



Snack Bar: KS3/4 lesson teacher notes

Teacher notes

Description

This simulation activity looks at the possible licensing of a new snack bar product, the *Fruit Munchy Square*. The students will be shown a series of video clips about the new product and will also be provided with nutritional information.

The activity asks the students to collect data from the variety of sources (video and numerical data sheet) and integrate it with their understanding of the health benefits and risks of foods. Students engage in group discussions as a "Scientific Advisory Committee", reach a shared position and communicate this as a written document and a presentation to a specified audience, the "British Institute of Eating Control".

Extension work is available looking at the ethics of controlling health risks by law, the purpose of specialised diets (e.g. for triathletes) and a data response activity.

Learning objectives

Students will learn to:

- collect and critically review data from a range of sources
- apply their knowledge and understanding to make collaborative decisions
- communicate their decisions to a prescribed target audience

www.teachers.tv/eating-to-win

Learning outcomes

At the end of the lesson students should be able to:

- gather evidence from a selection of video clips and other sources
- integrate their evidence with their current understanding of food science
- engage in a discussion about and agree a common position on the health benefits, or otherwise, of a food
- prepare a joint document and presentation justifying their decision

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Learning outcomes ...continued

All students will:

- gather evidence from a selection of video clips
- engage in a discussion
- use the information to reach a decision about the banning, licensing or endorsing of certain foods

Most students will:

- relate the information they collect from a selection of video clips to their existing scientific knowledge when prompted
- spot facts, opinions and inaccuracies and misleading statements in a selection of video clips
- contribute to a report of their findings offering justifications for their opinions at a common sense level

Some students will also:

- deploy extensive scientific knowledge relevant to the topic without prompting
- justify their decisions with reference to their existing scientific understanding
- recognise areas where further information or research is required or uncertainties remain

Lesson resources

- Video 1 for pupils, to be used in class – 'What's In Your Food?' - www.teachers.tv/videos/whats-in-your-food
- Video 2 – 'Snack Bar' - www.teachers.tv/videos/snack-bar - (includes three video clips – video conference of marketing executives, advert for Fruit Munchy Bar, Slow Food Guru podcast)
- Snack Bar KS3/4 Lesson Activity Sheets – download these at www.teachers.tv/junk-food-science. For this lesson you need the sheets 'Fit for human consumption?', 'S3 form' and 'Data sheet: food values'.
- Presentation for use in class – 'Snack Bar KS3/4 Lesson Sample Slides' – download this at www.teachers.tv/junk-food-science

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Professional development resources

- Video – ‘Teaching the KS3/4 Snack Bar Lesson’ – www.teachers.tv/videos/teaching-the-ks3-4-snack-bar-lesson Watch this video to see an example of how to teach this lesson.
- Video on using discussion in science lessons – ‘Running Discussions in a KS3/4 Class’ - www.teachers.tv/videos/running-discussions-in-a-ks3-4-class
- Presentation that can be used for a training session on how to run discussions in science lessons – ‘Running Discussions KS3/4 CPD Slides’ – download this at www.teachers.tv/junk-food-science
- Presentation that can be used for a training session on this lesson – ‘Snack Bar KS3/4 Lesson CPD Slides’ – download this at www.teachers.tv/junk-food-science

Running the activity

Starter (10 minutes)

You could either show the “What’s In Your Food?” video and then the starter, or go straight into the following starter.

Introduce the lesson by asking students what they have eaten in the last 24 hours. List some examples on the board and then ask them to rank these according to how healthy they think they are. At one end you will end up with foods that most people regard as unhealthy and at the other the healthy options.

Ask students to come up with measures of the ‘healthiness’ of foods. So, is fruit always a good thing to eat? Why? Are additives always bad? You might want to ask students if they would like to have ascorbic acid added to their foods. Most will probably say ‘no’ but it is, in fact, the scientific name for vitamin C. This gives you a chance to discuss if additives are always bad.

