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Program Support Notes

The Cooking Process How Food changes

24 mins

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Suitable for:

Food Technology

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The Cooking Process – How Food Changes

For Teachers:

Introduction

This program gives viewers the opportunity to develop an understanding of why foods are cooked. It uses a variety of different food preparation and cooking techniques to show how the structure of carbohydrates, proteins and fats are changed when processed. It also discusses current food cookery trends and their possible influences. This practical presentation engages viewers with cooking demonstrations by a chef while a dietician informs viewers of the health benefits of the foods discussed.

Program Timeline

00:00:00	Introduction
00:01:14	Why do we cook food?
00:05:42	Cooking with carbohydrates
00:10:25	Cooking with proteins
00:14:32	Cooking with fats
00:19:50	The future of cooking
00:22:45	Conclusion
00:23:15	Credits
00:23:45	End program

Website References

- <http://www.nutritionaustralia.org/>
- <http://www.kidspot.com.au>
- <http://www.goforyourlife.vic.gov.au>
- <http://slowfoodaustralia.com.au>
- <http://foodwatch.com.au>
- <http://www.raci.org.au/chemistry/Food/Eggs.htm>
- <http://www.abc.net.au/juniors/pages/food/cooking/activity.htm#Why>
- <http://www.csiro.au/news/mediarel/mr1998/mr98210.html>

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Student Worksheet:

Before Viewing the Program

1. Research the following glossary words using the internet.
 - a) Bain-marie
 - b) Soft peaks
 - c) Poaching
 - d) Coagulation
 - e) Cellulose
 - f) Baking
 - g) Slow foods
2. Find out what factors affect food choices.
 - a) As a class find out what each of your classmates ate for dinner last night.
 - b) Ask each classmate why they think their family ate that meal. Example responses could be family favorite, quick and easy to make, weather related (e.g. hot day =salad), cost, dietary considerations, using items that were in the cupboard etc
 - c) Place the responses into graphs.
 - d) Compare which dinners were popular and which dinners were not.
 - e) What were the most common reasons for the families' dinner choices?
3. In pairs see if your taste buds can detect sweet, salty, bitter and sour in foods. Have a collection of different food samples such as chocolate, honey, strawberries, lemon, grapefruit, marmalade, rocket, vinegar, potato chips, fetta, and olives. Blind fold your partner and see if they can describe the flavor and guess what the food is.
4. Concept map: Draw a concept map to show all the ways apples could be cooked and prepared.

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While Viewing the Program

1. Where do most of the foods we eat come from?

2. What are the four tastes that your tongue can detect?

3. List the factors that can affect our enjoyment of foods.

4. Why do we cook foods?

5. Food cookery methods can include:

6. Food preparation methods can include:

7. Explain the function of carbohydrates in the body.

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8. Compare High Glycemic index and Low Glycemic index.

9. Why is an interfering agent important when making caramel sauce?

10. Describe what happens to cellulose in vegetables when cooked.

11. What happens when you cook rice in a rice steamer?

12. Why is it important to eat protein?

13. When meat is overcooked what has just occurred?

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14. Explain why eggs play an important role in baking cakes.

15. What is the role of eggs when producing custard?

16. Why do we need fats (lipids) in our diet?

17. How do you make butter?

18. List five current food trends.

19. Why have some of these current trends emerged?

20. What is slow food?

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After Viewing the Program

1. Raw and cooked food comparison: You will need 1 piece of Salmon. Cut it in half and shallow fry in a fry pan. Keep the other half raw. Compare the taste, texture, aroma and appearance of both pieces. Give each piece a rating out of 10.
2. Design Brief: Design a wrap that you can make in class or for your family.
 - a) Investigate – Why we cook meat and what happens to the proteins in meat when cooked. Look at what cuts of meat would be best or commonly pan fried and sliced.
 - b) Design – Write a list of the ingredients you would need for your wrap. Make sure you include meat, vegetables/salad items and a cereal product e.g. mountain bread, burrito, wrap, pita bread etc. Put together a time plan and how you will evaluate your success.
 - c) Produce – Produce your wrap using the above time plan.
 - d) Analyze and Evaluate: Evaluate your wrap using your designed evaluation sheet.
3. Egg Cookery research: Complete the following table to research the different ways of using eggs in cookery.

Using eggs in cooking	Describe	Recipe example
Coating		
Binding		
Thickening		
Aerating		
Glaze		

4. The slow cooking movement is currently very popular. Prepare and cook a casserole for your family. Get each family member to give you feedback on how you went.

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Suggested Student Responses

While Viewing the Program

1. Most of the foods we eat come from?
Animals and plants
2. What are the four tastes that your tongue can detect?
Salty, Sweet, Sour, Bitter
3. List the factors that can affect our enjoyment of foods.
Personal likes and dislikes, culture, taste, aroma, familiarity
4. Why do we cook foods?
Combines the foods together for variety, tastes better, destroys bacteria, and changes the function of the food.
5. Food cookery methods can include.
Boiling, steaming, grilling, and baking
6. Food preparation methods can include.
Freezing, drying, mixing
7. Explain the function of carbohydrates in the body.
It's the bodies preferred fuel source.
8. Compare High Glycemic index and Low Glycemic index.
High GI – Breaks down sugars quickly to a usable energy. You will feel hungry again not long afterwards.
Low GI – Breaks down sugars slowly, for a slow release of energy. Feel fuller for longer.
9. Why is an interfering agent important when making caramel sauce?
Using an interfering agent such as cream stops sugar crystallization from occurring, so you have a smooth caramel sauce.
10. Describe what happens to cellulose in vegetables when cooked.
These are the cell walls of plants, when cooked it becomes softer and can be easier to eat e.g. spinach.
11. What happens when you cook rice in a rice steamer?
The rice absorbs the water and it triples in size. It becomes soft and fluffy.
12. Why is it important to eat protein?
Protein is the building blocks of our bodies. It forms our body structure and makes up our cells, muscles, hair, skin and nails.
13. When meat is overcooked what has just occurred?
Proteins are denatured. The heat pushes out the moisture and the meat becomes tough.

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14. Explain why eggs play an important role in baking cakes.

The eggs help to bind the ingredients together. It also allows the cake to stay moist and adds color and flavor.

15. What is the role of eggs when producing custard?

Eggs give the custard a thick texture. With heat the proteins push out the water and the mixture becomes thicker.

16. Why do we need fats (lipids) in our diet?

They help to keep us warm, protect our organs, and provide energy, helps to maintain healthy skin and hair.

17. How do you make butter?

You use cream and beat until the fat sticks together to form a solid mass.

18. List five current food trends.

Eating low fat foods, slow foods, baking from scratch, move away from fast foods and convenience products, local cuisines.

19. Why have some of these current trends emerged?

Concerns with health, current fashions in food, modern technology, increase in celebrity chefs/cooking TV programs.

20. What is slow foods?

Slow foods is an organization that promotes local cuisines, traditional techniques and fresh produce. It is a return to community or cultural based dishes such as curries and goulash.