

Y11 F&N NEA1 (16 lessons)

KEYWORDS- Investigate the **functional** and **chemical** properties of.....

LO.1.

Choose a task from the list provided by AQA

- what the NEA1 is about
- how to begin analysing the task



DIN : Outline of the GCSE course

Written exam	NEA 1	NEA 2
<ul style="list-style-type: none"> Testing your knowledge Nutrition Health Needs Cook of Food Safety Functional and Chemical properties of Food Food Choice Food Provenance Environment Sustainability Preparation and Production 	<p>50%</p> <p>Create a hypothesis and an experiment to display an understanding of how ingredients work and why</p> <p>Carry out a safe experiment</p> <p>Use sensory test to evaluate your original idea</p>	<p>35%</p> <p>Design a menu</p> <p>Display knowledge of</p> <p>Health Needs</p> <p>Cook of Food Safety</p> <p>Functional and chemical properties of Food</p> <p>Food Choice</p> <p>Food Provenance</p> <p>Environment/Sustainability</p> <p>Processing and Production</p> <p>Cook your menu safely</p> <p>Present your menu</p> <p>Evaluate the success of the dishes</p>

Analyse the task and plan your research

Carry out research of the working characteristics, functions and chemical properties of the ingredients to investigate

LO.6/7 + 9/10

- how to plan for first experiment
- how to conduct experiments based upon your research

Write a prediction or **hypothesis** for your practical investigations. The hypothesis should be a statement that may be proved or disproved

Write a summary of what you have found out from your research

Establish a clear aim for each investigation

Plan the practical investigations and experimental work based on the research findings

Clear hypothesis

Use a range of testing methods to record and present the results of the testing. This could include: annotated photographs, labelled diagrams, tables, charts, sensory testing methods, etc.

LO.12/13.

- how to analyse findings
- how to interpret findings

LO.14.

- how to understand what you discovered from your experiments.
- how to evaluate your hypothesis

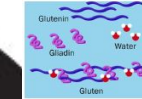
Evaluate the hypothesis/prediction

Analyse, interpret and evaluate the results of the investigation

Explain how the results can be used when preparing and cooking food

Prior Learning: Working properties/function of ingredients in bread.
Strong plain flour This has high gluten content. Gluten forms the structure of the bread.
Yeast Produces carbon dioxide gas known as fermentation.
Salt Strengthens gluten and adds flavour
Liquid Binds dry ingredients together, works with gluten to stretch the dough.
Sugar Liquid (water/milk) should be lukewarm to help the yeast to ferment. This speeds up fermentation.

Research:
 Flour is used in the making of bread, the protein in the flour, is called gluten. The gluten is used because of its ability to stretch, be elastic, when kneaded, producing the structure of the bread. Gluten also has the ability to hold pockets of gas produced by the yeast. Gluten aids in setting the framework of the bread by coagulating when heated and therefore produces the structure. The gluten is developed and strengthened through the kneading process during bread making.
 Wheat flour contains two proteins – glutenin and gliadin – which connect with each other and water to form gluten. Stirring and kneading increases gluten formation. The gluten catches the carbon dioxide produced by the yeast and stretches, resulting in millions of tiny bubbles.



<https://pintheewoods.wordpress.com/2012/11/28/pie-crust/>

Different types of flours can be used when making bread, these flours include: plain flour, strong plain flour, wholemeal flour and granary flour. Each of these flours has a different gluten content which causes both physical and chemical changes to the bread. The table which I sourced from a website shows the % of protein in flour. Plain flour has some gluten content. Strong plain flour has the highest gluten content, which provides elasticity to the bread dough producing the unique strong stretch when kneading.

How much protein is in your flour?

Flour type	% protein	recommended uses
high-gluten	14 to 15	bagels, pizza crusts, blending with other flours
whole-wheat	14	health breads, blending with other flours
bread	12 to 13	traditional breads, bread machine breads, pizza crusts
all-purpose	9 to 12	everyday cooking, quick breads, pastries
soft-rolling	9 to 11	pastries, quick breads, cookies
pastry	8 to 9	pie crusts, pastries, cookies, tarts
cake	5 to 8	cakes, especially those with a high ratio of sugar to flour

LO.5.

- how to write a prediction or hypothesis.
- if you intend to prove or disprove your hypothesis.

GCSE PROGRESSION

A-level, T-levels courses or Apprenticeships in catering, food preparation etc. Also workplace courses such as Level 3 VTQs where students work and study at the same time.

KEY SKILLS & PROCESSES

1. Planning a research intent and hypothesis
2. Conducting research through experimentation
3. Understanding results and possible applications

LO.15/16.

- what your final results were.
- how these results can be used when preparing and cooking food.

How the task will be assessed

Breakdown of assessment	
Choose and analyse task	
Section A: Research	6 marks
Section B: Investigation	15 marks
Section C: Analysis and evaluation	9 marks
Total	30 marks