Bad news

Commentary

The main idea to get across to students here is that data can be used and presented selectively to support different, or even opposing arguments – and this is often used in advertising and news stories. Someone looking to support or oppose a particular point of view can often trawl through data to find something to support their case.

The point of this isn't to encourage students to be cynical about data but to develop a more rigorous approach. In relation to health, people should be able to find an answer to 'If I do this rather than that, what, in real numbers, is the likely impact going to be?'

Before this lesson students should know that:

- *Our bodies need energy in order to function*
- *Energy comes from the food that we eat*
- *Sugar is a common ingredient of food and contains energy*

This lesson can lead to understanding that sugars are carbohydrates, and that unused carbohydrates are turned into fat and stored in the body.

Resources

bs_news_worksheet_01 'Brief sheet' • bs_news_worksheet_02 'Student data'

Learning objectives

- To develop an understanding of what makes a 'good' news story
- To consider examples of how science reports can be distorted to make 'good' news stories
- To consider why science reports may be represented in various different ways

Learning outcomes

By the end of the lesson students will have:

- used data and other evidence in particular ways to either support or disprove ideas
- seen that different interpretations can be made of the same evidence, and that often people have a vested interest in supporting or opposing particular points of view

Key vocabulary

energy • data • trend • pattern • correlation

Obstacles to learning

Students may have the misconceptions that:

- sugar is always bad for you
- the body always releases energy from food at the same rate

Starter

First take a straw poll using questions such as:

- Who thinks that your body can get energy from a high glucose drink?
- Who thinks that your body can get energy from a jam sandwich?
- Which can you get energy from more quickly?

Then ask students to work in small groups and discuss these questions:

- Who had something sweet for breakfast?
- Sugar is very soluble – what does this suggest about how quickly your body can get energy from it?
- In what way is this a good thing?
- In what way is it a bad thing?

Take feedback and draw out the fact that sugar dissolves quickly in the bloodstream, providing the body with a sudden supply of energy. This is useful if you need to transfer a lot of energy quickly, but less useful if you need a steady supply over a long period of time.

Main activity

Students work in small groups, each with a particular brief, but each (though without knowing it) with the same set of data. The brief will be to make a case for a certain course of action based on the evidence.

Each group needs one of the following briefs, taken from bs_news_worksheet_01:

1. You are marketing managers from ‘Gluco-glug’ drinks, with a target of increasing sales figures.
2. You are sales executives from the Jam Marketing Board, keen to avoid your products having an image as an unhealthy food.
3. You are project managers from the ‘Healthy Foods Project’, with the task of encouraging people to follow better diets.
4. You are advertising managers for ‘Porridge People’, a new outlet selling takeaway porridge pots. You are keen to encourage people to eat porridge for breakfast and are using the slogan ‘slow release of energy to keep you going all day long’.

Each group has a set of the figures (bs_news_worksheet_02). Tell them that they have to produce text for a press release, with a title of no more than ten words and text of no more than 50 words, making such use of the data as they can. Emphasise that they have to remember what their job is and be persuasive. Say that the press release won't be used unless it is engaging.

Plenary

Each group will present their case. This might be done by displaying the press releases, getting students to read them out or making key points. Consider asking students to explain how they used the data.

Ask the class why they think that such different outcomes came from the same set of evidence.

Discuss why scientists may sometimes disagree about the meaning of data.

Bad news worksheet 01

Brief sheet

You are marketing managers from ‘Gluco-glug’ drinks, with a target of increasing sales figures.
You are sales executives from the Jam Marketing Board, keen to avoid your products having an image as an unhealthy food.
You are project managers from the ‘Healthy Foods Project’, with the task of encouraging people to follow better diets.
You are advertising managers for ‘Porridge People’, a new outlet selling takeaway porridge pots. You are keen to encourage people to eat porridge for breakfast and are using the slogan ‘slow release of energy to keep you going all day long’.

Bad news worksheet 02

Student data

Results for blood glucose levels are given in the tables below.

The data shows levels of blood glucose measured in millimoles per litre.

10 patients ate a jam sandwich for breakfast and another 10 had a 330ml Gluco-glug drink.

Blood samples were taken at 30 minute intervals

Jam sandwich

		Time (mins)			
		0	***30***	***60***	***90***
Patient Number	***1***	4.9	9.8	6.9	5.3
	2	4.7	7.3	6.3	4.6
	3	5.8	8.3	7.5	6.3
	4	6.1	9.3	7.9	6.9
	5	6.9	9.6	8.7	7.3
	6	5.7	12.4	10.4	6.5
	7	6.1	13.2	10.5	6.3
	8	7.7	10.9	9.2	8.3
	9	8.6	14.0	12.0	9.5
	10	7.2	13.7	11.4	9.0

Gluco-glug drink

		Time (mins)			
		0	***30***	***60***	***90***
Patient Number	***1***	6.2	11.4	9.3	6.1
	2	4.0	8.4	6.2	4.5
	3	7.8	13.2	9.2	6.8
	4	6.9	10.0	8.9	8.2
	5	5.0	9.3	7.8	6.1
	6	5.8	8.3	6.9	5.4
	7	7.3	11.4	10.1	6.9
	8	6.9	13.8	11.3	7.3
	9	8.0	14.3	12.2	8.8
	10	6.9	10.5	9.4	8.1