

YR8:MTP:T2:L1-7

Food Preparation and Nutrition - Medium-Term Plan- Term 2

The Science of Cooking Food

Year Group 8	Subject: Food Preparation and Nutrition
Prior learning- linked to National curriculum	<p>"The Science of Cooking" scheme of work for Year 8 builds on their mastery of kitchen skills developed in Year 7 Term 1, as well as their understanding of practical cooking techniques and their roles in Year 7 Term 2. The scheme of work mostly builds on Year 7 Term 3, "The Science of Cooking," where students acquired and demonstrated skills in various cooking methods, prepared and cooked different dishes, investigated the effects of cooking on vegetables, and explained different cooking methods and their suitability for particular foods. By the end of Year 7, students emerged to describe the reasons for cooking food and are developing the ability to describe and apply different cooking methods, different types of heat transfer and suitable cooking methods. This scheme of work aligns with the KS3 Design and Technology national curriculum.</p>
Rationale	<p>The "Science of Cooking Food" topic is essential to the Year 8 curriculum. Students will learn the reasons why food is cooked and the scientific principles involved in food preparation and cooking. They will explore the various cooking methods and their effects on food, helping them develop a deeper understanding of the suitability of these methods for different food items. Through practical experimentation, students will cook potatoes in various ways and demonstrate the science involved in cooking eggs, including the effects of denaturation and coagulation. They will also learn about coagulation and gelatinization through the heat of proteins and starches which will be built on towards the end of Year 8 and again in Year 9. Additionally, students will understand the nutritional value of fish in the diet and the differences between coagulation and denaturation. This knowledge is required to understand multiple topics in Year 10. The topic emphasises the importance of food preparation and nutrition and helps students gain a deeper understanding of the science behind cooking.</p>

Common misconceptions	<ul style="list-style-type: none"> • All cooking methods are interchangeable and will work equally well for any type of food. • The way you cook a particular food item won't have any impact on its taste, texture, or appearance. • All eggs will behave the same way during cooking, regardless of the method used or how they are prepared. • Coagulation and denaturation are the same thing and can be used interchangeably. • Fish is not a valuable source of nutrition or protein in the diet. • The history and cultural significance of food are not important factors to consider in its preparation and enjoyment.
Vocabulary:	Keywords: Heat Transfer, Nutritional Value, Ingredient, Cooking Methods, Coagulation, Denaturation, Viscosity,
Cultural Capital:	There are several external and visiting opportunities for students to expand their knowledge of food and explore career possibilities. These include a visit from a fish monger to learn about fish preparation and cooking, as well as a trip to a supermarket to gain a deeper understanding of the wider complexities of sauce making and the variety of options available. Students can also learn about careers in the food industry, with the possibility of hearing from successful entrepreneurs such as Levi Roots.
Key assessments- name the assessments	Assessment 1 - FPN: Practical Sauce Making Assessment 2 - FPN: Functional and Chemical Properties of Food
What do children know/ can do now (EDSM)	<ul style="list-style-type: none"> • Understanding of different cooking methods and their effects on food • Increased knowledge of cooking methods and their suitability for different food items

	<ul style="list-style-type: none"> • Practical skills in cooking potatoes in various ways • Demonstration of scientific principles behind cooking eggs and effects of denaturation and coagulation • Practical skills in cooking eggs in five different ways • Understanding of coagulation and gelatinization through the heat of proteins and starches • Practical skills in making fish pie with all-in-one white sauce • Knowledge of nutritional value of fish in the diet and differentiation between coagulation and denaturation • Completion of an assessment and demonstration of food evaluation • Knowledge of history of mince pies • Practical skills in experimenting with decorative finishes for mince pies • Emerging- To name different cooking methods and how sauces are made • Developing - To describe how proteins are affected by heat • Secure - To be able to explain the how proteins are denatured and the gelatinisation of starches • Mastered To explain the different protein denaturation process for protein foods. Explain how the effects of heat change starch molecules in the production of a sauce
<p>What amendments are you going to make following evaluation of this module?</p>	<p>This scheme of work will be adapted based on how confident students are from the previous topic of Term 2 in Year 7 that introduces many of these skills.</p>

