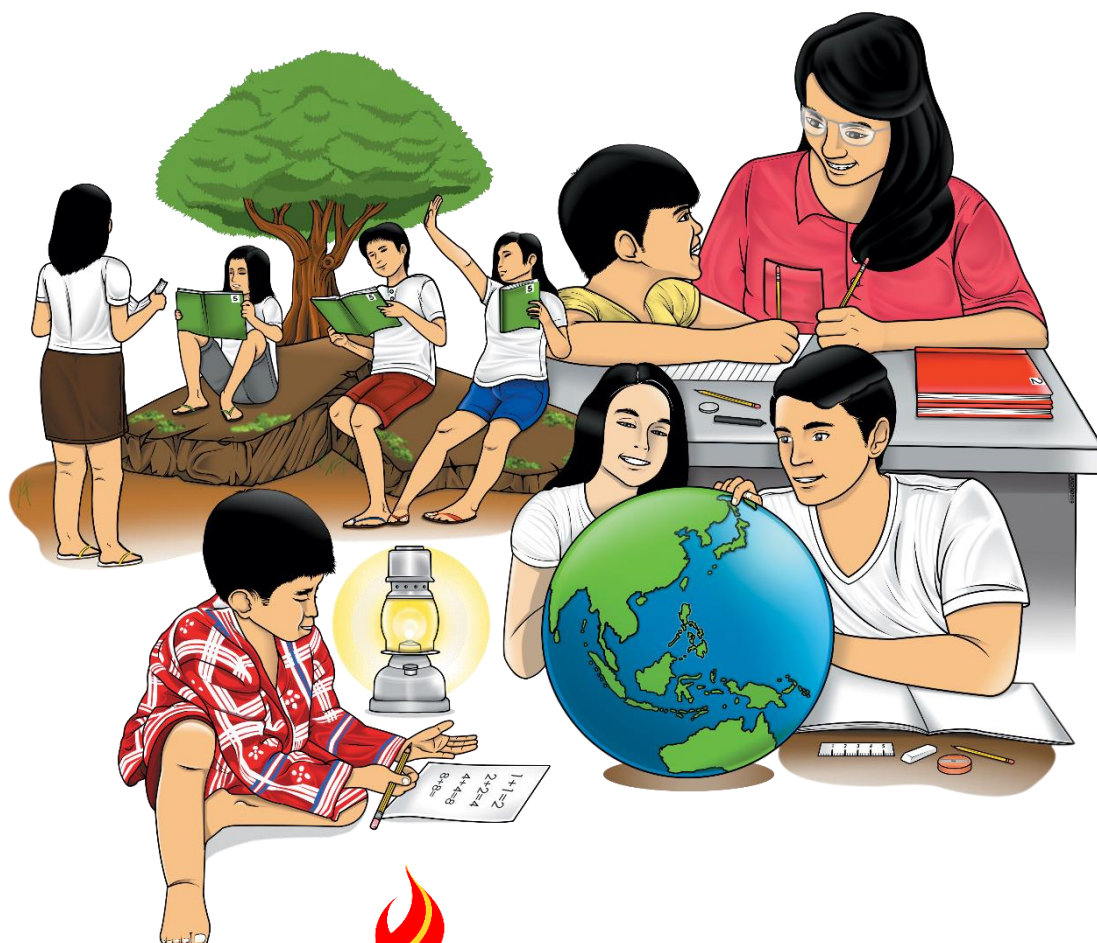




Technology and Livelihood Education

Home Economics

Module 11: Principles and Skills in Food Preservation



TLE (HE) – Grade 6
Alternative Delivery Mode
Module 11: Principles and Skills in Food Preservation
First Edition, 2020

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Technology and Livelihood Education

Home Economics

**Module 11: Principles and Skills
in Food Preservation**

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task. If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

Food preservation usually involves preventing the growth of bacteria, fungi and other micro-organisms. It also includes processes to inhibit natural aging and discoloration that occur during food preparation. Thus, the principles of various methods for food preservation are as prevention or delay of microbial decomposition and delay of self-decomposition of food.

