAST BREADS. GIVE 3 EXAMPLES OF EACH. (7)

3. WHAT IS THE ADVANTAGE OF FREEZING BREAD IN HOT, HUMID WEATHER? (1)

4. IF I WANT MORE FIBER IN MY DIET, SHOULDN'T I EAT BROWN BREAD INSTEAD OF WHITE BREAD? (1)

5. WHAT IS THE MAIN DIFFERENCE BETWEEN LIQUIDS USED IN TRADITIONAL YEAST BREADS AND LIQUIDS USED IN BREAD MACHINE YEAST BREADS? (1)

6. WHICH MIXING METHOD FOR YEAST BREADS ELIMINATES THE NEED FOR KNEADING?
(1)

6. WHICH MIXING METHOD FOR YEAST BREADS ELIMINATES THE NEED FOR KNEADING? (1)
- A. THE TRADITIONAL METHOD
 - B. THE ONE-RISE METHOD
 - C. THE MIXER METHOD
 - D. THE BATTER METHOD
7. THE PREPARATION OF SUCCESSFUL YEAST BREAD DEPENDS ON: (5)
8. WHAT IS THE FUNCTION OF KNEADING YEAST DOUGH? (1)
9. LIST THREE FACTORS THAT AFFECT THE LENGTH OF FERMENTATION FOR YEAST DOUGHS. (3)
10. ISN'T BREAD FATTENING? (1)
11. WHAT IS THE PROPER CONSISTENCY OF DOUGH IN A BREAD MACHINE AND HOW CAN IT BE CHECKED? (2)
12. TRUE OR FALSE. YEAST BREADS CAN BE BAKED IN A MICROWAVE OVEN. (1)