Term 2	Lesson objective	Differentiation	Homework
1	LO: To learn why food is cooked and the	Retrieval:Why can some foods be eaten	Video recap: we

	<p>scientific principles behind preparing and cooking foods</p>	<p>raw and others can not?</p> <p>SEND: What are the main reasons why food is cooked and what are the different methods of cooking foods, use of sorting cards and pictures.</p> <p>Challenge: Explain the effects of cooking foods and the changes that take place physically and nutritionally. Justify appropriate cooking methods for different foods.</p> <p>Hinge Questions: What has science got to do with Food Preparation and Nutrition</p>	<p>we cook foods</p>
2	<p>LO:To learn about the different cooking methods and their effects on food.</p> <p>Reaffirming and developing further knowledge into the various cooking methods and their suitability to cook different food items</p> <p>Food Practical: Food experiment cooking potatoes in various ways</p>	<p>Retrieval:<i>Why do we have to cook some foods and not others?</i></p> <p>SEND: Practical activity to observe the effects different cooking methods have on food. Use of sorting cards to match correct term with cooking method</p> <p>Challenge:How do different cooking methods change the sensory properties of foods. Explain why not all cooking methods are suitable for all foods.</p> <p>Hinge Questions: Name the different methods of cooking eggs? Which method</p>	<p>Watch Video answer questions on the science of cooking eggs</p>

		of cooking is used for each?	
3	<p>LO: To demonstrate through the use of different techniques the science involved in cooking eggs and the effects of denaturation and coagulation</p> <p>Food Practical: Eggs 5 Ways</p>	<p>Assessment 1 - FPN: Practical Sauce Making</p> <p>Retrieval: Why do we cook foods using different heat transfer methods?</p> <p>SEND: Method cards for all egg cooking types. Team working, selecting appropriate cooking method from sorting cards</p> <p>Challenge: Identify the anatomy of eggs and explain the process of denaturation and coagulation through various process.</p> <p>Hinge Question: What process does this diagram illustrate? (Gelatinisation) What can it be used for?</p>	<p>www.illuminate.digital/eduquasford P68 - 72</p>
4	<p>LO: To demonstrate the process of coagulation and gelatinisation through heat of proteins and starches.</p> <p>Food Practical: Fish pie with all in one white sauce</p> <p>Macaroni Cheese</p>	<p>Retrieval: What is happening in these two different photos? Name and explain what is happening to the egg.</p> <p>SEND: Now and Next cards, picture methods. Key words and sentence starters, paired work. State how a sauce is made.</p> <p>Challenge: Explain how the starch particles are formed when heat is applied at</p>	<p>Assessment 2 - FPN: Functional and Chemical Properties of Food</p>

		<p>various stages.</p> <p>Hinge Question: Why are sauces used in cooking? How does heat affect the consistency of a sauce?</p>	
5	<p>LO: To list the nutritional value of fish in the diet and to differentiate between coagulation and denaturation</p>	<p>Retrieval: Explain how the starch particles are formed when heat is applied at various stages.</p> <p>SEND: Word frames for evaluation, Challenge: Name the groups of people that fish is suitable for and explain why.</p> <p>Hinge Questions: Denatured food returns to its original state when left?</p>	<p><u>Seneca: Sauces</u></p>
6	<p>LO: To complete an assessment for this module and demonstrate how to complete a food evaluation.</p> <p>Learn about the history of mince pies.</p>	<p>Assessment 2 - FPN: Functional and Chemical Properties of Food</p> <p>Retrieval: List the nutrients found in fish and say how many portions of fish are recommended we eat a week?</p> <p>SEND: word association cards, sorting activity, video and group work</p> <p>Challenge: Explain the difference between the old fashioned mince pies and the modern day ones.</p> <p>Hinge Questions: What pastry is used to</p>	

		make the mince pies?	
7	LO: Experiment with decorative finishes for the mince pie practical.	<p>Retrieval: What method is used to make shortcrust pastry?</p> <p>SEND: Now and Next practical cards, Word frames for evaluation</p> <p>Challenge: Explain the function of the ingredients used to make pastry. Hinge Questions: Why is a potato not in the fruit and vegetable section of the Eatwell guide?</p>	