



## **Healthy People, Healthy Planet – Teacher Guide**

How can we eat a diet that's healthy for us, but good for the environment as well?

This 45 minute engaging, interactive and cross-curricular workshop allows P4-7 pupils to learn about what makes a sustainable diet.

Pupils will identify some common foods using just their sense of smell and touch and will find out where these originate. They will explore how produce travels from abroad to reach us here in Scotland, how this can impact the environment and will be introduced the concept of food miles.

The approaches used will enable pupils to come to decisions regarding their diet based on many factors including food miles and nutritional value. This is becoming an increasingly important issue for us all as we search for a healthy, sustainable diet for the future.

### **List of Materials**

- Large World Map
- Sticky Tack
- Agree/Disagree/Depends signs
- 6 drawstring bags
- Coconut
- Parsnip
- Orange
- Kiwi fruit
- Banana
- Potato
- Country of origin information
- Feely Bag Flags
- 6 smell jars (film canisters with holes punched in the lid)
- Basil
- Onion
- Garlic
- Parmesan Cheese
- Red chillies
- Ginger
- Smell jars poster
- Scottish produce posters and map markers
- Student transport worksheet and cards
- Transport answers
- Food miles flags and poster
- Sustain'o'meter

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### **1. Setting up your classroom and preparing the resources.**

- i. Print out all the worksheets for yourself and, for the students, print out one transport worksheet (with answer cards) and one Sustain'o'meter worksheet per group.
- ii. Prepare the vegetables for the smell jars. The food should be chopped into small pieces – exposing as many surfaces as you can is the key to getting a really pungent odour! It is a good idea to stuff the jars  $\frac{2}{3}$  full with kitchen towel and place the food on top of it. This means the food is really close to the top so the smell is very strong.
- iii. Put the relevant foods (coconut, parsnip, orange, kiwi fruit, banana, potato) into the feely bags.
- iv. The Agree/Disagree/Depends signs should be stuck up somewhere in the classroom – ideally all along one wall – with sufficient room between them so that students can stand beside them.
- v. The A3 transport answers sheet should be stuck on a wall where everyone can see. It can either be put up the wrong way round so the answers cannot be seen or, ideally, each answer should be covered with a piece of cardboard (paper may be too thin). These can be removed one at a time whilst discussing the answers with the students.
- vi. The map can either be put on the floor for students to sit around or on the wall.
- vii. The flags – 10 in total – can be mounted on poles (could use straws?) or can just be used as they are. They are designed so that they can be printed, folded and glued to produce a double-sided flag.
- viii. Cut out the cards with the different types of transport – you will need one card of each of the 9 types of transport per group.
- ix. For the Sustain'o'meter, you can allow the students to draw the arrows on or, you can print out and cut out the arrows provided and attach them to the dials with split pins. This will allow the students to move the arrows to the desired location and means the sheets can be used again.



## 2. Introduction

The introduction can be interpreted as you wish perhaps to fit in with the students prior knowledge or a topic being covered in the class. Some ideas for questions to start with are below.

Why do we eat?

Where does our food come from?

How does it get to our tables?

What do we need for healthy people?

What do we need for a healthy planet?

Are these two things connected?

What does it mean to be healthy?

What do you know about being healthy?

## 3. Physical Continuum

This activity is designed to canvass the students' opinions before the workshop and will be repeated at the end to give insight into any learning or changes in opinion that have taken place.

Point out the Agree/Disagree/Depends signs and explain that you will read 4 statements and they are to stand by the sign that represents their opinion. It is good to emphasise that there is no right or wrong answer and to encourage them to think for themselves and not just follow their friends.

Note the approximate numbers that stand by each sign but do not discuss answers or reasons at this point. This activity will be repeated at the end of the workshop so further discussion about their reasoning can take place then.

The statements are;

### Statement 1

All the food that we buy in the supermarket comes from Scotland.

### Statement 2

Fruit and vegetables grown in a sunny country taste better.

### Statement 3

Food from Scotland is some of the best tasting most nutritious food in the world.

### Statement 4

We should think carefully about where our food comes from and how we travel to and from the supermarket.



#### 4. Feely Bags

This is a fun and simple task designed to ease into the workshop. You can introduce the activity as you like. I usually say that, if I were to show them some foods, they would easily be able to identify them but, to make it a bit trickier, we are going to do it just by sense of touch.