This module was designed and written to help you preserve food by applying principles and skills in food preservation/processing.

The module is divided into two lessons, namely:

- Lesson 1 – Selecting Food to be Preserved/ Processed
- Lesson 2 – Observe Safety Rules in Food Preservation

After going through this module, you are expected to:

1. select food to be preserved based on the availability of raw materials, market demands, and trends in the community; and
2. observe safety rules in food preservation/processing



What I Know

Read each statement below. Draw a ☆ if it is a proper way of selecting food to be preserved/processed and ✗ if not. Write your answer on a separate sheet of paper.

1. Stale egg floats in the water while fresh egg stays at the bottom.
2. The gills of a fresh fish must be red to pink, not gray or brown.
3. Marbling has a beneficial effect on juiciness and flavor of meat.
4. Selecting fresh fish, meat, poultry products, fruits and vegetables in your locality is not of importance.
5. Small streaks of fat that are found within the muscle and can be seen in the meat cut is called marbling.

6. The eyes of a fresh fish are not bulging, not clear and shiny, are cloudy or sunken into the head.
7. The absence of defects in skin and flesh is an indication that the fruits and vegetables are fresh.
8. The fins of a fresh fish should be intact, moist and resistant to being pulled.
9. The fresh egg has a round yolk and the white is soft.
10. Fresh meat is soft rather than firm.

Lesson 1

Selecting Food to be Preserved

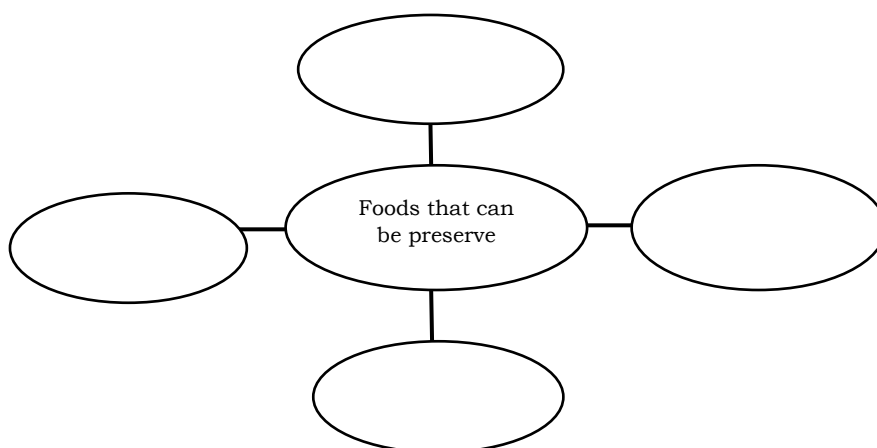
Food preservation is a method of ensuring healthy food and saving money for a family. It also provides practices of preserving fruits and vegetables in season.

Selecting available food such as fish, meat, poultry products, fruits and vegetables in your locality is essential. It is important to have a basic knowledge of the raw materials, its characteristics and availability. It also helps improve the quality and standard of the product that can meet the demands and needs of the community.



What's In

Complete the semantic web below with the foods that can be preserved. Write your answer on a separate sheet of paper.





Notes to the Teacher

Begin by orienting learners with the relevance of the module in providing varied, relevant activities and opportunities in improving learner's skills. Remind the learner to answer *What I Know*, *What Can I Do* and *Assessment* to test their own progress. Let them answer on a separate sheet of paper.



What's New

The puzzle below contains foods that can be found in the community. Look for the possible words that can be used in preservation. Write your answer on a separate sheet of paper.

