

**GRADE 7**

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**Nutrition**

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## NUTRITION

GRADE: 7

LESSON: 1

THEME: FOOD CLASSIFICATION

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CONCEPT: THE NWT FOOD GUIDE RECOMMENDS VARIATIONS IN THE NUMBER OF DAILY SERVINGS BASED ON AGE, SEX, BODY SIZE, ACTIVITY LEVEL AND HEALTH

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- PREPARATION:
1. Prepare a class set of the Food Servings Guide wheels (Activity Sheet N51 A - N51 B Teacher Answer Guide)
  2. Prepare a class set of the Factors Affecting Number of Servings (Activity Sheet N52A - N52B Teacher Answer Guide)
  3. Prepare a class set of the Lifecycle Nutrient Needs sheets (Activity Sheets N53A and 53B)
  4. Materials for the Bulletin Board display
  5. Ingredients for a lunch for the class, plus a lunch for a younger class
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VOCABULARY: variations, range

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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to:  i) identify the recommended numbers of daily servings for different age groups	Students:  1. Review the recommended number of daily servings from the four food groups.	Background information: Page N76 to N79  Review Grade 6 materials on the four food groups, "extras" group, the major and leader nutrients found in each food group and their functions.  Refer to the NWT Food Guide. Milk and milk substitutes: 3 - 4 servings (adolescents) Bannock, bread and cereals: 3 - 5 servings Fruit and vegetables: 4 - 5 servings Meat, fish, birds and eggs: 2 servings

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OBJECTIVES

STUDENT ACTIVITIES

TEACHER NOTES

2. Make a list of the daily servings from the Milk and Milk Substitutes Group for different ages.

3. Make a reference guide on the recommended number of daily food servings from the four food groups by age group.

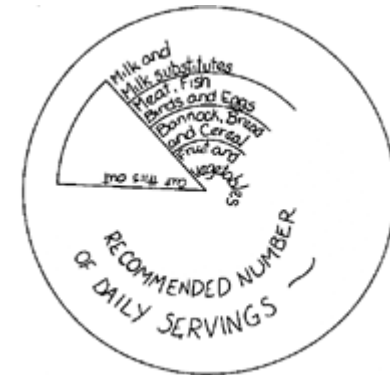
Use an experience chart as illustrated.

Age	Recommended Daily Servings
Children up to 11 years	2 - 3
Adolescents	3 - 4
Adults	2
Pregnant and nursing women	3 - 4
Older adults	2

Refer to Activity Sheet N51A

Refer to Activity Sheet N51 B for answers.

Have students make a Food Servings Guide Wheel which includes the recommended number of daily food servings for each food group.



OBJECTIVES

STUDENT ACTIVITIES

TEACHER NOTES

ii) identify factors that influence variations in numbers of servings

4. Discuss the different needs of babies from the four food groups.

Have students discuss why babies in particular have different requirements and what these requirements are.

Age	Milk	Meat	Fruit and Vegetables	Bannock, Bread and Cereal
0 - 3 months	✓			
4 - 6 months	✓			✓ (infant cereal)
7 - 24 months	✓	✓	✓	✓

5. Brainstorm reasons why the NWT Food Guide suggests a range of servings for some of the food groups.

Factors that influence the number of servings include:

- age
- sex
- weight
- special physical needs, e.g., growth
- activity levels

6. Complete the Factors Affecting Numbers of Servings worksheet.

Refer to Activity Sheet N52A.  
Refer to Activity Sheet N52B for answers.

7. Prepare a report on the recommended number of daily servings for different groups of people.

Refer to Activity Sheets N53A and 53B.  
Divide the students up into six groups. Have each group take one of the following groups of people and identify specific nutrient needs for that group.

- infants (to age 2)
- children (to age 11)
- adolescents
- adults
- pregnant and nursing women
- older adults/elders

OBJECTIVES

STUDENT ACTIVITIES

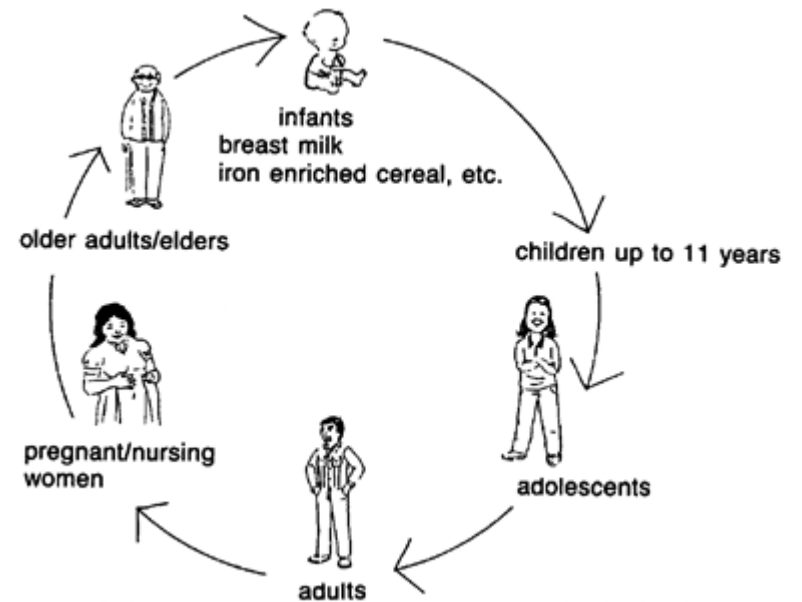
TEACHER NOTES

8. Make a bulletin board display of Lifecycle Nutrient Needs.

The groups should use a similar report format:

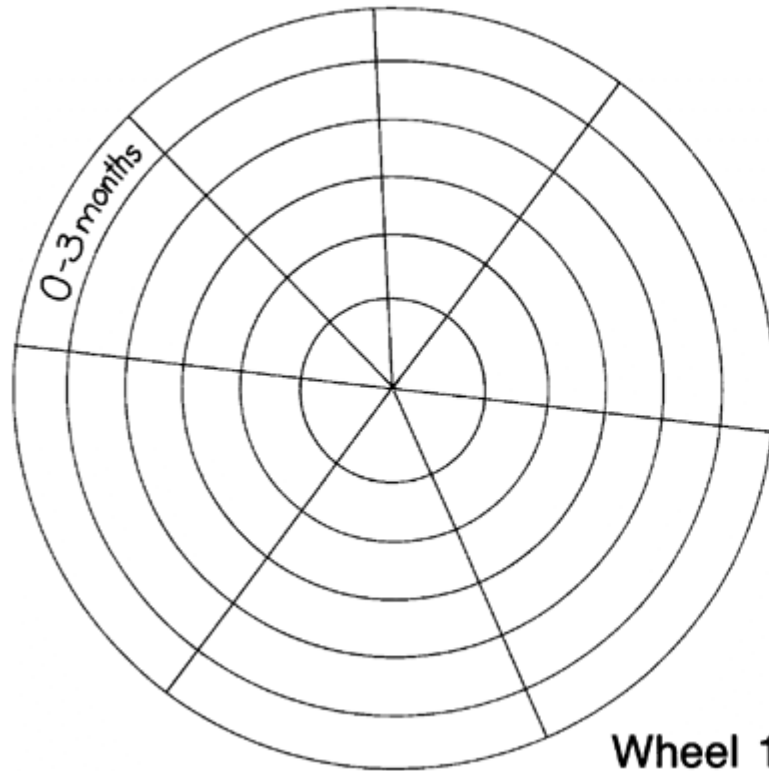
- the nutrient needs and why
  - the foods which meet these nutrient needs
  - problems related to that group (e.g., adolescents - over or under weight)
  - eating habits
- Have each group report back to the whole class.

Based on the reports prepared in Activity 7 have students make the information into a bulletin board display of Lifecycle Nutrient needs. They can also use pictures/photographs of people in each category.

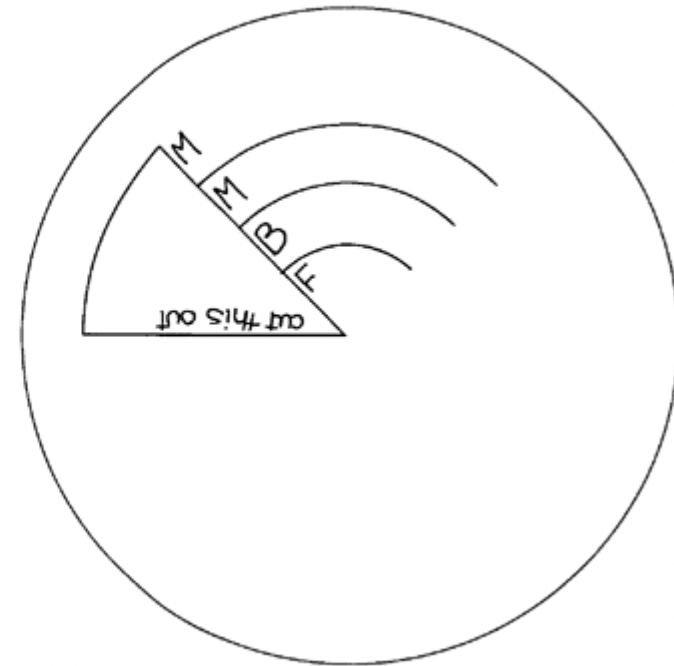


OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>9. Prepare a lunch for themselves and a lunch for children in a younger class.</p>	<p>Have students prepare a lunch for themselves (adolescents) and for children in a younger class. Compare numbers and sizes of servings from the four food groups.</p>

# FOOD SERVINGS GUIDE



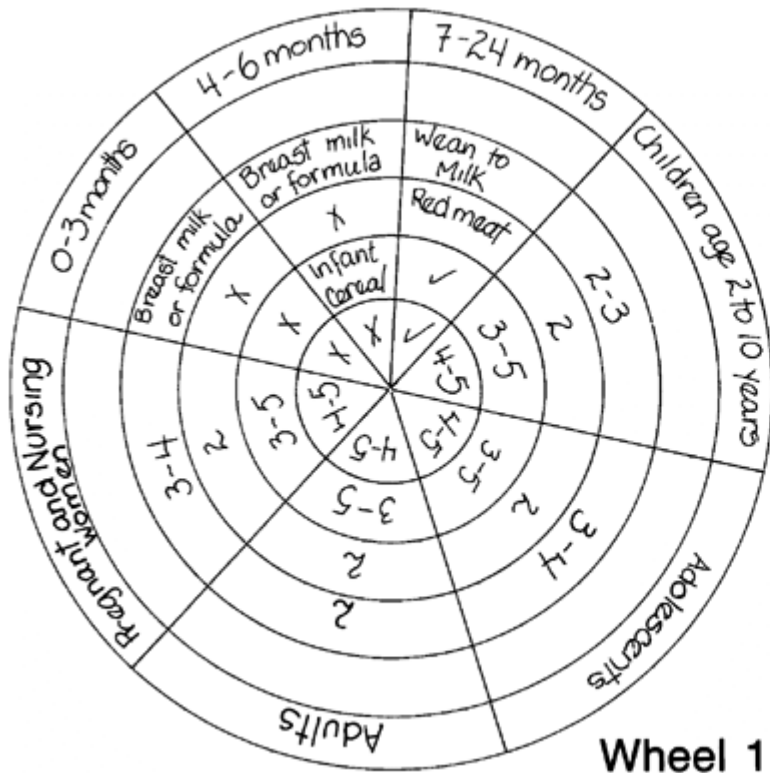
Wheel 1



Wheel 2

- 1.) Cut out the two wheels.
- 2.) On the outside ring of wheel number one, write the name of each age group. Use the small spaces for babies' ages.
- 3.) On wheel number two, write the names of the four food groups beside the appropriate letter.
- 4.) Place wheel two on top of wheel one. Attach with a split pin.
- 5.) Write in the recommended number of servings for each age group.

