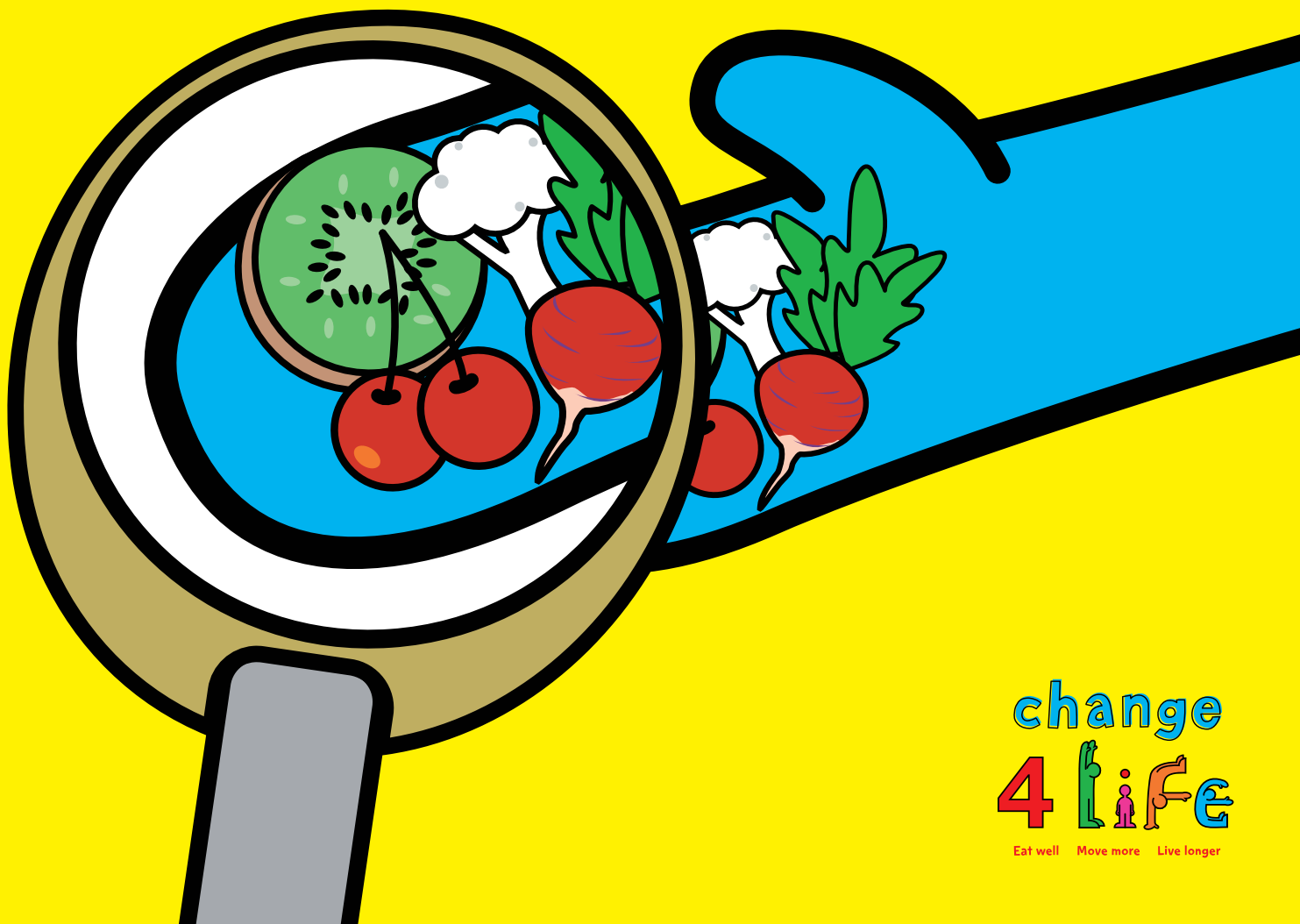


**food**  
detectives  
key stage 1

# Lesson plan

Supporting the design and technology, science, mathematics, computing and English curricula



# food detectives

## key stage 1



## Lesson plan

In these activities, pupils become food detectives and find out all about sugar, fruit and vegetables. Fun games get them talking about and identifying different fruit and vegetables before they go on to carry out a hands-on investigation. By the end of the activities, the pupils have a new understanding of the importance of a variety of fruit and vegetables as an alternative to sugar and as part of their 5 a Day. They will also have a better understanding of the amount of sugar in everyday food and drinks.