WORD HUNT

p	o	r	k	w	l	a	z	x	c	v	b	t
a	b	k	t	r	t	m	u	g	a	j	l	a
s	t	c	h	i	c	k	e	n	i	i	o	m
a	s	d	f	n	g	a	p	a	p	a	y	a
d	f	g	h	g	k	l	l	v	z	x	c	r
q	w	e	r	e	t	a	y	a	u	i	o	i
a	s	d	f	g	h	y	k	j	l	m	n	n
m	n	b	v	c	h	a	y	o	t	e	z	d
r	a	s	p	b	e	r	r	y	p	a	s	s
o	g	r	a	p	e	s	z	m	n	e	g	g
s	t	r	a	w	b	e	r	r	y	s	a	a



What is It

Selecting Food to be Preserved

When you come to choose a method of food preservation your choice will depend on a number of factors from the type of food you are preserving. The quality and safety of home-preserved foods is dependent, in large part, on the ingredients that are used. Selecting the highest product at their peak of freshness is the first step. Those that show signs of decay or are heavily bruised should be avoided.

1. Meat Products

Meat quality is defined by the quality of lean, fat and the palatability factors. The visual identification of quality meat is based on color, marbling and water holding capacity. Marbling is small streaks of fat that are found within the muscle and can be seen in the meat cut. Marbling has a beneficial effect on juiciness and flavor of meat. The product should have a normal smell. Any rancid or strange smelling meat should be avoided. Meat should appear firm rather than soft.

2. Fishes

A fresh fish should have no smell. The scales of a fresh fish are tight on the skin, not lose or falling off or dried out. They are also bright, reflecting light easily, and have a metallic look. The eyes of a fresh fish should be bulging, clear and shiny, not cloudy or sunken into the head. If the eyes are cloudy, faded, milky or dull, the fish has aged a few days and is approaching a non-usable condition. The gills must be red to pink, not gray or brown. There should be no slime covering them. The fins should be intact, moist and resistant to being pulled.

3. Fruits and Vegetables

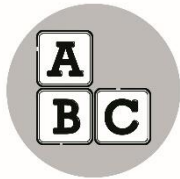
The choice to buy fresh fruits and vegetables is easy and affordable. If you are unable to get to a farmer's market or there is not one close by, you can go to your local supermarket. One tip to make better fresh fruits and vegetable choices is to look for what is in season. In selecting good, quality, inexpensive and fresh fruits and vegetables in the market it should be mature, firm, uniform size and shape, absence of defects, skin and flesh color.

4. Eggs

There are few things to check to ensure that you have bought quality fresh eggs. The eggshell should be clean, rough and should not have any cracks. The yolk should be round and centered in the whites and the egg white should be firm. There is also a quick test for freshness, if you put an egg in a basin, fresh eggs will stay at the bottom while stale eggs float.

Answer the following questions. Write your answer on a separate sheet of paper.

1. What is food preservation?
2. When can you select the best food to preserved/processed?
3. How will you know that you bought the quality, fresh and inexpensive food for preservation?
 - a. meat
 - b. fish
 - c. fruit and vegetable
 - d. egg

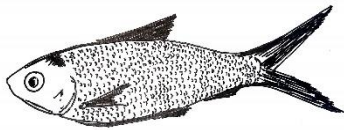


What's More

Activity 1

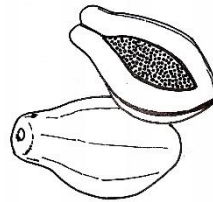
Study each picture carefully. What do you think is the characteristic that each food should possess?

1.



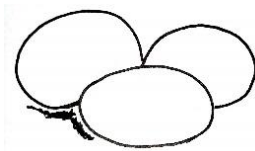
fish

2.



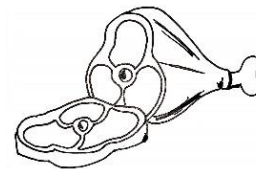
papaya

3.



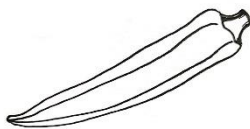
eggs

4.



meat

5.



okra

Activity 2

Read the situation below.