# FOOD SERVINGS GUIDE (TEACHER ANSWER GUIDE)



- 1.) Cut out the two wheels.
- 2.) On the outside ring of wheel number one, write the name of each age group. Use the small spaces for babies ages.
- 3.) On wheel number two, write the names of the four food groups beside the appropriate letter.
- 4.) Place wheel two on top of wheel one. Attach with a split pin.
- 5.) Write in the recommended number of servings for each age group.



# FACTORS AFFECTING NUMBERS OF SERVINGS

Instructions: Find the words given below and circle them.

- age
- sex
- weight
- physical needs
- activity level
- nursing women
- nutrients
- adolescents
- appetite
- health problem

A	Q	L	M	N	U	R	S	I	N	G	W	O	M	E	N
D	C	A	O	D	F	T	E	H	E	C	N	A	J	O	O
O	S	T	B	E	L	E	X	I	D	E	A	B	A	V	I
L	U	V	I	H	E	A	O	J	A	F	G	J	V	I	W
E	W	X	Q	V	A	B	Q	T	O	I	E	Z	O	B	E
S	X	A	R	O	I	C	X	S	B	A	O	W	J	G	I
C	Z	H	E	A	L	T	H	P	R	O	B	L	E	M	G
E	I	C	T	E	M	I	Y	V	H	T	F	M	K	L	H
N	P	H	Y	S	I	C	A	L	N	E	E	D	S	I	T
T	A	N	S	A	R	O	P	S	E	H	K	A	P	V	Z
S	E	A	P	P	E	T	I	T	E	V	W	H	J	O	E
O	B	Y	W	O	T	P	Q	L	C	C	E	I	E	W	S
P	D	N	U	T	R	I	E	N	T	S	L	L	K	E	Y

# FACTORS AFFECTING NUMBERS OF SERVINGS

## (TEACHER ANSWER GUIDE)

Instructions: Find the words given below and circle them.

- age
- sex
- weight
- physical needs
- activity level
- nursing women
- nutrients
- adolescents
- appetite
- health problem

A	Q	L	M	N	U	R	S	I	N	G	W	O	M	E	N
D	C	A	O	D	F	T	E	H	E	C	N	A	J	O	O
O	S	T	B	E	L	E	X	I	D	E	A	B	A	V	I
L	U	V	I	H	E	A	O	J	A	F	G	J	V	I	W
E	W	X	Q	V	A	B	Q	T	O	I	E	Z	O	B	E
S	X	A	R	O	I	C	X	S	B	A	O	W	J	G	I
C	Z	H	E	A	L	T	H	P	R	O	B	L	E	M	G
E	I	C	T	E	M	I	Y	V	H	T	F	M	K	L	H
N	P	H	Y	S	I	C	A	L	N	E	E	D	S	I	T
T	A	N	S	A	R	O	P	S	E	H	K	A	P	V	Z
S	E	A	P	P	E	T	I	T	E	V	W	H	J	O	E
O	B	Y	W	O	T	P	Q	L	C	C	E	I	E	W	S
P	D	N	U	T	R	I	E	N	T	S	L	L	K	E	Y

## LIFECYCLE NUTRIENT NEEDS

### Infants (to age 2)

- The quality and kind of food suitable for an infant change quickly during the first two years of life.
- Daily servings are not included in Canada's Food Guide for that reason.
- Mother's milk is nutritious, readily available, easily digested and contains antibodies to help combat infection especially.
- Breast milk or formula is the basic food from birth to six months.
- Iron enriched cereal can be added at four to six months.
- Iron enriched cereal, fruit and vegetables, meats, fish, eggs and milk are added at varying times from seven to 24 months.
- Commercial infant formulas are available as an alternative to breast feeding. The doctor or nurse recommends the type and amount of commercial formulas and food group items as the baby grows.
- The doctor or nurse recommends a vitamin supplement during infancy. Salt, sugar and fat should not be added to any foods.

### Pre-schoolers and Children (up to 11 years)

- Children need a wide variety of foods from the four food groups.
- Energy needs lessen during periods of slow growth and increase during periods of rapid growth; respect the size of the child's appetite.
- Portions of food served at meals may vary and small nutritious snacks will ensure that children get daily nutritional requirements.
- Snacks high in sugar and fat interfere with appetite and contribute to tooth decay or to being overweight.