Chapter 23

Breads

Functions of Ingredients

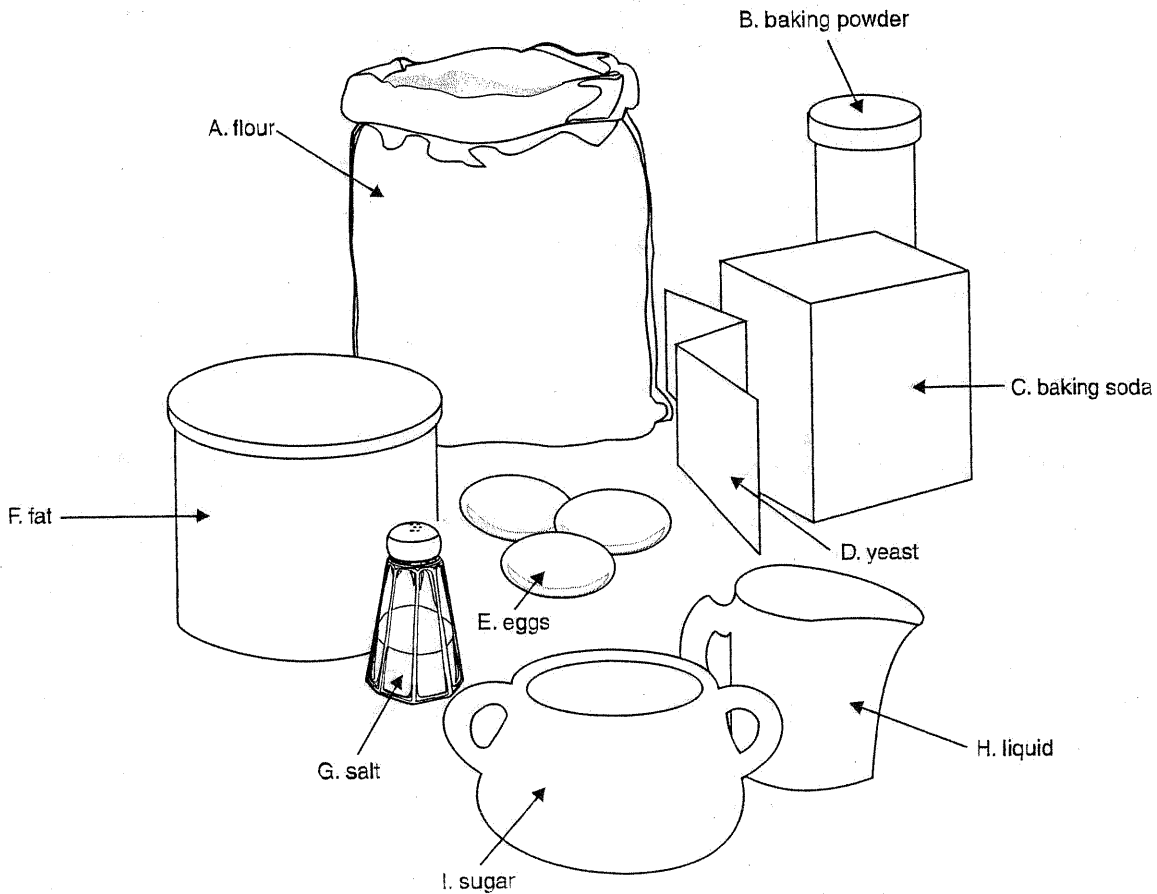
Activity A

Name _____

Chapter 23

Date _____ Period _____

The principal ingredients used in baked products are pictured below. In the space provided, list at least one function of each of these ingredients in baked products.



A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

H. _____

I. _____

Yeast Breads

Activity D

Name _____

Chapter 23

Date _____ Period _____

Complete the following exercises dealing with yeast breads.

(2) 1. How does bread flour differ from all-purpose flour and why is it recommended when preparing breads in a bread machine? _____

(1) 2. What effect does milk have when used as the liquid in a yeast bread recipe? _____

(1) 3. How does fast-rising yeast differ from active dry yeast? _____

(4) Match the following mixing methods for yeast breads with their descriptions.

- | | | |
|-------|------------------------------------------------------------------------------------------------|-----------------------|
| _____ | 4. Doughs prepared by this method are allowed to rise twice. | A. batter method |
| _____ | 5. This method requires the use of fast-rising yeast. | B. biscuit method |
| _____ | 6. In this method, using an electric mixer helps develop gluten and shorten the kneading time. | C. mixer method |
| _____ | 7. Vigorous stirring, rather than kneading, helps develop the gluten in this method. | D. one-rise method |
| | | E. traditional method |

(1) 8. Why is yeast bread kneaded? _____

(1) 9. How can you tell whether yeast dough has doubled in volume during fermentation? _____

(1) 10. Why does yeast dough need to be punched? _____

(5) 11. Characteristics of yeast breads are listed below. Check those that are signs of a high-quality loaf of yeast bread.

- | | |
|--------------------------------------------|---------------------------------------------|
| _____ A. large volume | _____ I. fine uniform texture |
| _____ B. small volume | _____ G. crumbly |
| _____ C. smooth, rounded top | _____ H. tender, elastic crumb |
| _____ D. sunken top with overhanging sides | _____ I. contains large, overexpanded cells |
| _____ E. coarse texture | _____ J. compact texture |

(2) 12. Describe two timesaving techniques for preparing yeast breads. _____

Assignment #5

Yeast

Factors Affecting Growth

Directions --

Complete the following investigation to help determine the factors affecting yeast growth.

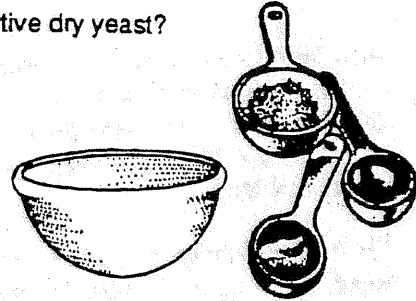
Problem:

How do temperature, sugar and salt affect the growth rate of active dry yeast?

Materials:

5 custard cups
1 baking sheet
small measures
sugar

cold water
salt
yeast
hot tap water
boiling water



Procedure:

1. Preheat oven to 180°C (350°C).
2. Follow instructions on the Evidence Chart to combine ingredients in each custard cup. Record observations.

Evidence:

	Ingredients	Directions	Did yeast grow and produce carbon dioxide? If YES how much?
Custard Cup #1	3 mL yeast 1 mL sugar 50 mL boiling water	Combine sugar and water in custard cup. Add yeast and stir to dissolve. Place on baking sheet in oven for 10 minutes.	
Custard Cup #2	3 mL yeast 1 mL sugar 50 mL hot tap water	Combine sugar and water in custard cup. Add yeast and stir to dissolve. Let sit 10 minutes.	
Custard Cup #3	3 mL yeast 1 mL sugar 50 mL cold water	Combine sugar and water in custard cup. Add yeast and stir to dissolve. Place in refrigerator for 10 minutes.	
Custard Cup #4	3 mL yeast 50 mL hot tap water	Combine yeast and water in custard cup. Let sit 10 minutes.	
Custard Cup #5	3 mL yeast 1 mL sugar 1 mL salt 50 mL hot tap water	Combine sugar, salt and water in custard cup. Add yeast and stir to dissolve. Let sit 10 minutes.	