### Learning objectives

By the end of these activities, pupils will be able to:

- identify different fruit and vegetables
- explore and evaluate fruit and vegetables, describing their feel, appearance, smell and taste
- recall the new recommended daily maximum sugar intake for their age range
- explain why fruit and vegetables are an important part of a healthy diet, are a good sugar swap and why they are important to their 5 a Day
- understand and compare the sugar content in a variety of food and drink products
- select lower-sugar alternatives to high-sugar products

### Resources

In addition to the resources in this pack, to complete the activities you will need:

- 6 opaque bags (e.g. made of paper or cloth)
- 3 x 3 types of fruit (e.g. 3 bananas, 3 apples and 3 oranges)
- 2 x 3 types of fruit (e.g. 2 apples, 2 pears and 2 little bunches of grapes)
- 2 x 3 vegetables (e.g. 2 cucumbers, 2 peppers, 2 carrots)
- sugar cubes (4g each)
- 6 plates, each containing one of the fruits or vegetables chopped into small pieces (prepare these in advance)
- a knife and chopping board
- a tablet or smartphone enabled with the Change4Life Sugar Smart app (ideally linking to an interactive whiteboard)
- empty packets of single-portion, barcoded food and drink items that the pupils eat at home (e.g. breakfast cereals, drinks, yoghurts, sauces and other snacks)
- a blank flipchart

Please be allergy aware.

### Delivery and timings

These resources have been designed to be flexible – you can choose how to fit them into your timetable. In addition to the main lesson plan (made up of starter activities, a main activity and plenary), there is a homework resource and three optional activities for you to choose from. You may decide to spread the activities out across a week or more, deliver the bulk of them in a single afternoon, or develop different activities into mini-topics covering a number of lessons.

Suggested timings are given, but these are intended for guidance only.

STARTER ACTIVITIES:

# Identifying Fruit and Vegetables



D&T

English

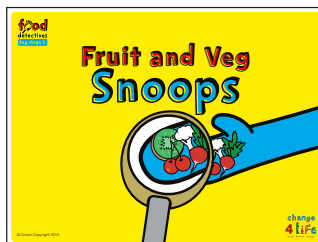
Science

Mathematics

SCHOOL ZONE

Search [Change4Life/schools](https://www.change4life/schools) for accompanying PowerPoint presentation.

slides 1 and 2

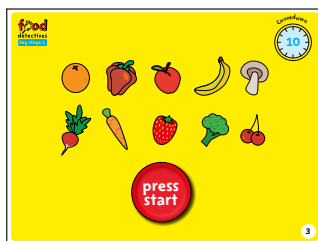


Explain to the pupils that today they're going to become food detectives.

What do detectives do? Who knows any famous detectives?

Tell the pupils that in this lesson they're going to use their detective skills to find out all about fruit and vegetables.

slides 3 to 14



So how much do they already know?

Detectives need to have a good memory! Tell the pupils to look at slide 3 and try to remember what they can see.

Click the countdown clock and watch the fruit and vegetables disappear. Once the screen is blank, ask the pupils how many of the 10 fruit and vegetables they can remember and name.

(Orange, pepper, apple, banana, mushroom, radish, carrot, strawberry, broccoli, cherries).

If necessary, show the slide again until the pupils have remembered and named all the fruit and vegetables.

Ask the pupils which is their favourite. Why? Can they think of any other fruit or vegetables?

slides 15 to 32



Odd one out

Explain to the pupils that if they're going to be good food detectives, they need to be able to spot what counts as fruit and vegetables and what doesn't.

Tell the pupils that pictures of fruit and vegetables and other food and drink items are going to appear on the screen. Can they use their detective skills to spot the odd one out in each case?

Ask the pupils:

- which is the odd one out? Why?
- can you name all of the pictures?
- which would you like to eat the most?