Situation:

One Saturday morning, Jenlyn's mother is not feeling well. So, she told Jenlyn to do the marketing. She handed her daughter a list of the food she needs to buy in the market. Jenlyn refuses because she didn't know how to choose quality, fresh and inexpensive foods. But mother insisted and give her instructions of what to look for. What do you think mother wrote in the instructions?

Mother's Instructions

Meat should be _____

_____.

Fish should have a _____

_____.

Fruits and vegetables need to be

_____.

Egg must be _____.



Activity 3

Make a poster that shows ways of selecting food to be preserved. Use the rubric below to assess.

	5	4	3	2	1
Content Poster contains appropriate items and information (information is appropriate to assigned topic).	Content is accurate and all required information is presented in a logical order.	Content is accurate but some required information is missing and/or not presented in a logical order, but is still generally easy to follow.	Content is accurate but some required information is missing and/or not presented in a logical order, making it difficult to follow.	Content is either questionable or incomplete. Information is not presented in a logical order, making it difficult to follow.	Content is inaccurate. Information is incomplete, inaccurate, or not presented in a logical order, making it difficult to follow.

Presentation Poster is clean, neat, and creative. The information is well organized, interesting, accurate, and reflects an understanding of the topic.	Presentation is neat, clean, well-organized and presented in a creative way. Presentation is colorful and creative. Information is interesting and accurate.	Presentation is mostly neat and clean. Information is organized in a logical manner and shows some degree of creativity. The overall presentation is interesting.	Presentation flows well. Some tools are used to show acceptable understanding.	Presentation is unorganized. Tools are not used in a relevant manner.	Presentation has no flow. Insufficient information.
Pictures, Clip Art and Artwork Images, pictures, clip art and drawn artwork are colorful and appropriate to the assigned topic. The layout flows well and shows creativity. The overall result is pleasing to the eye.	Images, pictures, clip art and drawn artwork are colorful, and appropriate to the topic. Layout flows well, shows creativity, and is pleasing to the eye.	Images, pictures, and clip art and drawn artwork are mostly colorful and appropriate. Layout may show some degree of creativity but is not organized logically and/or is cluttered.	Most images and/or artwork is are colorful and appropriate. The layout shows little creativity and/or is not organized logically or cluttered.	Images are inappropriate and artwork shows little, if any, creativity. The layout is messy, disorganized or cluttered.	No images or artwork included.
Mechanics Spelling, grammar, and punctuation in any text on the poster is accurate.	No spelling, grammar, or punctuation errors in the text. Text is in the pupil's own words.	A few (2-3) errors in spelling, grammar or punctuation. Most text is in pupil's own words.	No more than 5 spelling, grammar or punctuation errors. Several instances where the text is not in pupil's own words.	No more than 7 spelling, grammar or punctuation errors. Most of text is not in authors' own words and/or no text included.	More than 7 spelling, grammar or punctuation errors. Text is copied or not included.



What I Have Learned

Complete the thought of the sentence.

In selecting a food to be preserved/processed you should consider its _____ and _____.



What I Can Do

Select some foods available in the locality that can be used in preservation. Tell what characteristics each food should have to consider it as quality, inexpensive and fresh.

Name of food	Characteristic



Assessment

Read and complete each sentence. Choose the appropriate word/s from the box. Use a separate sheet of paper to answer.

gills	fins	firm	smell and color
fresh	beneficial	season	no smell
rough	signs	first step	

1. Fresh meat should appear _____ rather than soft.
2. Stale egg floats while _____ egg sink at the bottom of the basin full of water.
3. Quality and fresh meat has good lean, fat, and palatability factors such as _____.
4. Selecting the highest product at their peak of freshness is the _____ to consider in buying food to be preserved.
5. A fresh fish should have _____. The scales of a fresh fish are tight on the skin, not lose or falling off or dried out.
6. Fresh egg has clean, _____ and don't have any cracks on its shell.
7. Look for _____ food to make sure that you are buying quality, fresh and inexpensive food.
8. Food that show _____ of decay or are heavily bruised should be used in food preservation.
9. Marbling has a _____ effect on juiciness and flavor of meat.
10. The _____ must be red to pink, not gray or brown. There should be no slime covering them.