### Adolescents

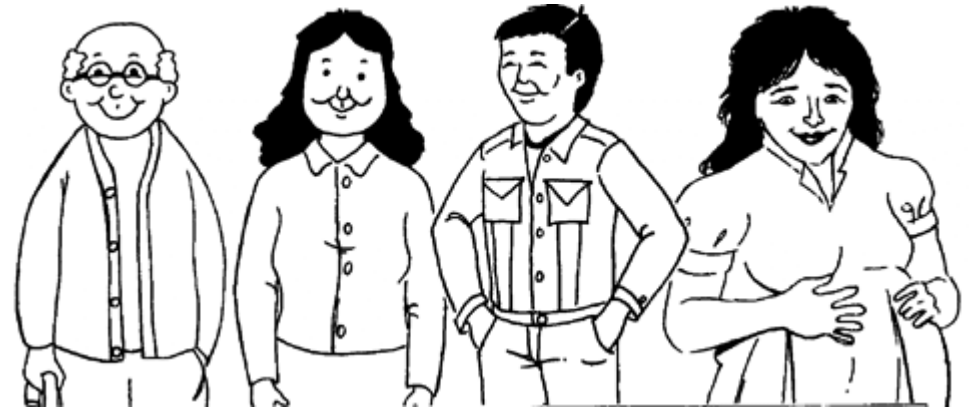
- Nutrient needs are highest in this age group because of rapid growth and maturation.
- There is an increased need for calcium for skeleton growth.
  - Increased physical activity may result in extra energy needs and more snacking. Food selection is in the upper ranges of all four food groups.



# LIFECYCLE NUTRIENT NEEDS

## Adults

- Weight is often gained gradually over the adult years as activity level usually decreases, and the body's metabolic rate slows down two to three per cent every decade.
- Prevention of obesity is an important challenge. Careful food choices and regular physical activity are needed
- Nutrient needs are unchanged but choosing foods that contain a high proportion of nutrients compared to energy (calorie) content is important.
- Entertainment and more relaxation time after children leave home may contribute to over eating, alcohol consumption and weight gain.
- Prevention of obesity and related health problems such as diabetes is important.



## Pregnant and Nursing Women

- Rapid growth of the fetus and maternal tissues during pregnancy requires increased intakes of many nutrients. Daily milk production requires the same.
- Calcium, protein and Vitamin D needs increase.
- Energy (calorie) needs increase.
- Vitamin B, iron and carbohydrate needs increase.
- Fibre needs increase to reduce constipation.
- Small frequent meals and nutritious snacks reduce nausea and heartburn.
- A variety of foods rich in Vitamin A and C are needed.

## Older Adults/Elders

- Food practices may change as health problems are experienced, e.g., disability, lack of energy, bone fragility, constipation, depression and loneliness, dental problems.
- Reduced income, changes in living accommodation, lack of physical activity and rising food costs may affect food practices.
- Nutrient needs are not changed although energy (calorie) requirements are less.
- Wise selection of foods that have higher nutrient density without being high in energy (calorie) content is important.
- Rising food costs and dental problems may reduce selection of fruits and vegetables and lead to inadequate intake of Vitamins A and C.
- Fruits and vegetables should be carefully prepared and or cooked to retain nutrients.
- Older women are particularly affected by osteoporosis. Calcium rich foods, such as milk and milk substitutes, are to be continued throughout life.
- Positive social environments enhance mealtime enjoyment and nutritional adequacy of diets.

Adapted from *Canada's Food Guide Handbook* (revised), Minister of Supply and Services, Health and Welfare Canada, 1987.

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## NUTRITION

GRADE: 7

LESSON: 2

THEME: FOOD SELECTION

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CONCEPT: FAMILY NEEDS AND PREFERENCES INFLUENCE THE PLANNING AND PREPARATION OF NUTRITIOUS MEALS

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- PREPARATION:
1. Prepare a class set of the Menu Planning worksheet (Activity Sheet N54)
  2. Prepare a class set of the Which Foods Do Our Elders Prefer? survey (Activity Sheet N55)
  3. Ingredients for a meal for elders in the community
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VOCABULARY: factor, influence

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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to:  i) identify some criteria to use in menu planning for people of different ages	Students:  1. List some criteria to use in menu planning for people of different ages.	Background information: Page N76 to N79  Different factors affect what people eat, e.g., an older person may have few, if any teeth and may need soft, boiled or stewed food. Brainstorm factors and how they influence food choice or preparation for different age groups.  (Refer students to the reports and bulletin boards from Lesson 1.)

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OBJECTIVES

STUDENT ACTIVITIES

TEACHER NOTES

ii) design a variety of daily menus that reflect the needs of different family members

2. Prepare a daily menu for different groups of people.

3. Complete the "Which Foods Do Our Elders Prefer?" survey.

4. Discuss the importance of proper infant nutrition.

Record student responses on an experience chart as illustrated.

Age group	Factor	Influence on food choice or preparation
elderly	- few or no teeth - live alone - budget	- soft, boiled, stewed food - small amounts - buy cheaper foods

Refer to Activity Sheet N54.

Divide students into the following groups:

- infant (1 year)
- children
- adolescent
- adult
- pregnant woman
- elder

Have each group take one age group. Using the shopping list on the activity sheet, design a daily menu of three main meals and snacks that reflect the needs of that group. Students should identify how the food items will be prepared, the recommended serving sizes and the number of servings from each food group, e.g., apple sauce - 1/2 cup - one serving Fruit and Vegetables. Discuss as a class.

Refer to Activity Sheet N55.

Have students interview elders in their family/community to obtain this information. Discuss the results as a class.

Prior to the class, invite the community health nurse to class to discuss proper infant feeding or visit the nursing station to attend a pre- or post-natal class on infant feeding.

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**OBJECTIVES****STUDENT ACTIVITIES****TEACHER NOTES**

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5. Prepare and share in a meal for elders in the community.

Based on the lifecycle nutrient needs and the factors that influence food choice and preparation, as well as the information from the survey, have students prepare a meal for elders in the community. Students should share in the meal and discuss the meal with the elders.





# WHICH FOODS DO OUR ELDERS PREFER?

Brainstorm questions which they can ask elders about their food needs and preferences. (A few are included below as suggestions). Use the question sheet to help plan nutritious food for elders. (You may have to be prepared to ask the questions in a native language).