Analysis:

1. What affect does temperature have on yeast? _____
2. What affect does sugar have on yeast? _____
3. What affect does salt have on yeast? _____
4. Where would best place be to store active dry yeast? Why? _____



Custom-made Crusts

How do you like your crust—tender to the bite, or thick, chewy, and challenging? Using different glazes and a few baker's tricks, you can achieve a wide spectrum of textures, tastes, and tones.

For a chewy-crisp crust like that of French bread, place a pan of water on the rack below the bread as it bakes. The steam encircling the bread in the hot oven does the trick. Another technique is to spray the bread with a fine mist of water at intervals as it bakes (see *Light & Crusty French Bread* on page 39).

For a chewy, glossy crust, brush with a simple cornstarch and water mixture. Dissolve 1 teaspoon cornstarch in $\frac{1}{2}$ cup water; heat the mixture in a pan until boiling. Let cool slightly and, with a soft brush, paint all exposed surfaces of the loaf just before baking. After baking it for 10 minutes, remove the bread, paint it again, and finish baking.

For a lustrous crust, try egg glazes. Because they're sticky, they come in handy for keeping poppy or sesame seeds in place. Just before baking, paint the bread with one lightly beaten whole egg—or use either one yolk or one white beaten with a tablespoon of cold water. If you use yolk, you'll get a deep golden color; the white contributes a sheen, but no extra color. A whole egg gives you a little bit of each.

For a tender crust, brush loaves with melted butter or margarine just before baking or as soon as you take them from the oven. Or brush with milk or cream before baking.

For a delightfully crunchy and crackled crust, try Dutch crunch—a yeast and rice flour topping. You can find the rice flour in some markets and most health food stores (don't confuse it with Oriental rice flour, which is also called "sweet rice flour").

Here's how to make Dutch crunch topping for two loaves or one and a half dozen rolls: Stir together $1\frac{1}{2}$ tablespoons sugar, 4 packages active dry yeast, $\frac{1}{2}$ teaspoon salt, and $\frac{1}{2}$ cup rice flour. Add 2 tablespoons salad oil and $\frac{1}{2}$ cup warm water (about 110°); stir to blend well and form a thick paste (if mixture seems very stiff, add a little more water). Cover and let rise in a warm place until doubled and very bubbly (about 30 minutes). Stir down. If necessary, topping can stand, covered, at room temperature for another 15 minutes; then stir again.

Meanwhile, shape dough into loaves or rolls. Spread topping evenly over tops and down sides of rolls or loaves. Cover very lightly with clear plastic wrap. Let rise. Remove plastic, and bake as recipe directs.

For a decoratively slashed crust, make $\frac{1}{2}$ -inch-deep cuts on tops of loaves, using a single-edged razor blade or a floured sharp knife, just before baking. Traditional patterns include three evenly spaced diagonal cuts on oblong loaves, and a cross, ticktacktoe pattern, or radial slashes on round loaves. Besides making the crusts attractive, the slashes allow steam to escape during baking, preventing the loaves from developing cracks on their sides.

For a seed-studded crust, brush the bread with an egg glaze (see "For a lustrous crust," at left), then sprinkle with $\frac{1}{4}$ to $\frac{1}{2}$ teaspoon of seeds before baking. Seeded crusts give you a double bonus: they deliver extra flavor as well as a tempting appearance. Depending on the flavor of your bread, you might try poppy or sesame seeds, caraway seeds (traditionally used with rye breads), dill seeds, cumin seeds, or fennel seeds. If you're making an oat-flavored bread, you can dot each loaf with $\frac{1}{4}$ cup rolled oats softened in $1\frac{1}{2}$ tablespoons milk before baking; this will give you an attractively pebbled topping (see photo on page 3).