Additional Activities

Select and list down foods that can be found in the community which can be preserved.

Lesson 2

Observing Safety Rules in Food Preservation

Observing safety rules is important during food preparation and cooking. Understanding the hazards in the kitchen can help you avoid accident such as burns and even food poisoning.

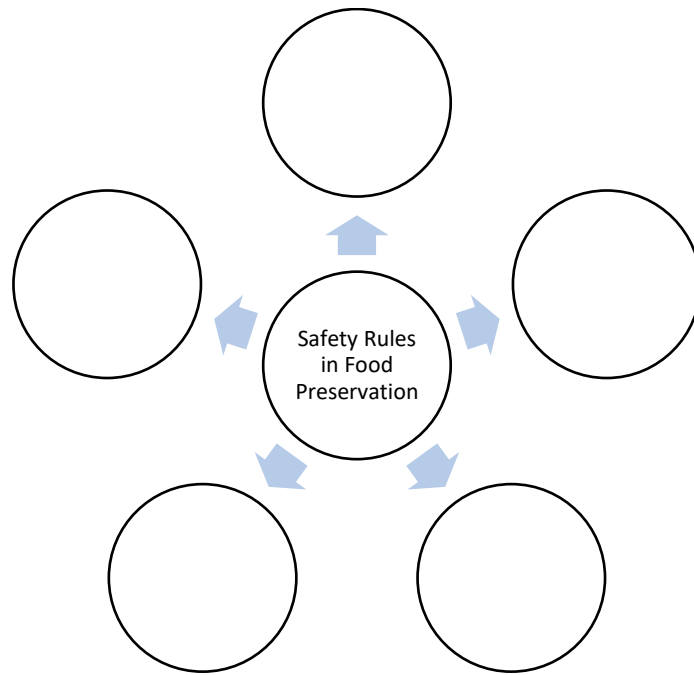
In order to stay safe in the kitchen, it is important to understand the dangers present in the cooking area, from sharp knives to hot stoves. Understanding the safety rules can help you protect yourself from danger.



What I Know

Read each statement. Choose the sentence that observes safety rules in food preservation and complete the semantic web below. Write your answer on your paper.

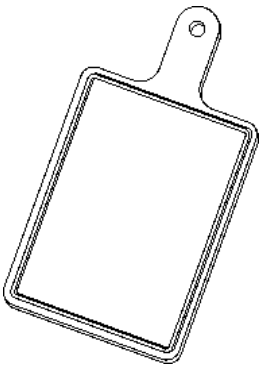
- ❖ Prepare and clean the area.
- ❖ All utensils to be used must be clean.
- ❖ Leave the kitchen area after cooking.
- ❖ Wash your hands before handling the food.
- ❖ Stir and lift away food near your face.
- ❖ Set a hot glass dishes on a wet or cold surface.
- ❖ Wear protective clothing when cooking.
- ❖ Use all the utensils though you do not know how to use it.
- ❖ Use the same chopping board for raw meat, fruits and vegetables.
- ❖ Do not use metal utensils on nonstick pans.



What's In

Identify and name each picture below. Write your answers on a separate sheet of paper.

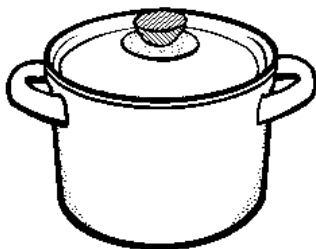
1.