What foods do you like best? \_\_\_\_\_

Where do you get most of your food (hunting, store, etc.)? \_\_\_\_\_

Are there foods that you would like to eat but can't? \_\_\_\_\_

What are they and what problems do you have with them? \_\_\_\_\_

Are store foods packaged in convenient sizes for you? Comment. \_\_\_\_\_

What kind of problems do you have preparing foods? \_\_\_\_\_

Do you like your food to be at a certain temperature before you eat? Hot, cold, warm. Explain. \_\_\_\_\_

When do you eat your food — regularly, when you're hungry, etc.? \_\_\_\_\_



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**NUTRITION**

GRADE: 7

LESSON: 3

THEME: FOOD CONSUMERISM

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CONCEPT: MANY FACTORS INFLUENCE CONSUMER FOOD DECISIONS

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- PREPARATION:
1. Magazine food advertisements
  2. Prepare overhead transparencies of Activity Sheets N56A and 56B (N56C - Teacher Resource Sheet)
  3. Prepare a class set of "A Critical Look at Advertising" (Activity Sheet N57A)
  4. A copy of the Clues sheet to read to the class (Activity Sheet N57B)
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VOCABULARY: factors, influence, techniques

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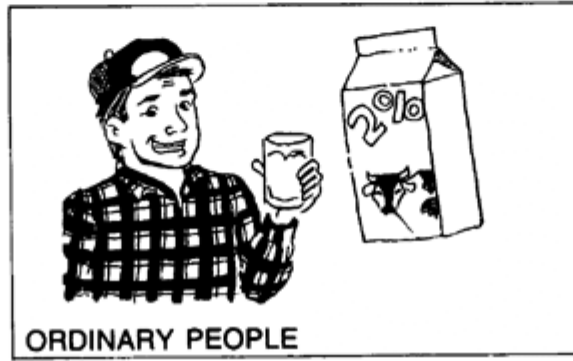
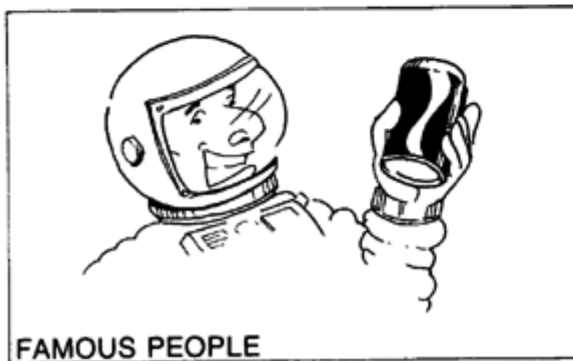
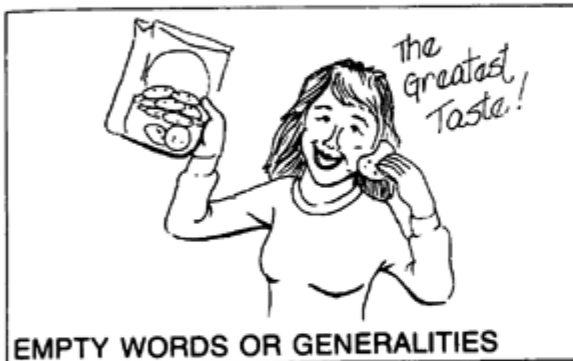
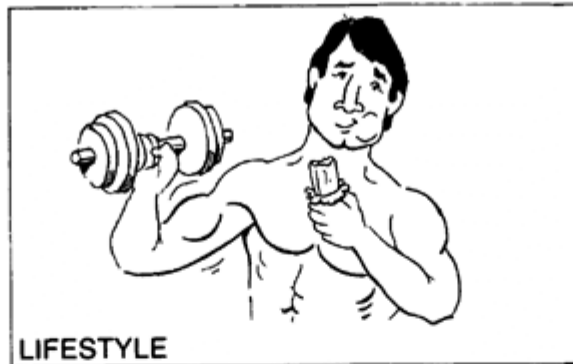
OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to:  i) explain how advertising affects food choices	Students:  1. List different types of advertising techniques that influence consumer food choices.	Background information: Page N71 to N72  Parts of this lesson relate to the Alcohol and Other Drugs Unit, Grade 8, Lesson 8.  Refer to Activity Sheets N56A, B, C. Have students list different types of advertising techniques. Use the overhead transparencies of Common Techniques used by Advertisers as a resource.

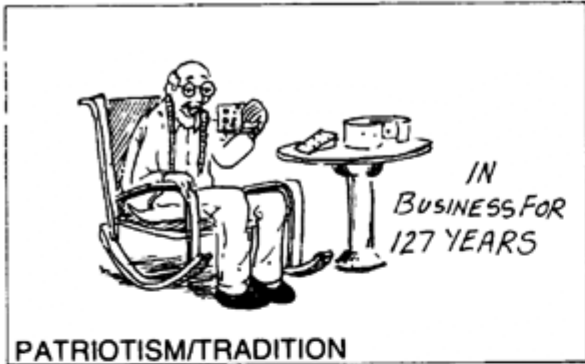
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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
ii) identify various factors that influence food choices of consumers	<ol style="list-style-type: none"> <li>2. Examine some magazine ads to determine the type of advertising used to influence consumers' choices.</li> <li>3. Complete the "A Critical Look at Advertising" worksheet.</li> <li>4. Design an advertisement for a nutritious food item.</li>   <li>6. Brainstorm various other factors that influence consumer food choices.</li> </ol>	<p>Have a number of familiar magazine food advertisements that might appeal to adolescents. Discuss the different kinds of advertising used to influence people's choices (especially adolescents).</p> <p>Refer to Activity Sheet N57A.</p> <p>Encourage students to design an ad for their favourite nutritious food. Elements of an advertisement include:</p> <ul style="list-style-type: none"> <li>- words - catchy and/or descriptive words</li> <li>- symbols - objects used in ads that typify desirable qualities or abstract ideas, e.g., birds - freedom</li> <li>- colours - colours suggest desirable objects, e.g., gold</li> <li>- product presentation - products can be presented boldly or "soft sell". The ad can be for print or for TV (students can perform the TV ad). Have other students examine the ads to determine what techniques have been used.</li> </ul> <p>Refer to Activity Sheet N57B.</p> <p>Advertising is one factor that influences consumer food choices. Others include:</p> <ul style="list-style-type: none"> <li>- price</li> <li>- demands of family members</li> <li>- food budget</li> <li>- food preferences</li> <li>- availability (seasons of year)</li> <li>- specific health problems (i.e., diabetic, dental health problems)</li> <li>- consumer awareness of nutritional need of self and family, and nutritional knowledge of foods</li> <li>- ease of preparation</li> <li>- eating patterns in a family</li> <li>- who does the shopping and whether children go along with them</li> </ul>

