**GCSE FOOD PREPARATION AND NUTRITION NEA 1**

The Non-Exam Assessment 1 (NEA) is worth 15% of final GCSE grade. It is marked on 3 main areas: research and planning (6 marks), investigation (15 marks) and analysis and evaluation (9 marks).

**Food Investigation Task 2017-2018**:

**You will be given this on Fri 22nd September 2017**

Time to complete: 10 hours (Start date Friday 22 September 2017. Handing in date Fri 20th Oct 2017)

Final outcome: A4 written report including photographic evidence (1500-2000 words). The report should include research into ‘how ingredients work and why’, document their practical investigation and draw conclusions. The report could include a variety of communication methods including charts, graphs and diagrams etc. The report must include authenticated photographic evidence which supports the investigation. Practical investigations are a compulsory element of this NEA task. The assessment is to be carried out under controlled conditions.

Suggested structure of written report

1. **Analyse and research the task (2 hour/ 6 marks)**
2. Read the task thoroughly. Highlight keywords then you could draw a mind map of things you want to research, particularly include the ingredients and how they work and why they work the way they do. Make links to food science using specialist vocabulary.
3. Use a range of sources to research the points on your mindmap including class notes, textbooks, magazines articles, internet, tv, interviews with experts could also be done as primary research.
4. **Hypothesis**

Use the findings of your research to write a hypothesis that you can investigate eg I think strong plain flour, warm water and a little sugar will produce the best dough for a bread mix.

1. **Investigation (3 x 1 hour practical+ 1 hour write up/ 15 marks)**

Plan some investigations that will test your hypothesis. Each investigation should included:

1. **Aim eg T**o find out the best flour for making an elastic, soft textured bread.
2. **Method** including ingredients, a clear description of how to do the investigation and how fair testing is done.
3. **Results** explained with annotated photos, tables, graphs and charts included.
4. **Analysis** of results fully explaining what you learned from the investigation.
5. **Conclusion** this should sum up what you learned and refer back to your original prediction and any further research that could be done to help prove or disprove your hypothesis. (These could be investigations 2 and 3). You should try to apply your finding to other cooking situations and use as much technical vocabulary as possible here.

2 further investigations for the above hypothesis could include using the most successful flour with cold, warm and hot water then using the most successful flour and water temperature with no sugar, 1 tsp sugar and 10 tsp sugar.

1. **Overall analysis and evaluation (2 hours/ 9 marks)**

Analyse and evaluate what you have found out in your investigations. Link your findings to your original research and try to explain how and why your ingredients worked the way they did. What did the investigations show about the functional properties of ingredients? Discuss your results and decide whether or not your findings support your hypothesis.

**Useful websites and videos**

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|  | **Links to investigations** |
| **Flour/** **Bread** | <https://www.youtube.com/watch?v=OoaQVdSXR48><https://www.grainchain.com/all-resources/science-baking-information-sheet><https://www.grainchain.com/all-resources/baking-bread-facts> <https://www.grainchain.com/all-resources/gluten-content-investigation> <https://www.grainchain.com/all-resources/bread-baking-experiment> <https://www.grainchain.com/all-resources/science-bread-baking-presentation> <https://www.grainchain.com/all-resources/varieties-wheat-flour-presentation><https://www.youtube.com/watch?v=zDEcvSc2UKA> <https://www.youtube.com/watch?v=uEM2iDT-VAk> <https://www.youtube.com/watch?v=zDEcvSc2UKA>Anita Tull & Gareth Littlewood - AQA GCSE Food Preparation and Nutrition Page 303 Alison Clough-Halstead et all - Eduqas GCSE Food Preparation and Nutrition Page209 |
| **Shortcrust Pastry/ Plasticity of Fats** | <http://www.foodafactoflife.org.uk/attachments/62899827-cafd-406b93b28e82.pdf> <http://www.foodafactoflife.org.uk/attachments/2954bec7-5b8d-48401a1842d1.pdf> <http://www.foodafactoflife.org.uk/attachments/5df23ca1-ee37-489103ec617e.pdf> <http://www.sciencebuddies.org/science-fair-projects/project_ideas/FoodSci_p055.shtml#procedure> |
| **Eggs** | <http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=697><https://www.youtube.com/watch?v=PxAP86zIJdc> <http://www.foodafactoflife.org.uk/attachments/8e9169d2-ffd8-45c43004fb2e.pdf> <https://www.stem.org.uk/elibrary/resource/31314> <https://www.youtube.com/watch?v=0fnWf5BvXac&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl&index=4><https://www.youtube.com/watch?v=bJ7uXScRTWw> Anita Tull AQA GCSE Food Preparation and Nutrition pages 114 and 115<https://www.theguardian.com/lifeandstyle/wordofmouth/2010/aug/19/how-to-make-perfect-meringue>**http://www.decodingdelicious.com/egg-foams/** |