ASSIGNMENT 6: SURFACE TREATMENTS

/11

USING THE "CUSTOM-MADE CRUSTS" INFORMATION SHEET, ANSWER THE FOLLOWING QUESTIONS:

1. HOW DO YOU ACHIEVE A TENDER CRUST? (1)

2. WHAT IS A DUTCH CRUNCH TOPPING? (1)

3. BRUSHING A CRUST WITH EGG DOES WHAT? (2)

4. HOW IS A CRUST SLASHED? (1)

5. WHAT IS THE PURPOSE OF SLASHING? (1)

6. HOW IS THE CHEWY-CRISP CRUST OF FRENCH BREAD ACHIEVED? (2)

7. WHAT KIND OF SEEDS CAN BE USED FOR A SEED-STUDED CRUST? (3)

30

CHAPTER

Yeast Products

* Read Ch 30
from the
PROFESSIONAL COOKING
textbook to answer
the next pages *

Bread is perhaps the most important product of the bakeshop. Procedures for making breads and other yeast products are discussed in Chapter 30. To make these products successfully, you must understand how to mix ingredients into doughs, how to control gluten development, and how to control yeast fermentation.

After studying Chapter 30, you should be able to:

1. Prepare breads and dinner rolls.
2. Prepare sweet dough products.
3. Prepare Danish pastry and croissants.

A. Terms

Fill in each blank with the term that is defined or described.

1. The process by which yeast acts on carbohydrates to produce alcohol and carbon dioxide gas.

2. The continuation of the yeast action after the dough is shaped into loaves or other products, resulting in increase in volume.

3. A dough that is low in fat and sugar.

4. A dough that is high in fat and sugar, and sometimes eggs.

5. The rapid rising of a yeast dough in the oven due to production and expansion of gases.

6. A dough in which fat is incorporated into the dough in many layers by using a folding and rolling procedure.

- _____ 7. A yeast dough mixing method in which all ingredients are combined at once.
- _____ 8. A dough that has fermented too long.
- _____ 9. A dough that has not fermented long enough.
- _____ 10. A method of deflating dough to expel carbon dioxide.
- _____ 11. The process of shaping scaled dough into smooth, round balls.
- _____ 12. A crescent-shaped roll made of a rolled-in dough.
- _____ 13. Crumb topping for pastries, made of flour, butter, and sugar.

B. True/False

- T F 1. The dough arm attachment is used for mixing most yeast doughs.
- T F 2. A well-developed French bread dough should be quite sticky.
- T F 3. Club rolls and Parker House rolls are two examples of rolled-in dough products.
- T F 4. Punching is done by hitting the dough with your fist.
- T F 5. The temperature of a proof box should be set at 75°F (24°C) for most yeast products.
- T F 6. When made-up bread loaves are placed in baking pans, seams should be on the bottom.
- T F 7. Most breads and rolls are baked at a temperature of about 350°F (175°C).
- T F 8. Rich doughs are usually slightly underfermented before punching.
- T F 9. Bread in the oven is tested for doneness by testing it with a dough thermometer.
- T F 10. To maintain freshness, bread should be stored in the refrigerator.

C. Mixing Yeast Doughs

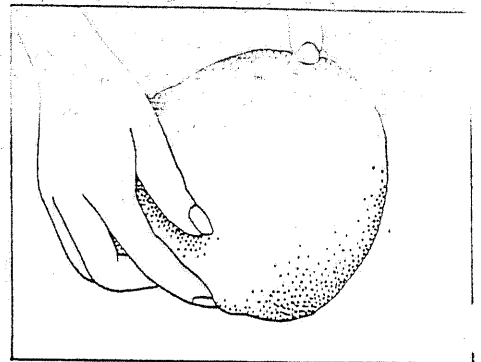
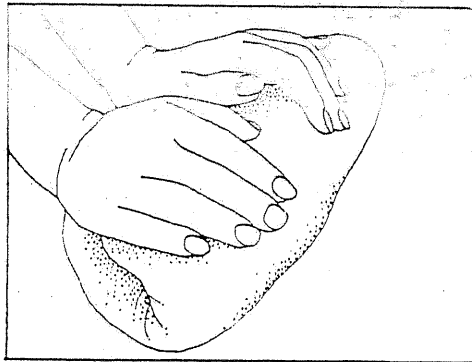
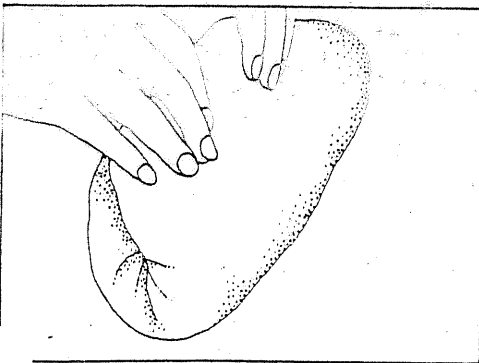
1. In the space below, write the procedure for mixing yeast doughs by the straight dough method.