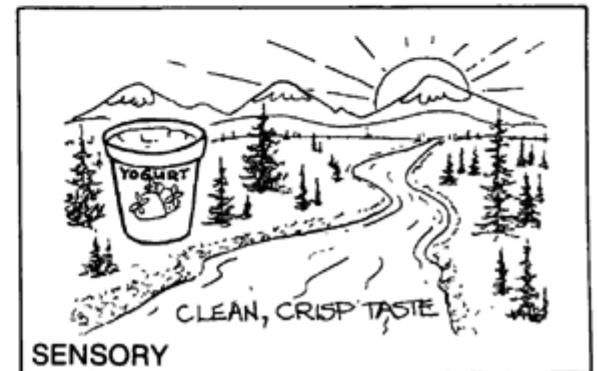
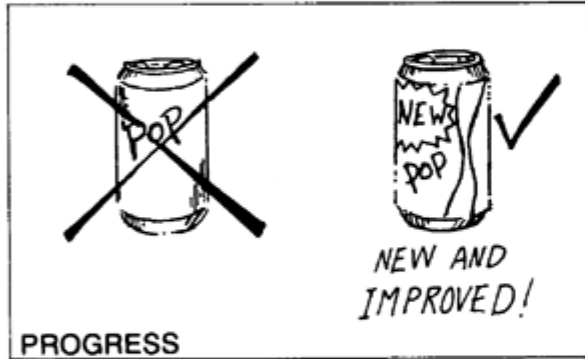
OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
	<p>7. List five food choices and give reasons for these choices.</p>	<p>Have students list five foods which they would choose. Explain what factors would influence their food choices.</p>

# COMMON TECHNIQUES USED BY ADVERTISERS





# COMMON TECHNIQUES USED BY ADVERTISERS



# TEACHER'S RESOURCE SHEET FOR "COMMON TECHNIQUES USED BY ADVERTISERS"

1. **BANDWAGON/JOIN THE CROWD** This technique gives the impression that almost everyone is using this product. It appeals to people's desire to belong or be part of a crowd. e.g., "Millions of people use "Beat the rush. . . "
2. **EMPTY WORDS OR GENERALITIES** This technique uses exaggerated expressions to describe the product. Usually there is no factual evidence to support the claims. e.g., "The greatest taste " "Superb . "
3. **FAMOUS PEOPLE** Well-known people such as TV stars, sport stars etc. are paid to promote the product. The implication is that, if they use it, it must be good. The product is not necessarily connected to their work. e.g., Bill Cosby and Coke Wayne Gretzky promoting 7-Up and Pro-Stars
4. **HUMOUR**  
Cartoons and ridiculous situations are used to make people laugh. People will remember it longer if it is funny.  
e.g., Ronald McDonald
5. **LIFESTYLE** Highly prized objects or desirable situations are shown along with the product to make it appealing. The advertisement suggests that by using the product you will be as happy, rich, popular etc as the people in the advertisement. e.g., Alcohol advertisements which suggest you will find romance if you use that brand
6. **NUMBERS/COMPARISONS** Use statistics, graphs etc. to prove it is better than a similar product. The problem is it does not usually say what tests etc. e.g., "Four out of five people recommend . . . " "Just taste the difference. . . "
7. **ORDINARY PEOPLE**  
Ordinary people like you or I are paid to promote the product. It appeals to our desire to be like everyone else. But remember, these people are paid to do this. e.g., Mother of young children talking about laundry detergent.
8. **PATRIOTISM/TRADITION**  
This technique implies that using the product will make you a better citizen or the fact that it has been used for many years means it must be good. e.g., "Canadian made" "In business for 127 years. . "
9. **PROGRESS**  
Ingredients/packaging may be changed to make the product appear new and different. e.g., "New, improved. . . " "Bigger, better . . "
10. **REWARDS**  
Coupons, free offers, gimmicks are used to appeal to people. Eventually, we have to pay for these "free" gifts through prices.  
e.g., Free gifts in cereal packages.
11. **SENSORY**  
Beautiful pictures or pleasing sounds are used to help people imagine that they can smell, hear, see, feel, taste the product.  
e.g., "Light, refreshing taste. . . " "Clean, crisp taste . . . "
12. **SNOB APPEAL**  
This technique implies that only first class people use the product. It appeals to people's desire for power and prestige.  
e.g., "All the best people use it. . . "
13. **SONGS/JINGLES/SLOGANS**  
People are encouraged to remember products through the use of catchy tunes, or poems that are easy to remember.  
e.g., "You deserve a break today. . . "
14. **UNDERDOG**  
This technique helps to make people sympathize with the product. It suggests that, with your help, it can become number one.  
e.g., "We're number two, so we try harder."