*DRAFT PROFORMA STUDENT WORK BOOKLET TO SUPPORT NEA1*

**GCSE FOOD PREPARATION AND NUTRITION NON-EXAMINATION ASSESSMENT 1**

NAME . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Student signature . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

THIS IS EVIDENCE OF YOUR WORK FOR NEA1 TEACHER . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .. . . . . . . . . . . . . . . . . . . . .

DATE NEA1 STARTED . . . . . . . . . . . . . . . . . . . . . . . . . . .. . . . . . . . DATE NEA1 COMPLETED . . . . . . . . . . . . . . . . . . . . . . . . . . .. . . . .

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| **NEA TASK:**  Write the task here: . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ... . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Underline key words in the taskWrite your hypothesis / prediction . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ...  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  |

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| **My research** for the task:WHAT am I going to research? . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . HOW am I going to research? . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .WHY am I going to research? Science links . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ..  Make a summary of this in the boxes below:   |
| WHAT* . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
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* . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
 | HOW (tick)Books . . . . . . . . . . . . . . .. Internet . . . . . . . . . . . . Expert . . . . . . . . . . . . . . . Other . . . . . . . . . . . ..Prior learning / practical . . . . . . . . . . . . . . . . . . . . ..  | WHY (science links) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  |

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| **PLANNING**  DATE  |
| What am I going to investigate? e.g. Ingredients, methods, function (science)What are my initial (first) investigations? What might be further investigations?* . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
* . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
* . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
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| ORGANISATION DETAILS: HOW will I investigate / what tests - experiments will I use? |
| Investigation lesson 1: Date . . . . . . . . . . . . . . . . . . What evidence / data will you get?Experiment / test* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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| Investigation lesson 2: Date . . . . . . . . . . . . . . . . . What evidence / data will you get?Experiment / test* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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| Investigation lesson 3: Date . . . . . . . . . . . . . . . . . . What evidence / data will you get?Experiment / test* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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| Extra Lesson (option) Date . . . . . . . . . . . . . . . . . .. . Possible extra work . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .  |

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| **RECORD OF INVESTIGATON** USE THIS PAGE TO COLLECT DATA AND MAKE NOTES LESSON 1 DATE  |
| MY INVESTIGATION / Notes and data collection (measurements) e.g. weights / times / end results |
| CHECKLIST:Have you used a control and range of variables?Have you taken some photographs of your work?Don’t forget to record and display results as charts, tables, sensory tests, measurementsWhat further tests does this lead to? |

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| **RECORD OF INVESTIGATON** LESSON 2 DATE  |
| MY INVESTIGATION / Notes and data collection e.g. weights / times / end results |
| CHECKLIST:Have you used a control and range of variables?Have you taken some photographs of your work?Don’t forget to record and display results as charts, tables, sensory tests, measurementsWhat further tests does this lead to? |

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| **RECORD OF INVESTIGATON** LESSON 3 DATE  |
| MY INVESTIGATION / Notes and data collection e.g. weights / times / end results |
| Have you used a control and range of variables?Have you taken some photographs of your work?Don’t forget to record and display results as charts, tables, sensory tests, measurementsInsert extra page if needed |