After they've seen all the slides, ask the pupils which they think is the least healthy set of pictures. Why? (The last one because the cake and sweets contain lots of sugar, which we eat too much of).

slide 33



## Maximum daily sugar limits for children of their age group

Explain the maximum daily sugar limits for them (i.e. 4–6yrs 19g or 5 cubes, 7–10yrs 24g or 6 cubes). Demonstrate what this looks like using 4g sugar cubes, with the pupils helping to count. Children are eating three times more sugar than their maximum daily sugar limit – the biggest source is sugary drinks.

slide 34



## Introduction of basic health harms of eating too much sugar

Explain how eating more sugar than we should can be dangerous for our bodies. In simple terms, it may rot our teeth and it may make us ill later on.

### Fruity mix and match

To extend the odd one out activity, set up your own fruity mix and match game in the classroom. Put three different fruits in three opaque bags (e.g. a banana, an apple and an orange in each bag). Ask for three volunteers, sit them on chairs at the front of the class and give each a bag of fruit. On the count of three, ask each of the pupils to pull a piece of fruit out their bag for the rest of the class to see.

The rest of the class are detectives and their job is to react to the fruit they see as quickly as possible.

- if all three pieces of fruit are the same, the detectives call out “top banana”
- if two pieces of fruit are the same, they keep completely quiet
- if all three pieces of fruit are different, they call out “fruit salad”

### MAIN ACTIVITY:

# Undercover Investigation

D&T

English

Science



slide 35



## Explain that detectives need to use all their senses when they're carrying out an investigation.

In this activity the pupils are going to use their sense of touch, sight, smell and taste to find out about a particular type of fruit or vegetable. They will then use their findings to write a set of clues about that fruit or vegetable.

Can they write good enough clues for the rest of the class to guess what their fruit or vegetable is?

Divide the pupils into six groups and give each a copy of the **Undercover Investigation** activity sheet.

Give each group a different type of fruit or vegetable in an opaque bag. For example, an apple, a carrot, an orange, a banana, a cucumber, a small bunch of grapes, a pear, a pepper, a mushroom, or a celery stick. Ideally, give half the groups a piece of fruit and the other half a vegetable.



PHOTOCOPY ME

slide 36

**What does your fruit or vegetable **feel** like?**  
(Don't squeeze too hard!)

soft?	bumpy?	warm?
smooth?	prickly?	sticky?
hard?	cold?	hairy?



36

### No peeking!

Tell the pupils there's to be no peeking! Ask them to pass the bag around the group and take it in turns to touch their mystery fruit or vegetable. What words would they use to describe it? There are some ideas to help them on the screen.

Ask them to fill in their words as clue number 1 on the sheet.

slide 37

**What does your fruit or vegetable **look** like?**

what colour is it?  
what shape is it?  
is it shiny or dull?  
does it have a stalk?



37

### A close look

Then ask the pupils to take their fruit or vegetable out of the bag and take a good look at it. Is it what they expected? How would they describe its appearance? Again, there are some ideas to help them on the screen.

Ask them to fill in their words as clue number 2 on the sheet.

slide 38

**What does your fruit or vegetable **smell** like?**  
(Be careful not to give away the name of the fruit in the words you choose!)

sweet?	strong?
sour?	no smell?
fresh?	musty?
faint?	



38

### How does it smell?

Go around the groups and cut the fruits and vegetables open. Ask the pupils to smell their fruit or vegetable. What words would they use to describe it?

Ask them to fill in their words as clue number 3 on the sheet.

slide 39

**What does your fruit or vegetable **taste** like?**  
How does it feel when it's in your mouth?

sweet?	bitter?	squashy?
sour?	peppery?	chewy?
fresh?	tasty?	soft?
delicious?	tasteless?	hard?
sharp?	crunchy?	dry?
bland?	juicy?	moist?



39

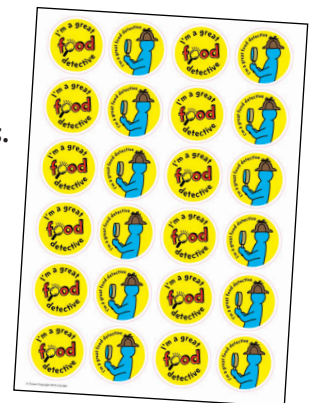
### How does it taste?

Finally, give each group a plate containing small pieces of their fruit or vegetable and ask the pupils to taste it (prepare these in advance so you don't hold up the lesson). How would they describe the taste? What does the fruit or vegetable feel like when it is in their mouth?