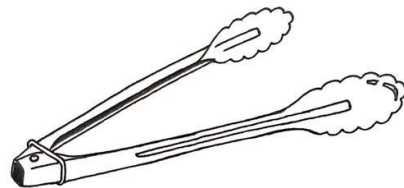
2.



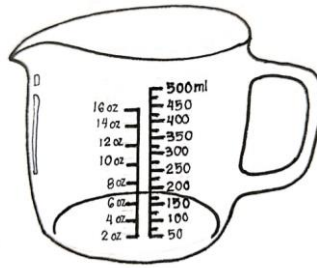
3.



4.



5.



Notes to the Teacher

Begin by orienting learners with the relevance of the module in providing varied, relevant activities and opportunities in improving learner's skills. Remind the learner to answer *What I Know*, *What Can I Do* and *Assessment* to test their own progress. Let them answer on a separate sheet of paper.



What's New

Study the picture below.



What can you say about the picture?

In what particular part of the house you can see this?



What is It

The kitchen is the heart of your home but can also be dangerous. It is equipped with sharp knives, pots of boiling water, pans of sizzling grease and other tools and equipment.

Here are some safety tips that could help you avoid kitchen injury /accident.

Safety Rules and Health in the Kitchen

1. Wash your hands before and after the preparation of food.
2. Rinse all fresh fruits and vegetables with clean and clear water before cooking.
3. Do not put cooked food on same plate, tray or cutting board as raw or ready to eat food to prevent cross contamination and the spread of bacteria.
4. When you finish measuring perishable foods, place the remaining food in the refrigerator to avoid spoilage.
5. If you spill something, take the time to clean it up properly.
6. Keep paper towels, dish towels and pot holders away from stovetops and oven doors so they will not catch fire.
7. Turn pot handles toward back where no one will knock them off the heating element or table.
8. Never add water to a pan that contains hot oil or fat that could cause a burn.
9. Never put water on a cooking fire. Quickly ask an adult to put out the fire. Do not try to move a burning object to another place.
10. Use knives safely. Cut/chop your food using sharp knife and chopping board.
11. Wear protective clothes and shoes. It should cover your body and feet (no sandals). Avoid loose fitting clothing. Take off jewelry including earrings, necklaces, bracelets and rings (it or pieces of it could fall into the food).
12. Wear hairnet. Wear some kind of clean head covering such as a ball cap, and bandana to avoid falling hair into the food.
13. Be careful not to get burn. Turn off burners, ovens and other hot equipment as soon as you finish cooking.
14. Keep electric appliances and cords away from water. Use dry hands to plug and unplug the electric appliances.



What's More

Activity 1

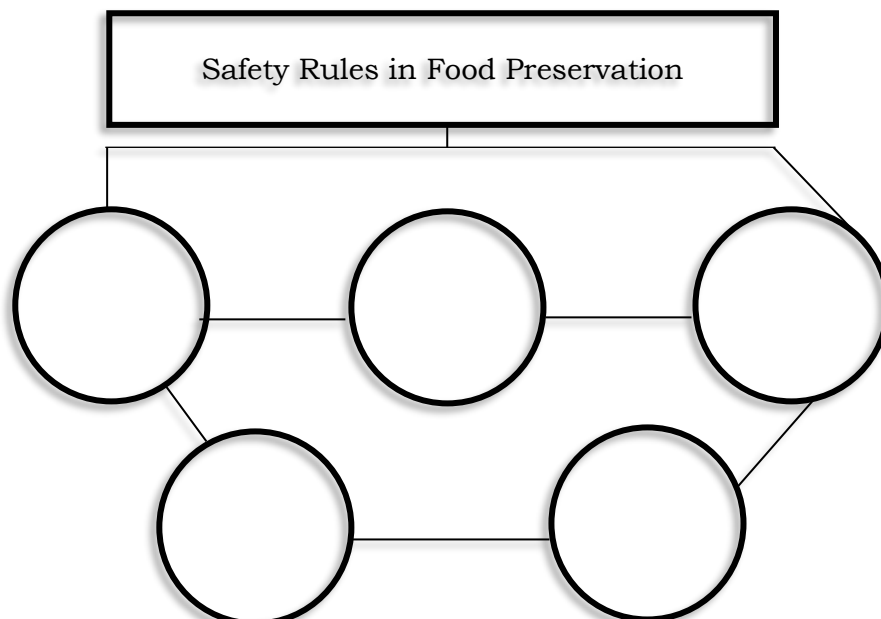
The following sentences are the **dos** and **don'ts** in food preservation. Classify each sentence in the proper column using the table below. Use a separate sheet of paper to answer.