# A CRITICAL LOOK AT ADVERTISING

Choose five advertisements (either magazine or TV). Complete the information for each advertisement.

- |  |  |
|--|--|
| <p>1. Name of food or drink: _____<br/>Slogan: _____<br/>Message: _____<br/>Type of advertising technique: _____</p> | <p>4. Name of food or drink: _____<br/>Slogan: _____<br/>Message: _____<br/>Type of advertising technique: _____</p> |
| <p>2. Name of food or drink: _____<br/>Slogan: _____<br/>Message: _____<br/>Type of advertising technique: _____</p> | <p>5. Name of food or drink: _____<br/>Slogan: _____<br/>Message: _____<br/>Type of advertising technique: _____</p> |
| <p>3. Name of food or drink: _____<br/>Slogan: _____<br/>Message: _____<br/>Type of advertising technique: _____</p> |  |

Which advertisements made you want to buy the food items?

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Which advertisements promoted a nutritious food item?

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What type of food/drinks were most often advertised?

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# CLUES

## OTHER FACTORS THAT INFLUENCE FOOD CHOICES

Read each clue to the students. Have them guess which factor is influencing their choice.

- 1.) I'd like to buy lobster. It costs \$50 kg. (COST)
- 2.) I'd like to buy peaches. It's January. (AVAILABILITY)
- 3.) I'm diabetic. (SPECIFIC HEALTH PROBLEMS)
- 4.) I'd like to prepare a seven course dinner. I have one hour. (EASE OF PREPARATION)
- 5.) I'm going to eat a hamburger. It's my favourite food. (FOOD PREFERENCES)
- 6.) My mother makes me eat cheese. I hate cheese. (NUTRITIONAL AWARENESS)
- 7.) Every week my grandmother comes to visit. She always makes bannock (or muffins) and tea (or juice) for us. (EATING PATTERNS, CUSTOMS, ETC.)
- 8.) I'm being very careful to eat properly. It's part of my training for the Arctic Winter Games. (NUTRITIONAL AWARENESS)
- 9.) I like sugar frosted cereal, but my mother always buys plain cereal. (WHO DOES THE SHOPPING, NUTRITIONAL AWARENESS)

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## NUTRITION

GRADE: 7

LESSON: 4

THEME: FOOD CONSUMERISM

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CONCEPT: FOOD ADDITIVES ARE CHEMICALS THAT ARE PUT IN FOOD FOR A VARIETY OF REASONS

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- PREPARATION:
1. Examples of different types of food additives (see Activity 2)
  2. A number of labels from foods such as cereals, juices, weiners, milk, etc.
  3. Materials for experiments
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VOCABULARY: food additive, enriched, fortified, texture, emulsify

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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to:  i) describe what is meant by a food additive	Students:  1. Describe what is meant by the term "food additive".	Background information: Page N75  Provide students with a first hand example. of a food additive. Have students make chocolate flavoured milk from milk and a powdered chocolate milk flavouring. Refrigerate and allow the chocolate milk to stand (without restirring) for several hours. While students are preparing their chocolate milk, pour a glass of commercial chocolate flavoured partly skimmed milk. Ensure that students see you do this. Refrigerate and allow the milk to stand, without stirring for several hours.

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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
<p>ii) list some food additives and their function</p>	<p>2. Describe the difference between the chemicals in food additives and the chemicals in food.</p> <p>3. Conduct an experiment to demonstrate the function of the food additive ascorbic acid.</p>	<p>Before drinking their milk, students will have to stir it again. The commercial product however will not need stirring. It contains a food additive called Carrageenan which prevents the chocolate from separating from the milk and settling to the bottom. Use a dictionary and general discussion to define food additives. Food additives are chemicals added to foods which affect the characteristics of the food (i.e., change it somehow).</p> <p>Food additives serve one or more purposes:</p> <ul style="list-style-type: none"> <li>- they maintain nutritional value of food (e.g., adding vitamins)</li> <li>- they keep food fresh long (e.g., bread)</li> <li>- they make food look better (e.g., colour)</li> <li>- they aid food processing (e.g., carrageenan in chocolate flavoured milk)</li> </ul> <p>Food is made up of chemicals. We have come to know them by a common name. For example:</p> <ul style="list-style-type: none"> <li>Water - Hydrogen Oxide (H<sub>2</sub>O)</li> <li>Salt - Sodium Chloride (NaCl)</li> <li>Vinegar - Diluted Acetic Acid</li> <li>White sugar - Sucrose</li> </ul> <p>Food additives are also chemicals but they generally have no common name. Names are unfamiliar, long, and often difficult to pronounce, e.g., calcium propionate</p> <p><b>Materials:</b> knife, glasses, dishes, ascorbic acid*, water, pieces of fresh fruit (apple, banana, pear, peach) *Obtain ascorbic acid (or Vitamin C) from nursing station or store.</p> <p><b>Procedure:</b> Prepare an ascorbic acid solution by grinding ascorbic acid pills to a powder and dissolving in water. Cut two pieces of each fruit.</p>

