

## KS3 1C What's in it?

### Planning/adapting

This lesson involves looking at the ingredients of a chocolate bar and comparing the quantity and value or cost of each ingredient. Students are also asked to discuss the health implications of eating chocolate.

Before the lesson, ask students to bring in some different bars of chocolate (or chocolate wrappers), or bring some in yourself. You'll need at least one wrapper per pair of students.

### Print/copy:

- *Printout 1C1 – What is chocolate?* (one per student)
- *Printout 1C2 – Breaking up the bar* (one per student)

### Starter (5 mins)

Ask your students what they think is in a bar of chocolate.

Explain that they are going to look at chocolate wrappers to find out what chocolate is made from and how much of the money they pay for a bar of chocolate is spent on the various ingredients.

### Main activity (70 mins)

#### 1) Ingredients by weight

In pairs, ask them to look at the ingredients list on their chocolate wrappers. Explain that the list usually shows the largest percentage ingredient first. Ask each pair to compare ingredients.

Ask them each to make a list, starting with the most frequently used.

Give each student a copy of *Printout 1C1– What is chocolate?* Ask them to look at the top diagram, which shows the ingredients of a milk chocolate bar split up according to weight. Can they identify the percentage by weight that comes from a cocoa pod? (cocoa mass: 10% + cocoa butter: 14% = 24%)

## 2) Healthy eating

Now that they have a list of the major ingredients, ask them whether they think the chocolate bar is:

- High in fat?
- High in sugar?
- High in calories?

Have a quick discussion about what's good and bad about chocolate, e.g.:

- The sugar might be bad for your teeth.
- The calories might make you fat if you don't exercise enough – a 50g (one-and-a-half-ounce) bar has a whopping 220 calories.
- But it is also a powerful fighter of tiredness and it does give you strength and energy.

Explain that dark chocolate is lower in fat and sugar than milk chocolate – but how many of them like it?

Chocolate, then, has both positive and negative aspects to it but it does taste great. They'll have to weigh the pros and cons themselves and decide whether or not to indulge. A moderate amount as part of a healthy, balanced diet and active life will do no harm.

## 3) Ingredients by value

Ask students to look at the bottom diagram, which shows the ingredients of a milk chocolate bar split up according to value. Can they identify the percentage by value that comes from a cocoa pod? (cocoa mass: 14% + cocoa butter 30% = 44%)

Students can now see that although cocoa may represent only a small fraction of the weight of a bar of milk chocolate, it costs more than any of the other ingredients.

### Plenary (5 mins)

Explain that the cost of the all ingredients in a bar makes up only around 10% of the price you pay in the shop. The rest goes on things like packaging, advertising, transport, profits, the shops' costs and tax.

Now ask students to think about a bar of chocolate costing £1. Knowing what they do about the weight and value of cocoa in a bar of chocolate, how much of that £1 do they think cocoa farmers receive?

Give out *Printout 1C2 - Breaking up the bar* or show *Interactive 1C - Breaking up the bar*. Discuss with students whether they think this is a fair distribution of costs and profits.

### Extension

Ask students to copy the *Breaking up the bar* diagram and then to write a paragraph capturing their opinions on who earns what from a bar of chocolate.