Demonstrate how to use the feely bags (i.e. close your eyes and reach inside the bag).

It is good if the students can work in small groups of three or four for this activity and can discuss and debate what food they may have.

Once all have had a few minutes to work out what the foods are, get each group to reveal their food to the whole class and give each group the flag representing their fruit or veg.

Give the groups time for discussion and then ask them to place their flag on the map where they think the food comes from.

Discuss the answers with the class including;

- Which of the products can grow in Scotland?
- Why can't the others grow here?
- Explain that bananas and oranges grow in equatorial regions because it is warmer and sunnier in these places.

#### 5. Smell Jars

This activity is similar to the feely bags but using smell to identify the foods this time.

Get the students to work in small groups as before and, once they have all had a chance to sniff and discuss, see if they can identify the foods. I would advise that you take the jars from them and open them rather than letting the students do it (to avoid spillage).

These products will not be put on the map, but instead, ask the students if the products can be grown or made in Scotland. Hold up the poster to remind them what was in the jars.

#### Answers

Onion - yes

Parmesan cheese - yes

Basil – yes (inside) outdoors all year round in tropical regions, very sensitive to the cold

Chilli – yes (inside) outside in S. America and Asia.

Garlic – yes

Ginger – yes (inside in summer) outdoors in tropical regions (India, Bangladesh, Pakistan)

This is interesting because, even the products which seem more exotic (e.g. ginger and chillies) can be grown here in Scotland under the right conditions.



## 6. Scottish Produce

Leading on from the products in the smell jars, which can all be grown or made in Scotland, ask the students to come up with ideas of other Scottish products – things that can be grown in our gardens and on our farms, products Scotland is famous for etc.

Having taken some answers, you can then display the Scottish produce sheet which gives some examples.

Key things to focus on are the high quality soft fruits, vegetables and meat and fish that are associated with Scotland. These things are often forgotten and things like Irn-Bru and shortbread jump to mind more quickly!

We send this Scottish produce far and wide. With the students working in groups as before, give each group a “Made in Scotland” marker and ask them to place on the map where they think this Scottish produce is exported to. Perhaps when on holiday abroad they will have seen an Aberdeen Angus Steak burger on a menu or a can of Irn-Bru in the fridge.

Focus on a continental level rather than a country level when discussing the answers. Scotland exports to all continents excluding the Arctic and Antarctica i.e. Australia and Oceania, North America, South America, Europe, Africa, Asia.

## 7. Transport

The workshop so far has looked at products we import and export. The next stage is to consider the types of transport used to do this. So, ask the students to suggest some transport that could be used to send food around the world e.g. lorry, plane, boat, car, train.

Part of the food journey is also how we get our food home from the shops. Ask the students to suggest some means of transport people can use to get to and from the shops e.g. bus, train, car, walk, cycle.

Ask the students what the main problem is with some of these transport methods, in particular, planes, lorries and cars. You may get a variety of feasible answers but the point to pick up on is the fact that these all burn fuel thus creating harmful gases that pollute the environment.

Continuing from this, the next activity asks students to compare different methods of transport in terms of how harmful they are to the environment.

Give each group of students a transport worksheet and one card for each of 9 transport methods.

Ask the students to organise the transport methods from least harmful to most harmful to the environment. Draw attention to the two different types of car – a grey car representing small cars and a blue car representing large cars (e.g. 4x4s).



When they have all had a chance to do this, reveal the answers one by one. Going over the answers offers time for discussion about what kinds of things will affect which transport we can use i.e. the distance, if there is water to be crossed, if the food will go off if it is not transported quickly.