- Prevent burns.
- Wear safety shoes.
- Wear protective clothing.
- Learn how to use knives.
- Learn how to extinguish a fire properly.
- Use metal utensils on nonstick pans.
- Set a hot glass dish on a wet or cold surface.
- Always stir and lift heated food cover near to you.
- Always wash your hands before and after handling food
- Use the same cutting board for raw meat, fruits and vegetables.

DOs	DON'Ts

Activity 2

Complete the Truck Map below. Write at least five (5) safety rules in food preservation/processing. Write your answer on a separate sheet of paper.



Activity 3

Complete the Semantic Web of the things you should **NOT** do when preserving/processing food. Use a separate sheet of paper to answer.

Things You Should Not Do When Preserving Food



What I Have Learned

Complete the thought of the sentence.

To avoid injury/accident during food preparation and cooking you should follow the _____.



What I Can Do

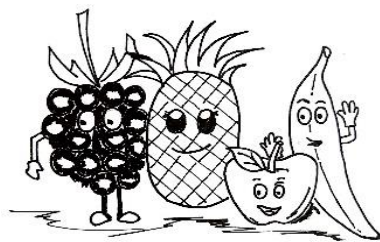
Write the important safety words on the space provided. Choose your answer inside the box. Write on a separate sheet of paper.

Food Safety Words

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



wash hands
bacteria
apron
contaminate
clean
preserved
safety rules
prepare
avoid
sharp knives
danger
food processing

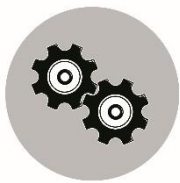




Assessment

Read each sentence carefully. Write **TRUE** if the statement observes safety rules in food preservation and **FALSE** if it is not. Write your answer on a separate sheet of paper.

1. Always remember the safety rules in preparing food.
2. Improper food preparation can lead to food poisoning like Salmonella.
3. Put knives or other sharp objects anywhere.
4. Use all the utensils though you do not know how to use it.
5. Use the knife for cutting, gesturing, and pointing fruits and vegetables
6. Wash your hands before handling the food.
7. Do not use metal utensils on nonstick pans.
8. Leave the kitchen area after cooking.
9. Wear proper clothing when cooking.
10. Prepare and clean the area before and after cooking.



Additional Activities

Write at least 5 things to remember in order to keep safe during food preservation/processing.