2. In the space below, write the procedure for mixing rich yeast doughs by the modified straight dough method.

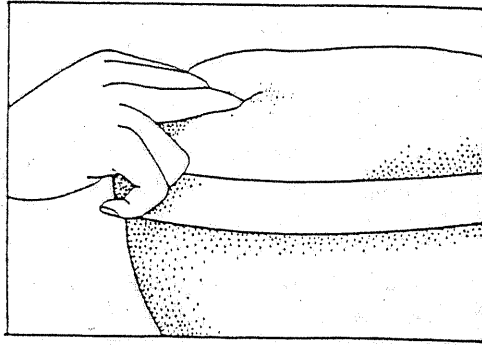
3. In the space below, write the procedure for mixing yeast doughs by the sponge method.

POINTERS FOR BAKING PERFECT BREAD

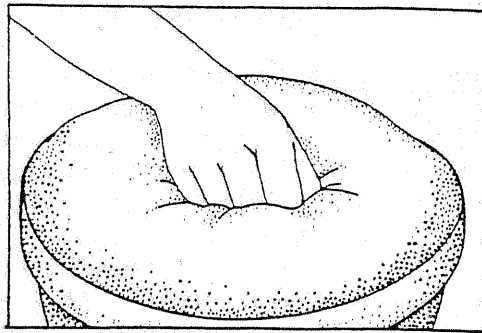
- ✓ Temperature is important. Since yeast is a living plant, too much heat can retard its action and too little can also slow it down. The kitchen should be warm enough for you to be comfortable wearing a short-sleeved garment (25 - 30°C). If your room is too cold, here are some ways to keep your dough warm:
 - ✓ a) Wrap the covered bowl of dough with a thick towel.
 - b) Place the bowl in a pan of warm water (not hot).
 - c) Put the bowl of dough into an unheated oven with a bowl of warm water on the shelf beneath it.
2. Handling the Yeast: When you add any liquid to the dough be sure to test it first on the inside of your wrist; it should feel WARM, not hot. If bowls are cold, first rinse them with HOT water.
3. When the recipe calls for a "soft dough": Add enough flour at mixing or kneading time to prevent dough from sticking to your hands, but keep it as soft as possible. ✓ Soft dough will have a rough, dull appearance and be slightly sticky.
4. ✓ How much flour is on a "lightly floured board"? A general rule to remember is to allow about 15 mL flour for each 250 mL flour called for in the recipe. Use even less if you want a very light dough.
5. Kneading - the personal touch: ✓ Kneading distributes the flour evenly and develops the gluten which supports the yeast fermentation. Place the dough on a floured surface. Then, using a smooth three-step motion, knead until very smooth and elastic: (1) fold the dough towards you with a rolling motion; (2) with heels of hands press down hard, pushing the dough away from you; (3) give the dough a quarter turn. Repeat. If dough becomes sticky, flour hands and board lightly using only enough flour to prevent sticking. Continue kneading vigorously and rhythmically until dough is smooth and springy and appears blistered beneath surface.