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| **REPORT** writing Use this booklet to help you organise your report.Your task . . .. What information did you find out about the ingredients and process?Your hypothesis . . . what were your investigations testing and trying to find out?Your investigations . . . Initial and further investigations, control and variablesYour results and data (measurements)that you collected . . . Analyse and explain the scienceYour conclusion . . . |
| Word bank: | Use heading and full sentences to set out the report clearlyShow your investigations and results with photos, charts, tables or graphsExplain the science behind the ingredients and process and how your investigations showed thisExplain the science using the correct technical terms |
| Check the report for spelling and grammar | Make sure you have met all the requirements |

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| Looking closely, examining with detail. | Analyse | In your written report, you must analyse all parts of the investigation.How the experiments were carried out, the results achieved, and the conclusions reached. |

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| To add comments, to explain a photograph, diagram, chart or graph. | Annotate |  You must annotate all photographs, diagrams, charts or graphs you use in the written report of the investigation. |

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| The way or method to be used in the investigation. | Approach | You will have to decide what approach you will use in your investigation. |
|  A scale which is created from a sample or a group of samples | Benchmark  | You will need to use a benchmark to compare the results from other experiments. |

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| A sample within an experiment which has had nothing changed or altered in any way. | Control | You must have a control, as it will provide evidence for your other experiments to be compared to. |

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|   A decision about the results from your investigation. | Conclusion | Your conclusions will provide the answer to the investigation task.The conclusions from your investigation must be in your written report.  |

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| What is possible within the boundaries of what is available? | Feasible | You would be able to feasibly carry out several experiments using small bowls, because your school has a set of small bowls. |

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| A possible explanation | Hypothesis | You will need to create a hypothesis after you have completed some research about the investigation task but before you have stared the experiments. |

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| A formal inquiry to discover or examine the facts to find the truth. | Investigate | You must carry out a Food Investigation as set out in the task you are given |

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| .Showing something to be right. | Justify | You should use research and data from your investigation to justify your conclusions. |

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| Straight thinking, and organised. | Logical | Your work should be planned in a logical way, i.e. step by step. This will help your investigation to be thorough. |

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| Alterations or changes to a part or process. | Modify |  You may need to modify your first experiments to get improved results.  |
| Estimate that a specified thing will happen. | Predict | At the start of the investigation. You will need to predict what might happen at the end. |

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| The number of possibilities. | Range | You will need to choose a range of testing methods and/or a range of ingredients, when completing your investigation.  |

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| A cause or explanation | Reasons | You must have reasons for doing your investigation. The task will guide you to plan your investigation. |
| Fact finding | Research | You must write about your research. What did you find out, how did it help you plan the experiments for your investigation?  |

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| To study carefully. | Review | You must review your research, your investigation and your data. Your final report must link your hypothesis or predictions to the investigation task. |

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| Well organised, methodical, and authentic | Scientific | Your approach must follow the scientific process, prediction, experiment, findings, analysis and conclusions. |

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| Confirmed by evidence |  Valid | Your work must be valid; you must show HOW you have worked and explain step by step what you investigated. |

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| .Changeable features such as ingredients, methods, processes or tools. | Variable |  You ned to show a range of variables in your investigations. At least 3 variables would make a good investigation. |

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| The Question | The start of the investigation **Tip** The problem you need to solve |
| Background Research | Use any resource e.g. books, the Internet, magazine articles, and talk to people. **Tip**Gather all the information you can about the question you are investigating. This information will help you write the **hypothesis.** |
| Hypothesis | A simple statement that expresses what you think will happen. An intelligent guess.**Tip**Using your research ‘guess’ and possible answer to your question |
| Experiments | The test you intend to carry out in your investigation**Tip** Make a detailed plan and carry out experiment which tests your hypothesis. The experiment(s) should be a fair test that changes only one variable at a time while keeping everything else the same. |
| Data | The information collected from your experiment(s). **Tip** Document your results with detailed measurements, descriptions and observations in the form of notes, photos, charts and graphs. |
| Observations | What you actually saw happen during the experiment. **Tip**Describe what you can see during your experiments. Include information that could have affected your results such as mistakes, environmental factors e.g. temperature changes and any unexpected surprises |
| Conclusions | What you found out at the end of the experimenting. **Tip**Analyse the data you collected and summarize your results in written form. Use your analysis to answer your original question, do the results of your experiment support or oppose your hypothesis? |
| The Report | The report is the story behind your investigation. TipInclude information you found out in the research. Say why you decided on the experiments you did? Present your findings in a written document, use graphs, charts, and*­­* annotated photographs to show your findings. Explain your conclusions, what you found out. |