Answer Key

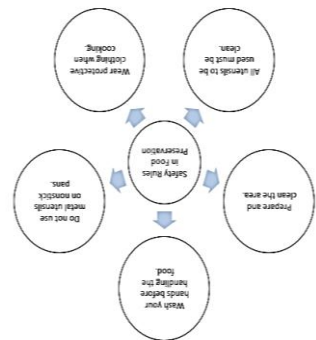
Lesson 1

<p>Assessment</p> <ol style="list-style-type: none">1. True2. False3. True4. False5. True6. False7. True8. True9. False10. True	<p>What's More</p> <p>Activity 1</p> <ol style="list-style-type: none">1. Season, quality, fresh and inexpensive foods.2. Meat quality is defined by the quality of lean, fat and the palatability factors should have a normal smell. Meat should appear firm rather than soft.Fresh fish have no foul smell. The scales of a fresh fish are tight They are also bright, reflecting light easily, and have a metallic look. The eyes of a fresh fish should be bulging, clear and shiny, not cloudy or sunken into the head. If the eyes are cloudy, faded, milky or dull, the fish has aged a few days and is approaching a non-usable condition. The gills must be red to pink. The fins should be intact, moist and resistant to being pulled.Fresh fruits and vegetables in the market it should be mature, firm, uniform size and shape, absence of defects, skin and flesh color.The fresh egg has a clean, rough shell and should don't have any cracks. Its yolk is round and centered and the egg white is firm.3. It is important to buy fresh, quality and inexpensive foods so that we can assure the quality and safety of home-preserved foods	<p>What I Know</p> <ol style="list-style-type: none">1. Firm2. Fresh3. Smell and color4. First step5. No smell6. Rough7. Season8. Signs9. Beneficial10. Gills
---	---	---

<p>What's More</p> <p>Activity 2</p> <ol style="list-style-type: none"> 1. Meat should be defined by the quality of lean, fat and the palatability factors should have a normal smell. Meat should appear firm rather than soft. 2. Fresh fish should have no foul smell. The scales of a fresh fish are tight. They are also bright, reflecting light easily, and have a metallic look. The eyes of a fresh fish should be bulging, clear and shiny, not cloudy or sunken into the head. If the eyes are cloudy, faded, milky or dull, the fish has aged a few days and is approaching a non-usable condition. The gills must be red to pink. The fins should be intact, moist and resistant to being pulled. 3. Fresh fruits and vegetables in the market it should need to be mature, firm, uniform size and shape, absence of defects, skin and flesh color. 4. Fresh egg must be clean, rough shell and should don't have any cracks. Its yolk is round and centered and the egg white is firm. 	<p>What's More</p> <p>Activity 3</p> <p>Pupils answer may vary. Use the scoring rubric to assess the performance.</p>
---	--

Lesson 2

What I Know



What's More

Activity 1

Do's

1. Prevent burns.
2. Wear safety shoes.
3. Wear protective clothing.
4. Learn how to use knives.
5. Learn how to extinguish a fire properly.
6. Always wash your hands before and after handling food

Don't's

1. Use metal utensils on nonstick pans.
2. Set a hot glass dish on a wet or cold surface.
3. Always stir and lift heated food cover near to you.
4. Use the same cutting board for raw meat, fruits and vegetables.

Activity 2

1. Prevent burns.
2. Wear safety shoes.
3. Wear protective clothing.
4. Learn how to use knives.
5. Learn how to extinguish a fire properly.
6. Do not use metal utensils on nonstick pans.
7. Do not set a hot glass dish on a wet or cold surface.
8. Always stir and lift heated food cover away from you.
9. Always wash your hands before and after handling food
10. Do not use the same cutting board for raw meat, fruits and vegetables.

(accept other answers)

Assessment

1. True
2. True
3. False
4. False
5. False
6. True
7. True
8. False
9. True
10. True

What's More

Activity 3

1. Avoid wearing improper clothing.
2. Do not use metal utensils on nonstick pans.
3. Do not set a hot glass dish on a wet or cold surface.
4. Avoid stirring and lifting heated food cover near to you.
5. Do not use the same cutting board for raw meat, fruits and vegetables.

(accept other answers)

What's More

Activity 3

1. Avoid wearing improper clothing.
2. Do not use metal utensils on nonstick pans.
3. Do not set a hot glass dish on a wet or cold surface.
4. Avoid stirring and lifting heated food cover near to you.
5. Do not use the same cutting board for raw meat, fruits and vegetables.

(accept other answers)

- ## What's More
- Activity 3
1. Avoid wearing improper clothing.
 2. Do not use metal utensils on nonstick pans.
 3. Do not set a hot glass dish on a wet or cold surface.
 4. Avoid stirring and lifting heated food cover near to you.
 5. Do not use the same cutting board for raw meat, fruits and vegetables.
- (accept other answers)

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