Ask the pupils to fill in their words as clues number 4 and 5 on the sheet.

Once the clues have all been filled in, ask the pupils to hand in their sheets. Mix them up and read out the clues. Can the food detectives work out from the clues which fruit or vegetable is being described? Remind the pupils not to give the game away by guessing their own clues.

At the end of the activity, you could hand out stickers to celebrate the pupils' excellent detective work!





# Fruit and Veg Snoop



D&T

English

Science

slide 40



To round off the lesson, explain to the pupils why being a fruit and veg snoop is so good for them!

Remember, fresh, tinned, juiced and dried fruit all count towards your 5 a Day. You don't need to worry about the sugar in whole fruit as this isn't added sugar, so it's ok to swap from sugary puddings and snacks to fruit instead.

Ask the pupils to think about what they have eaten today. What have they had that is sugary? Could they have swapped it for fruit or vegetables? Ask them to suggest some good swaps.

slide 41



We need at least five portions of a variety of fruit and vegetables every day to help stay healthy. An example of a portion is one apple or one banana. Fruit and vegetables are a source of vitamins, minerals and fibre which, when eaten as part of a healthy balanced diet, help to keep us healthier.

Which fruit and vegetables have the pupils eaten so far today? (This lesson will have helped!) What would they like to eat to make sure they get to five or more portions?

## Homework activity – Sugar Smart Trumps

D&T

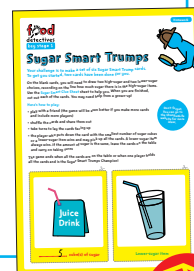
English

Science

Mathematics

Give the pupils the **Sugar Smart Trumps** activity sheet (photocopy both sides on separate sheets of paper) and the **Sugar Smart Clue Sheet** explaining to them that their homework task is to make a set of fun trump cards and to compare the sugar content in a variety of food and drink products.

Encourage them to talk to their parents about what they have discovered in their time as a food detective and why it is a good idea to swap sugary drinks, breakfast cereals, snacks and puddings for healthier alternatives such as fruit and vegetables. Which swaps might the pupils and their families make to ensure that they stay within their age appropriate daily sugar limit? After homework is handed in, suggest that the pupils play **Sugar Smart Trumps** with their friends, in the classroom or at playtime.



## Sugar Scan Challenge

D&T

English

Science

Mathematics

Computing

Show the pupils a variety of single-serving food and drink products with barcodes. Recording their responses on a flipchart, ask the pupils which has the most sugar? Which has the least? Do you think X has more or less than Y?

Introduce the Change4Life Sugar Smart app on an enabled tablet. Show the pupils how to scan the barcode of a product to discover how much sugar it contains. Explain why this is useful (e.g. easy to see the sugar content, helps you to make sugar smart choices).

As a class, or in groups, scan a number of products, recording the total number of cubes on attachable sticky notes. Remind the pupils to include the unit of 'cubes'. The pupils are to then order the products from least to most sugar. Compare the pupils' findings with their initial predictions.

You could extend this activity by setting pupils maths challenges based on sugar cube amounts.



For example:

- how much more sugar does X have than Y?
- if I added two more cubes of sugar to X, how much sugar would it have?
- how much sugar would you be eating if you ate X and then Y?

#### Points to note:

Please be aware that when used on a tablet, rather than a smartphone, the Change4Life Sugar Smart app may require a more steady hand, and take longer to register barcodes, when scanning. Additional adult support may be required to assist KS1 pupils, if working in groups or individually.

## The 5 a Day Hunt

D&T

English

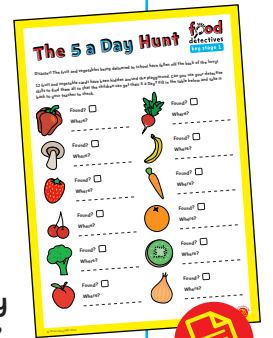
Science

Use the **5 a Day Hunt** playground game to reinforce the message of eating at least five fruit and vegetables every day.

Hide the 12 fruit and vegetable cards around the playground. Give pupils a copy of the activity sheet (they can play the game in groups, pairs or individually). Can they find the missing fruit and vegetables? Explain that when they do spot a card they need to leave it where it is for other pupils to find. Challenge them to fill in their sheet secretly, so that they don't give other pupils clues as to where the fruit and vegetables are hidden.