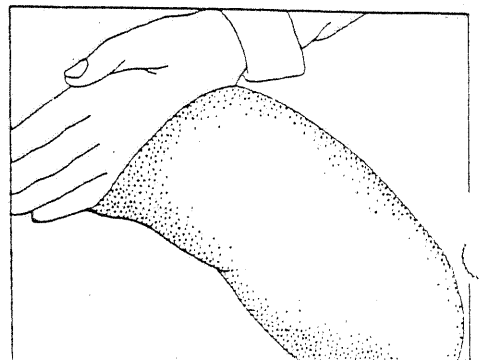
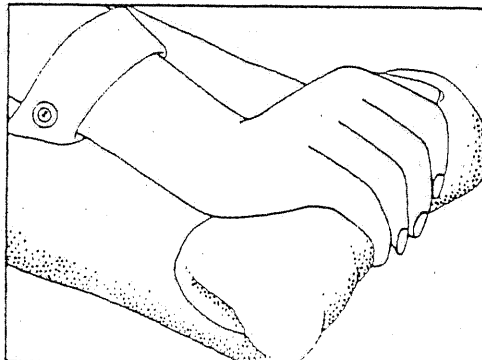
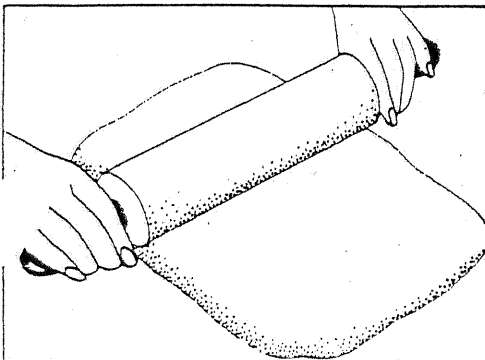
6. Rising of the Bread Dough: Place dough in large greased bowl, and lightly grease the top of the dough. Cover loosely with waxed paper or plastic wrap, then with a towel. Place in a warm draft-free place (25 - 30°C). If room temperature is too cool, the bowl may be placed in an unheated oven with a pan of hot water on rack below it. Let dough rise until doubled in volume. To test, press finger lightly into dough; if dent remains, dough has doubled.



7. "Punching Down" the Dough: Straight doughs are sometimes punched down one or more times and allowed to rise again. To do this, remove the carbon dioxide gas from the dough by plunging your fist into the middle of the dough, folding the edges to the center and turning it over. Then, allow the dough to rise a second time until its bulk has almost doubled. If the fermented dough is not punched down and the dough rises too much, an unpleasant or sour flavor may develop and the gluten strands may be injured.



8. Shaping the Dough: For loaves, dough can be shaped by simply forming into smooth loaves with the hands. Or, use the rolled-dough method: roll the dough out to a rectangle, rolling firmly to break any gas bubbles. Roll dough up fairly tightly, sealing well with fingers. Seal the ends by pressing down hard with edge of hands and fold the ends underneath. It is important that the finished dough comes in contact with the short ends of the pan to help support the dough as it rises. When the loaf is in the pan you may grease top lightly.



BAKING CHECK LIST

Checking the Bread you Bake When Your Results are Less Than Perfect

Description of Problem	Why
1. Dough did not rise or rose too slowly	-Liquid used was too hot and killed the yeast OR -Liquid and other ingredients too cold OR -Temperature where dough put to rise was too cold OR -Too much salt was added by mistake
2. Dough was sticky	-Underkneaded OR -Overkneaded
3. Used more flour or less flour than usual	-Humidity can change the amount of flour needed. Flour tends to dry out in the winter so less is needed; in summer, flour picks up moisture so more is needed. Most recipes give a range of quantity for this reason. -Temperature of the liquids affects the stiffness of the dough. If liquids are hot, you will use less flour to obtain a dough of the same stiffness as when cooler liquids are used.
4. Bread is too small	-Size of pan was too large for the amount of dough OR -Oven too hot or the dough was too cold OR -Insufficient rising period
5. Bread is too large and poorly shaped	-Rising period too long OR -Too much yeast OR -Size of pan was too small for the amount of dough OR -Oven temperature too low OR -Salt omitted.
6. Bread falls after it is placed in oven	-Dough allowed to rise too long or in too warm an area OR -Not enough flour
7. Bread did not rise in the oven	-Dough allowed to rise too long OR -Oven was too hot
8. Bread has coarse texture and is crumbly	-Dough allowed to rise at too high temperature OR -Overkneaded
9. Bread is solid and compact	-Dough not allowed to rise enough OR -Dough allowed to rise too long and cells collapsed
10. Large holes	-Improper punching and shaping (large gas bubbles not eliminated) OR -Dough too soft (not enough flour) OR -Dough allowed to rise too long
11. Large air space beneath crust	-Dough too stiff (too much flour) OR -Dough not allowed to rise enough OR -Crusting of dough during rising OR -Overkneading