Least Harmful	Walk	Provided you don't throw your litter on the ground as you go, walking is not harmful to the environment at all. It is good for you too – gets you out in the fresh air and doing some exercise.
	Cycle	Cycling is not harmful to the environment and, as above, it helps keep you healthy.
	Boat	Most people expect the boat to be much further down the list. Boats do use fuel to run but, they are fairly environmentally friendly because they can carry lots of cargo so, for each single item being transported, the pollution is very small in comparison to other methods. The main problem with using a boat is that it is very slow so, if food is going to go off quickly and has to travel a long distance a plane would be more suitable. Travelling by boat is 100 times better than completing the same journey by plane.
	Train	Many trains now run on electricity but some are still diesel. Trains are capable of carrying cargo or passengers and are a great alternative to lorries or buses. Obviously the train network does not cover everywhere so it may not be an appropriate method of transport in all cases.
	Bus	Obviously buses will cause emissions but, if they are used instead of cars, the quantity of emissions per passenger is far less as more people can be carried on a bus. So, where possible, using a bus instead of a car is beneficial to the environment. If where you live is not served by the bus network then obviously an alternative has to be found.
	Most Harmful	Small Car (grey)
Large Car (blue)		
Lorry		Creates more emissions than all other road transport.
Plane		This is the worst of all the transport methods mentioned here. Having said that, planes are sometimes necessary if food needs to get to us from a long distance quickly. The effect of the emissions from planes are 2 to 3 times higher compared to emissions on the ground, because planes release the gases at high altitudes into the atmosphere, where they do much more harm.



## 8. Food Miles

Having thought about how food makes its journey across the world, we are now going to consider just how far some food has to travel to reach us.

Ask the students if they have heard of food miles. Ask them what they think it could mean? Food miles is the number of miles a food has travelled to get to us.

Using the food from feely bags as an example, place the food miles flags on the map.

Orange from Florida	-	4189 miles
Banana from Kenya	-	4572 miles
Coconut from The Philippines	-	6685 miles
Kiwi-fruit from New Zealand	-	11,326 miles

To drive home just how far this food has travelled, show the total slide.

Total = 26,772 miles

To give an idea of how to reduce food miles, use the example of making a fruit salad with the foods in the feely bags. If the coconut and kiwi-fruit (which have travelled the furthest) were substituted with Scottish strawberries and raspberries, the fruit salad would be tastier and cheaper and the effect on the environment would be far less because more of the food was sourced locally.

Obviously the idea is not to dissuade students from eating any foods that come from far away, it is just to make them consider choosing a local alternative if there is one available.

It is important at this point to mention that food miles are not the only point to consider when looking at damage to the environment. For example, if we were to grow tomatoes in the UK to meet our demand all year round, the heated greenhouses required would produce 2 - 3kg CO<sub>2</sub> per kg tomatoes whereas, tomatoes grown in Spain and transported to the UK produce only 240g CO<sub>2</sub> per kg tomatoes.

## 9. Sustain'o'meter

This final activity is to get the students thinking about the balance of factors required when choosing food.

- Give each group their own Sustain'o'meter.
- Ask them to discuss the factors and then move or draw the dials on the Sustain'o'meter to show how important price, taste, nutritional content, food miles are when you choose to eat the exotic fruits found in the feely bags.
- Once all groups have completed this, a spokesperson from each one can tell the other groups the reason for their choices.



## 10. Physical Continuum

Repeat the physical continuum again as in section 3. This will allow you to see if there has been a shift in opinion since the beginning of the workshop so you can directly assess what learning has taken place. Below are the statements again with some points to consider when discussing each one.

### Statement 1

**All the food that we buy in the supermarket comes from Scotland.**

- Hopefully everyone should vote for disagree. You may get some standing in depends. Highlight that the question deliberately uses the word “supermarket” – this means a large chain store like Tesco, Asda etc. Some local or farm shops may only stock Scottish produce but supermarkets always have products from all over the world.
- Supermarkets label some foods with the country of origin.

### Statement 2

**Fruit and vegetables grown in a sunny country taste better.**

- Right produce right climate. Fruit and vegetables all require different conditions to grow. So, some fruit and veg will need to be grown in a sunny country but, we can grow some tasty stuff here too e.g. parsnips, potatoes, berries, apples etc.
- Fruit and vegetables grown locally and picked out of the ground soon before being eaten taste better than food grown abroad and transported for a period of time.

### Statement 3

**Food from Scotland is some of the best tasting most nutritious food in the world.**

- Scotland has lots of tasty and nutritious food to offer including meat, fish, fruit and veg. Scotland sends its best produce all over the world.
- However, a lot of people associate Scotland with poor diet and unhealthy food such as battered Mars Bars, Irn-Bru and shortbread so, it is a bit of a mixed bag!

### Statement 4

**We should think carefully about where our food comes from and how we travel to and from the supermarket.**

- The ways in which food is transported impact the environment. Supporting local producers where possible and eating food that has not travelled far is the recommendation. Cycling or walking to the shops when you can helps too. If everyone makes some small changes this can have a huge impact overall.