By the end of the discussion you should have a brainstormed list of criteria students might use to assess the ‘healthiness’ of foods, e.g. salt level, sugar level, additives (good and bad), fat content, energy content, roughage etc. The list need not be complete - it is only to give some structure to the discussions that follow.

Main (30 minutes)

Organise the students into groups of three. Introduce the BIEC task by explaining to the students that in their groups they are working as a Scientific Advisory Committee (SAC) to the British Institute of Eating Control (BIEC) who they will be advising about the new Snack Bar, the Fruit Munchy Square. Hand out the Student Sheets Fit for human consumption, S3 and Datasheet: Food values.

Show the video Snack Bar. While watching the video which includes the three clips (Marketing team members, advert, and Slow Food Guru), the students should make individual notes on the clips at first.

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Main (30 minutes) ...continued

The S3 form may be useful as a way to structure their note-taking and you may want to run quickly through the form explaining what each box covers before showing the clips. The form looks at a number of issues related to the supplied information to encourage active, effective engagement with the material. They should complete one form for each clip. Pause the video after each clip to give the students time to complete the S3 form for that clip.

With lower achieving and younger groups you may suggest that one member of the group makes notes on the marketing team clip, another the advert and the final member of the group the Slow Food Guru.

Heading	Explanatory notes
Source	Encourage students to consider where the information is coming from. Is it from a reputable source? Does it appear to be biased? What clues in the information give away that the supplier may not understand the scientific issues or may be part of a campaigning group applying 'spin' to the facts?
Style	If source is about the qualifications and knowledge of the supplier, style looks at how they present the information. Is it unnecessarily complex? Are they trying to hide some information in over-technical details - or the appearance of greater rigour than the information merits? Are they using humour to lead people in a particular direction? Is the style of the presenters something that irritates the viewer - and how can the viewer overcome this natural irritation and see through to the key issues?
Substance	This will be much more familiar to students. The information is now taken at face value to uncover facts (supported by evidence or matching the viewers own knowledge), claims (which may be true but unfamiliar to the viewer and may or may not be backed up by evidence) and opinions (which may be backed by facts). This section will probably be larger than the others on the form and comprises the 'meat' of the activity.

After viewing the clips introduce the students to their Scientific Advisory Committee tasks outlined on Student Sheets Fit for human consumption. You may need to go through these with some groups, emphasising key tasks and outcomes. A supply of scrap paper might be useful for each group.

You may also need to emphasise the differences between the three options the BIEC has available, distinguish particularly between the idea of licensing a food (so that people can eat it) and endorsing a food which implies that it is something that people should eat. You may also need to demonstrate how to organise their facts on the large sheet of paper, under the three columns.

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Main (30 minutes) ...continued

The discussion has two stages:

1. to ensure that everyone in a group has the same, reliable information from the clips and has picked up the same evidence
2. to use the assembled evidence, and their ideas about healthy eating, to agree a position statement for the BIEC

The first stage is largely about respectful listening and checking any facts which may be wrong. The second is about more active exchange of views.

Finally each group should prepare its position statement and presentation. It is important that they reach a group consensus. Do not assume that the presentation has to be digital - sometimes the content is more important than the time spent in locating and managing the computers! However, this activity could provide a useful ICT component if time is available.

You may find that some groups will only have time to make a decision with reasons, and not have time to prepare the statement and presentation.

Plenary (10 minutes)

If there is time the group recommendations could be shared with the class. If two groups have come to different decisions this would be a good way to draw the whole class together with the possibility of eventually having a whole class vote to decide which is the preferred option.

If you only have a short time ask each group to give their decision and ask a couple of groups to give reasons, preferably groups who have come to different decisions.

Extension work

1: Special diets

The video Eating to Win - www.teachers.tv/videos/eating-to-win looks at the amount of food a triathlete would eat in a day and compares this with a more 'normal' diet. Stress to students that it is the balance of foods and activities that make a diet healthy or not and that what might be considered healthy for one person may be inappropriate for another. The lesson activity sheet 'Food values' provides useful data to further explore this.

2: Who decides?