**NEA 1 – Food Science Investigation When asked about……**

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|  | **Investigations to consider** | **Links to investigations** |
| **Flour/** **Bread** | Which is the best type of flour for your dish? (Strong or Soft flour)How much gluten is in the flour?How does increased sugar / fat / egg in a dough affect the gluten ( rich dough / plain dough / laminated dough)What sort of conditions does Yeast need to grow/ferment to make bread? | <https://www.youtube.com/watch?v=OoaQVdSXR48><https://www.grainchain.com/all-resources/science-baking-information-sheet><https://www.grainchain.com/all-resources/baking-bread-facts> <https://www.grainchain.com/all-resources/gluten-content-investigation> <https://www.grainchain.com/all-resources/bread-baking-experiment> <https://www.grainchain.com/all-resources/science-bread-baking-presentation> <https://www.grainchain.com/all-resources/varieties-wheat-flour-presentation><https://www.youtube.com/watch?v=zDEcvSc2UKA> <https://www.youtube.com/watch?v=uEM2iDT-VAk> <https://www.youtube.com/watch?v=zDEcvSc2UKA>Anita Tull & Gareth Littlewood - AQA GCSE Food Preparation and Nutrition Page 303 Alison Clough-Halstead et all - Eduqas GCSE Food Preparation and Nutrition Page209 |
| **Shortcrust Pastry/ Plasticity of Fats** | What ratio of fat to flour makes the best pastry?What happens to the texture when you change the type of fat used in your pastry?Which is the best fat for frying? Can you use a low fact spread for baking?Which type of fat is most effective when creaming is used as a method of aeration for cake? | <http://www.foodafactoflife.org.uk/attachments/62899827-cafd-406b93b28e82.pdf> <http://www.foodafactoflife.org.uk/attachments/2954bec7-5b8d-48401a1842d1.pdf> <http://www.foodafactoflife.org.uk/attachments/5df23ca1-ee37-489103ec617e.pdf> <http://www.sciencebuddies.org/science-fair-projects/project_ideas/FoodSci_p055.shtml#procedure> |
| **Eggs** | Why do eggs set a mixture? How is this used in Custard, sauces or quiche ?How does temperature affect the setting of egg custard?How does time affect the setting of egg custard?Can this process be reversed?Do egg yolks and egg whites set at different temperatures?Why do egg whites hold air when whisked?Which type of egg white gives most volume (powder egg white / fresh / pasteurised egg whites ( two chicks carton)What happen if you add other ingredients when whisking egg whites? Which addition is the best stabiliser for whipped egg whites?How do eggs act as a raising agent when making a whisked sponge? And how much whisking is required for an optimum sponge? | <http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=697><https://www.youtube.com/watch?v=PxAP86zIJdc> <http://www.foodafactoflife.org.uk/attachments/8e9169d2-ffd8-45c43004fb2e.pdf> Alison Clough-Halstead et all Eduqas GCSE Food Preparation and Nutrition Page309<https://www.stem.org.uk/elibrary/resource/31314> <https://www.youtube.com/watch?v=0fnWf5BvXac&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl&index=4><https://www.youtube.com/watch?v=bJ7uXScRTWw> |
| **Thickening sauces/****Starches** | Compare how different starches thicken a liquid? Semolina / rice / cornflour / wheatfourHow much starch to liquid do you need for a sauceWhat ingredients may stop it thickening?Is the change reversible? What happens over time?Can thickening occur in cold liquids?Does pH have an effect on