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	<p>4. Conduct an experiment to demonstrate the function of the food additive calcium propionate.</p>	<p>Dip one piece in the ascorbic acid solution; dip the other piece in water. Remove and place on dishes being careful to identify which fruit was dipped in each liquid. Allow fruit to stand for one hour at room temperature. Observe the samples and record observations. Ascorbic acid preserves the colour of the food (by preventing oxidation).</p> <p><b>Materials:</b> large bowl, measuring cups and spoons, wooden spoon, two pyrex loaf pans, oven</p> <p><b>Recipe: One Bowl, No Knead Bread</b></p> <table data-bbox="1060 706 1953 771"> <tr> <td>1 tbsp. Yeast</td> <td>1 tsp. salt</td> </tr> <tr> <td>2 cups lukewarm water</td> <td>4 cups flour</td> </tr> </table> <p>Dissolve yeast in one cup lukewarm water. Add flour, salt and just enough of the second cup of water to stir into a soft, sticky dough. Cover, let rise in a warm place until double in bulk (about 1 1/2 hours). Punch dough down vigorously and divide into two loaves. Shape dough into loaves and place in well buttered loaf pans. Let rise again until double. Place in a cold oven. Set at 350. Bake 30 - 40 minutes.</p> <p><b>Procedure:</b> Make "One Bowl, No Knead Bread" or use a recipe of your own. Cool bread after baking and store in a closed plastic bag. Purchase a loaf of bread containing calcium propionate. On day one, have students sample both breads. Observe freshness of each. Store both breads tightly wrapped for five days and sample again. Observe freshness. Repeat again if necessary. The store bought bread contains calcium propionate (allow students to read this on the label). This food additive preserves the freshness of the bread longer than the bread made without the additive.</p>	1 tbsp. Yeast	1 tsp. salt	2 cups lukewarm water	4 cups flour
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## OBJECTIVES

## STUDENT ACTIVITIES

## TEACHER NOTES

5. Examine food products which do not have colour as an additive.
6. Examine the labels of food products and record food additives and their functions.

Examine various "batches" of baby foods'. The colour between jars of the same food (e.g., pears) varies because the manufacturer has not added colour to ensure that they are all exactly the same (as is often done with adult foods). 'On a single trip to the store all jars may look the same, but over time food from different batches will reveal slight colour differences.

Provide food labels/packages. Develop an experience chart as shown.

Food	Additive	Function
Diet Pepsi	Aspartame	- to sweeten food without calories or food value
Nutriwhip	Sodium Stearoyl - 2-Lactylate	- a whipping agent
Rediwhip	Nitrogen or Nitrous Oxide	- to propel the food from the can in a whipped state
Marshmallow or Dried Coconut	Sorbitol	- to prevent the food from drying out
Cheese	Rennet	- to curdle milk in the making of cheese
Bread	Calcium Propionate	- to preserve freshness
Chocolate Flavoured Milk	Carrageenan	- to prevent chocolate from separating from milk

**OBJECTIVES**

**STUDENT ACTIVITIES**

**TEACHER NOTES**

iii) explain the advantages and disadvantages of food additives

7. List four reasons why food additives are used, the names of some of these additives, the kind of food they are added to and the result of using the food additive.

Develop an experience chart with students.

Purpose	Examples		
	Additive	Food	Result
Preserve food	ascorbic acid sorbitol	fruits/vegetables marshmallows	Foods stay fresh longer Less wastage
Make food more attractive	carotene (colour) calcium silicate (anticaking agent)	butter free running salt/ baking powder	Food colour, texture is consistent from container to container
Maintain nutritional quality	BHA (butylated hydroxyanisole)	Vitamin A	Stability of vitamin is enhanced
Aid in food processing	calcium chloride lecithin	canned vegetables mayonnaise	Consistent composition and quality from container to container

## OBJECTIVES

## STUDENT ACTIVITIES

## TEACHER NOTES

8. Explain the advantages and disadvantages of food additives.

9. Explain why it is important to be knowledgeable about food additives.

Have students brainstorm the advantages and disadvantages of using additives. Record responses on an experience chart.

Advantages	Disadvantages
- wider range of food available	- not all food additives may be necessary
- more convenience foods available	- some additives may be harmful to health
- foods can be stored longer	- some people may be allergic to certain additives e.g., red colouring, sulphites

There is concern that some food additives may be harmful to health. It is important to be able to read labels for additives and to select foods which are low in food additives and high in nutritional value e.g., whole wheat bread as opposed to white "enriched" bread.

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**NUTRITION**

GRADE: 7

LESSON: 5

THEME: FOOD APPRECIATION

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CONCEPT: A WILLINGNESS TO EXPERIENCE FOODS WITH FEW ADDITIVES PROMOTES FOOD APPRECIATION AND HEALTH

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PREPARATION: 1. Ingredients for a number of different meals with few additives

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VOCABULARY:

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OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
Students will be able to:  i) explain and prepare a meal based on the NWT Food Guide using food items with few additives	Students:  1. Plan and prepare a meal which is based on the daily food servings in the NWT Food Guide which uses as few additives as possible.	Background information: Page N73 to N75  Divide students into several small groups. Have each group prepare one of the following meals: - a meal using mainly country foods - an evening meal using mainly store bought foods - a noon meal using- a mixture of country foods and store bought foods - a breakfast using store bought foods - some nutritious snacks using country food



OBJECTIVES	STUDENT ACTIVITIES	TEACHER NOTES
<p>ii) demonstrate a willingness to experience meals with few additives</p>	<ol style="list-style-type: none"> <li>2. Participate in a food tasting party.</li> <li>3. Describe the meals.</li> <li>4. List some of the foods which would not be available without food additives.</li> <li>5. Explain why it is important to choose foods which are low in additives.</li> </ol>	<p>Meals should consist of food items which have as few additives as possible. i.e., fresh, frozen. This means students have to discuss which foods contain few additives and compare foods.</p> <p>Have students sample the various meals.</p> <p>Have students write a report about the meal they prepared. The report should</p> <ul style="list-style-type: none"> <li>- list the food used</li> <li>- explain why that food was chosen</li> <li>- explain how the food was prepared</li> <li>- describe the meal (textures, taste, appearance, etc.)</li> </ul> <p>Have students list some of the foods which would not be available if there were not food additives.</p> <p>Refer to previous lesson.</p>