Ask students if they feel that government should control what people eat or even try to influence their diet. Or is what I eat purely a matter of personal choice and an essential freedom in our society? What control mechanisms would they accept (if any)? How does healthy food advice differ from advice on smoking or even outright bans for things like heroin?

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Extension work ...continued

3: Food data

Datasheet :Food values contains a range of data about food and diet. The lesson activity sheet 'Data analysis' provides a range of data response activities related to this evidence that could provide a useful homework or extension activity. It requires no laboratory or computer equipment to complete and is also suitable for supply cover.

Cross curricular ideas

Food technology

Students could design and make their own new Snack Bar. They would need to carry out market research, develop and trial their recipes and develop their final product on which they could carry out taste tests.

Mathematics

The students could develop the nutritional information for their new Snack Bar, using information and calculating from the ingredients they have used. They could also collate. Process, analyse and report the market research for their new Snack Bar.

Design and technology

The students could design and make the packaging for their new Snack Bar.

Art and design

The students could design the logos, wrapper, and advertising posters for their new Snack Bar.

English and drama

The students could write the television advert script for their new Snack Bar and film it.

Science upd8 activities

The following activities are freely available for download from <http://upd8.org.uk>

Inside Easter eggs

Chocolate Easter eggs are everywhere, but what is hidden beneath those shiny wrappings? This 20 minute activity gets students to explore the science of chocolate. Why does it make you feel good? How nutritious is it? How much would you need to eat if it was your only energy source?

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Science upd8 activities ...continued

Bushtucker challenge

Bugs make a regular appearance on "I'm a celebrity - get me out of here". They have featured in some stomach-turning Bushtucker Challenges. Celebrities have even been forced to eat them alive. Surprisingly, this would not be such a bad thing. Many insects are high in protein and low in cholesterol. They are a valuable source of nutrients in Australia, Asia and Africa. There are certainly plenty of them around.

Australia is suffering its worst locust plague in years. The insects have been rebranded as 'sky prawns' in an effort to get more people eating them. In this numeracy activity, students devise a nutritionally balanced insect-and-rice menu for a day in the jungle.

Useful weblinks

www.eatwell.gov.uk/healthydiet/

This government body provides useful advice on healthy eating in an approachable and understandable form. It includes video clips and links to other sites as well as advice on wider food safety.

www.bbc.co.uk/food/diets/healthy

This website has a selection of recipes for people who need specialist diets.

en.wikipedia.org/wiki/Healthy_diet

Wikipedia provides useful text-based information on healthy diets including insights from other countries.

www.childrenfirst.nhs.uk/teens/health/healthy_eating/

This website is optimised for issues relating to teenagers and healthy diets.

www.bbc.co.uk/learningzone/clips/food-and-energy/267.html

This online video clip looks at the energy value of food. Normally a man needs about 12,000 kJ of food energy per day, but Dave the polar explorer needed 27,000 kJ to drag a heavy sledge and keep warm. The presenter's lunch has 800 kJ per 100g, however Dave needed 2,700 kJ per 100g to keep the total weight of the food he needed for 100 days down to 100kg. They investigate how this is done.

Links to other useful Teachers TV videos

'Science of Food' (short videos for students)

www.teachers.tv/series/science-of-food

Examining the properties of food groups and how different foods can help with physical and mental ability.

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Links to other useful Teachers TV videos ...continued

'Industrial Ingredients' (short videos for students)

www.teachers.tv/series/industrial-ingredients

Delve into the world of mass-processed foods, take a close look at additives and the laws relating to them, and discover current trends within the food industry.

'Food Labels' (short videos for students)

www.teachers.tv/series/food-labels

An examination of the factors that can influence consumers to purchase particular brands and goods. The series also looks at the legal obligations companies have when it comes to sharing food information on packaging.

'Eat Better, Do Better'

www.teachers.tv/series/eat-better-do-better

The science behind healthy food and why it's crucial to consider what pupils eat, plus clever ideas to transform school meals and encourage healthy eating.