thickening? | <http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=693><https://www.youtube.com/watch?v=zjyhMzjDaVI> <https://www.grainchain.com/all-resources/gelatinisation-experiment> <https://www.grainchain.com/all-resources/investigating-process-gelatinisation> <https://www.grainchain.com/all-resources/understanding-sauces> <http://www.foodafactoflife.org.uk/attachments/6ebad1c4-eae3-4aab87a3b69d.pdf> <http://www.foodafactoflife.org.uk/attachments/aa5fb193-28a6-464062f7f16b.pdf> <http://www.foodafactoflife.org.uk/attachments/9726d17c-eaa7-44d013db6259.pdf><http://www.foodafactoflife.org.uk/attachments/4ea97e03-6e9e-43b2a079463e.pdf><https://www.youtube.com/watch?v=kr6j3nvQf28&index=23&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl><https://www.youtube.com/watch?v=oiGUyvMHqM4><https://blog.nutritionprogram.co.uk/2016/11/14/gelatinisation-of-starch/>Alison Clough-Halstead Eduqas GCSE Food Preparation and Nutrition Pages 392 393, & 394Alison Clough-Halstead Eduqas GCSE Food Preparation and Nutrition Page209 <http://www.abdn.ac.uk/rowett/documents/Spectacular_starch__Nov12.pdf> <http://www.abdn.ac.uk/rowett/documents/Spectacular_Starch_TEACHER.pdf>  |
| **Enzymic Browning****(Fruit and Vegetables)** | What solutions can you use to prevent browning of fruits and vegetables?Does the temperature and time make a difference?How does the type of apple affect browning?– baking apple Bramley / golden delicious / Cox / Pink Lady | <http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=695> <https://www.youtube.com/watch?v=BacUEOL8Wco>Alison Clough-Halstead Eduqas GCSE Food Preparation and Nutrition Page237<https://www.stem.org.uk/elibrary/resource/31313> <https://www.youtube.com/watch?v=oVe8Y3ipVpc> <http://school.discoveryeducation.com/foodscience/pdfs/EnzymesSG.pdf>  |
| **Browning**  | What causes onions to go brown when they are fried?What causes the surface to go brown when baked? Can you add different glazes to improve the browning?Caramelisation – does the type of sugar affect the browning of cake.How does bicarbonate of soda affect the colour of scones? | <http://www.foodafactoflife.org.uk/attachments/1c7d2c73-34cf-433f56e65283.pdf> <https://www.youtube.com/watch?v=7gnfOwb8lKU&index=24&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl><https://www.youtube.com/watch?v=8OonKbQo3Z4><https://www.grainchain.com/all-resources/dry-heat-presentation><http://www.foodafactoflife.org.uk/attachments/7d85f595-53bd-450e90df0edc.pdf> <https://www.youtube.com/user/ACSReactions> <https://www.youtube.com/watch?v=RqUEh-B-U-k><https://www.youtube.com/watch?v=rs1JLYXROVU><https://www.youtube.com/watch?v=gk_rPkglyao><https://www.youtube.com/watch?v=MicD_Gk3NYw> |
| **Dairy** | How do you make butter/ yoghurt/cheese?Emulsions - how do they change in varying dairy products e.g. gold top / double cream / butter?What happens when you alter the ingredients/ratios? (can you get thicker yoghurt) | <http://www.science-sparks.com/2012/05/04/making-butter/>Alison Clough-Halstead Eduqas GCSE Food Preparation and Nutrition Page257<http://www.planet-science.com/categories/experiments/biology/2011/09/make-your-own-yoghurt.aspx>[http://www.planet-science.com/categories/experiments/messy/2011/06/say-cheese!.aspx](http://www.planet-science.com/categories/experiments/messy/2011/06/say-cheese%21.aspx)<http://www.ifst.org/sites/default/files/documents/misc/chunkymilkexperiment.pdf><http://www.planet-science.com/categories/experiments/biology/2011/09/make-your-own-yoghurt.aspx><https://www.youtube.com/watch?v=wDun3LLOKL4> |