Once they have completed the sheet, tell them to bring it back to you to check. Photocopy and sign the certificates to celebrate their achievement and send them home in the pupils' book bags.

Talk to the pupils about why it is important to make sure children are able to eat plenty of fruit and vegetables. If they were to pick their 5 a Day from the fruit and vegetables hidden around the playground, which would they choose?



## Sophie's Sugar Smart Day

D&T

English

Science

SCHOOL ZONE

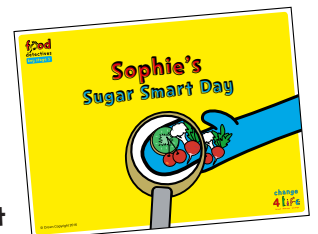
Search [Change4Life/schools](https://www.change4life.co.uk/schools) for accompanying PowerPoint presentation.

Help the pupils understand how they can cut back on sugar throughout the day by sharing the interactive whiteboard story, **Sophie's Sugar Smart Day**, with them.

Read through the story and ask the pupils to decide what Sophie should eat and drink from breakfast through to bedtime. They have seven choices to help Sophie make – encourage them to share their views as a class. You could take a vote each time, so that all the pupils feel involved in the decision making.

Talk to the pupils about what they have found out from reading the story. Can they learn from Sophie and make their own sugar swaps? There are key swap moments throughout the day:

- **breakfast swap** From sugary cereals... to plain cereal such as porridge, wholewheat biscuits or shredded whole grain. Added fruit can count towards the pupils' 5 a Day.
- **drinks swap** From fizzy drinks, sugary squash and too much juice... to water, lower-fat milk and diet, sugar-free or no-added-sugar drinks. 150ml of juice once a day, ideally at meal times, can count towards your pupils' 5 a Day. However, there is no place in a child's daily diet for sugary drinks.
- **after school snack swap** From sugary biscuits, sweets, pastries and chocolate... to fruit, plain unsalted nuts, plain rice cakes, teacakes, toast, chopped-up cucumber, pepper and carrot with lower-fat dips.
- **pudding swap** From sugary puddings such as ice cream... to a piece of fruit, fruit salad, low-fat, lower-sugar yoghurt or sugar-free jelly.



## Get the whole school involved

Why not encourage every pupil to become a food detective by holding a lunchtime investigators tasting session in the canteen where pupils can try a new fruit or vegetable they have never eaten before. Pupils who take part can be awarded an **I'm a great food detective** sticker.



## Curriculum links

These activities provide opportunities for meeting the following National Curriculum requirements:

### Science

- say which part of the body is associated with each sense
- describe the importance of eating the right amounts of different types of food
- perform simple tests
- identify and classify
- identify and name a variety of everyday materials
- describe the simple physical properties of a variety of everyday materials

### Design and technology

- explore and evaluate a range of existing products

### English – spoken

- articulate and justify answers, arguments and opinions
- give well-structured descriptions, explanations and narratives for different purposes
- maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments
- consider and evaluate different viewpoints

### English – written

- write down ideas and/or key words, including new vocabulary
- discuss what they have written with the teacher or other pupils

### Mathematics

- practise counting and ordering numbers
- identify, represent and estimate numbers using different representations
- solve (one-step) problems that involve addition and subtraction

### Computing

- use technology purposefully
- recognise common uses of information technology beyond school

## Finding out more

### Useful Change4Life school links

- you'll find more teaching resources on healthy eating and physical activity on the Change4Life **School Zone**. Search **Change4Life/schools**
- we would love to hear from you. Please send your comments and photos to [partnerships@phe.gov.uk](mailto:partnerships@phe.gov.uk)



### Other useful resources

- the British Nutrition Foundation has more information on the importance of healthy eating at [foodafactoflife.org.uk](http://foodafactoflife.org.uk)
- the Children's Food Trust helps children eat better and so do better, by working with schools, local authorities and other partners. Visit [childrensfoodtrust.org.uk](http://childrensfoodtrust.org.uk)
- explore how a whole-school approach leads to great school food with the School Food Plan at [whatworkswell.schoolfoodplan.com](http://whatworkswell.schoolfoodplan.com)
- learn more about promoting school meals with National School Meals Week at [nsmw.org.uk](http://nsmw.org.uk)

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