

KS4 Exploring Food Materials

| Learning Objectives | Teaching activities | Learning outcomes | Points to note |
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| <p>Students should learn to:</p> <p>Designing skills</p> <ul style="list-style-type: none"> research and use information from different sources about food properties and functions, including nutritional make decisions about materials and products, based on investigations explore and develop ideas by modelling plan and manage the development of ideas <p>Making skills</p> <ul style="list-style-type: none"> take account of the functions and properties of materials test and evaluate materials and products develop a number of food handling and investigative skills with accuracy and precision <p>Knowledge and understanding</p> <ul style="list-style-type: none"> use knowledge about food functions when developing ideas develop understanding about materials through product evaluation & investigations take account of functions and aesthetics when developing and manufacturing products <p>Formative assessment</p> <p>Students should be assessed during the unit of work against the above learning objectives. A simple scale may be used to keep track of students' progress:</p> <p>3 excellent understanding, making outstanding progress in this aspect 2 reasonable understanding, making good progress in this aspect 1 very little understanding in this aspect, experiencing some difficulties, some progress being made</p> | <p>In this unit you will explore food materials and products and their functions and properties. You will carry out a number of practical food tests, investigations and evaluations.</p> <ul style="list-style-type: none"> Produce a database for class reference during the course on materials, their functions and properties, including nutritional. Using the 'New Foods' CD-ROM, explore reduced fat or reduced sugar products, compare them to similar standard products or recipes. Experiment with ideas for reduced fat or sugar products. Swap and share information with a partner who chose to look at the other option. Using the 'New Foods' CD-ROM, select a number of different products, egs. a biscuit, cake, ready meal, chilled dessert, yogurt, cheese, snack - investigate their ingredients and work out what their functions are. Find out about food functions: aeration, setting, gelling, binding, bulking, glazing. In groups of 6, each choose one of the above functions and make up a number of products to demonstrate different ways of using that function in food products. Produce a flow-chart / diagram or series of photos to explain the functional properties you have investigated. Find out what is meant by 'smart' materials in relation to food. Produce a report with examples that explains how the properties of smart materials may be used in foods. Use an Intel microscope to carry out texture analysis of the different starch samples you look at. Carry out investigations into modified starches and develop a smart food product that makes use of these properties. | <p>Summative assessment</p> <p>Overall, students should make progress in relation to the learning objectives planned for the unit. The formative assessment records (see column 1) should indicate which of the following three levels of expectation students will achieve. This can be checked at the end of the unit and feedback given to students.</p> <p>End of unit expectations</p> <p>Most students will:</p> <ul style="list-style-type: none"> have used a good range of investigative and processing techniques appropriately in their work have shown a broad knowledge of materials and processes have carried out a good level of product development work and taken their ideas through to a creditable conclusion <p>Some will not have made as much progress and will:</p> <ul style="list-style-type: none"> have used a limited range of investigative and processing techniques appropriately in their work have shown a knowledge of some materials and processes have carried out product development work and taken their ideas through to a satisfactory conclusion <p>Some will have progressed further and will:</p> <ul style="list-style-type: none"> have supported their work with extensive application of investigative and processing techniques have shown a depth of knowledge about materials and processes have carried out in-depth product development work using high level development and manufacturing skills | <p>Key skills</p> <p>ICT</p> <ul style="list-style-type: none"> role of ICT in industrial practices modelling with materials researching using Internet and CDROM data handling and analysis (databases) <p>Problem solving</p> <ul style="list-style-type: none"> trailing and prototyping investigating materials and products meeting consumer needs <p>Managing own learning</p> <ul style="list-style-type: none"> time and resource management self assessment and review <p>Collaborative working</p> <ul style="list-style-type: none"> operating a class database working as a team sharing information and ideas <p>Communication</p> <ul style="list-style-type: none"> email group discussion report writing presentation <p>Citizenship</p> <ul style="list-style-type: none"> being an informed consumer consideration of consumer needs and the extent to which these are met by industry developing skills of enquiry making decisions and justifying actions <p>Resources</p> <p>RCA 'Routes', Hodder & Stoughton Collins, 'Real World D&T' series Classroom videos 'Counting as a Consumer' CDROM, CA/AQA 'New Foods' CD-ROM 'HACCP' CD-ROM, Economatics www.foodforum.org.uk www.nutrition.org.uk www.surf4health.org.uk www.sainsburys.co.uk/tasteofsuccess</p> |