| **Sugar/****sweetening** | How does sugar help trap air during the creamed cake making?How much sugar is needed to sweeten a mixture, and can you replace it with other sweeteners?How does the crystal size of the sugar affect the creaming ability of a fat and sugar mixture? Try coffee crystals / demerara / icing, granulated and caster. | <http://www.foodafactoflife.org.uk/attachments/da748492-301c-445b9235d8e5.pdf> <http://www.foodafactoflife.org.uk/attachments/5df23ca1-ee37-489103ec617e.pdf> <https://www.youtube.com/watch?v=7gnfOwb8lKU&index=24&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl>Alison Clough-Halstead et all Eduqas GCSE Food Preparation and Nutrition Page 361Alison Clough-Halstead et all Eduqas GCSE Food Preparation and Nutrition Page361 |
| **Raising agents** | Chemical – what chemicals are used to raise scones/cakes/batter?Mechanical – how can you increase the volume through the use of beating, whisking etc.Biological – what are the optimum conditions for yeast to ferment, and how is fermentation affected by the addition of other ingredients (when making a sweet dough for example) | <http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=698> <http://www.foodafactoflife.org.uk/attachments/5df23ca1-ee37-489103ec617e.pdf> <https://www.stem.org.uk/elibrary/resource/31315> <https://www.youtube.com/watch?v=0USi4DbRVVQ> <http://www.foodafactoflife.org.uk/attachments/da748492-301c-445b9235d8e5.pdf> <https://www.grainchain.com/all-resources/yeast-experiment-worksheet> <https://www.grainchain.com/all-resources/bread-baking-experiment> <http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=698><http://resources.eduqas.co.uk/Pages/ResourceSingle.aspx?rIid=697><https://www.youtube.com/watch?v=0USi4DbRVVQ><https://www.stem.org.uk/elibrary/community-resource/291817/raising-agents-powerpoint-and-activity-experiment-sheet> <http://school.discoveryeducation.com/foodscience/pdfs/MicrobiologySG.pdf>  |
| **Pasta/Rice** | Do the different types of rice cook differently? What volume is produced and why? Do they absorb different amounts of water or swell differently? Does washing rice before you cook it make a difference? Compare cooking methods (rice steamer, boiling etc.) | <http://www.foodafactoflife.org.uk/attachments/5df23ca1-ee37-489103ec617e.pdf> [https://www.youtube.com/watch?v=DJFU7ezipbg&index=9&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMC](https://www.youtube.com/watch?v=DJFU7ezipbg&index=9&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl) [[https://www.youtube.com/watch?v=oiGUyvMHqM4](https://www.youtube.com/watch?v=DJFU7ezipbg&index=9&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl)](https://www.youtube.com/watch?v=oiGUyvMHqM4)[l](https://www.youtube.com/watch?v=DJFU7ezipbg&index=9&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl) |
| **Dressings: Oil and water separates/****emulsification** | Why do salad dressing separate and how do emulsifiers work? What can be added to stabilise a salad dressing? How long will it last? | <https://dcmp.org/guides/FoodScienceExperiements.pdf><https://www.youtube.com/watch?v=tETrZUhqaQo&index=22&list=PLnbzopdwFrnb7QgoSDeIJH3R3Y9CagMCl><http://www.sciencefriday.com/educational-resources/salad-dressing-science-emulsions/><https://www.youtube.com/watch?v=v28rxrAhP0k><https://www.stem.org.uk/elibrary/resource/31316> <https://www.youtube.com/watch?v=Y1KleN9LH7s><https://www.youtube.com/watch?v=7I8GXmpKrVg> |

**Exam boards**

* **AQA – Assessment examples** <http://www.aqa.org.uk/subjects/food/gcse/food-preparation-and-nutrition-8585/assessment-resources>
* **Eduqas – Assessment support** <http://www.eduqas.co.uk/qualifications/food-preparation-and-nutrition/eduqas-gcse-food-preparation-nutrition-sams-from-2016.pdf?language_id=1>
* **OCR – Assessment support** <http://www.ocr.org.uk/qualifications/gcse-food-preparation-and-nutrition-j309-from-2016/>

**COLLINS Revision Guide -** [https://www.collins.co.uk/category/Revision/GCSE+-+Ages+14-16](https://www.collins.co.uk/category/Revision/GCSE%2B-%2BAges%2B14-16)