

# INVASION OF THE SUMMER PUDDINGS

## TEACHERS' NOTES - KEY STAGE 2

*Invasion of the Summer Puddings* has been written with the aim of promoting a healthy lifestyle and to give its audience some ideas on how they can change their everyday habits for the better.

We follow the fortunes of our heroine Lainey Puddle, who with her boyfriend Tyler, eats unhealthily and doesn't do any activity if she can help it!

However, once 'The Doctor' and his robot friend Fee9 arrive on Earth in their Portaloo, it soon becomes apparent that the Earthlings may be being brainwashed into behaving in such an unhealthy way, but why?

As the story unfolds the full extent of the problem is revealed and Lainey, Tyler and the whole audience is left with the tools and knowledge to change their lives and follow in the Doctor's healthy footsteps...

### 60 MINUTES A DAY



The play encourages children to do 60 minutes of physical activity every day, which increases overall fitness. If children do this every day it helps to burn off calories and prevent them storing up excess fat in the body which can lead to cancer, type 2 diabetes and heart disease. It keeps their bones healthy and encourages muscle strength and flexibility.

Lainey and Tyler discuss the fact that they do no exercise whatsoever and Lainey reminds Tyler that their teacher told them they should be doing at least 60 minutes exercise a day. Tyler is incredulous – 60 minutes? That's a whole hour! They try to work out how they might do this and slowly it becomes more manageable: walking to and back from school is 30 minutes and then if they play games at lunchtime, such as stuck-in-the-mud or tag that would easily take them over the hour mark. They then ask the audience for ideas of what they could do for exercise and conclude that it's easy to do an hour's exercise a day.

**IN CLASS:** discuss what might be counted as physical activity towards your 60 minutes a day. It may well be easier than the children think.

*Walk to School:* it's good for you; gets your respiratory system going; works off fat; helps you concentrate and you can meet up with your friends. There are practical aspects which include finding a safe route and especially in the darker months, wearing clothes that show up. You could also discuss starting a 'walking bus'.

*Cycle:* where practical cycle. You must, however, work out a safe route and have somewhere to store your bike and safety equipment.

*Sport:* it's a fun way of exercising. Even if you are not very good at sport it's the taking part that matters! It's fun to play football at whatever level you play, but there are many other sports out there. Get the class to think of as many sports as they can: football, cricket, hockey, netball, basket ball, tennis etc

*Dance:* join 'dance club' or just make up your own dance.

*Other clubs:* Beavers, Cubs, Rainbows, Brownies, Guides, Scouts, Boy's Brigade etc all do a lot of physical activity, playing 'dodgeball', ladders etc. and going on local treks. You can exercise whilst having fun.

*Just being more active:* don't just sit and watch telly or play computer games be more active – dance to the adverts, have a fashion show, if you've got a Wii try Wii Fit etc

*At home:* daytrips (family Olympics – 3 legged races, egg & spoon, sack race, wheelbarrow race) go for a walk, visit a castle, have a BBQ, go for a bike ride, treasure hunts (in the park, find a buttercup, find a conker etc) , 'rounders' in the park, local fairs OR go swimming - it uses every muscle group and is great for cardiovascular fitness. Ask the children what they did at the weekend and count how many minutes of exercise their activities accrued.

*Keep a diary:* Ask each child to keep a diary of their movement each day and see if they have managed to do 60 minutes physical activity a day over one week. Give them ideas of how they can up their minutes and encourage them to play physical games at break time such as 'It' and 'Stick in the mud'.

*Playleaders:* Set up a 'Play Leaders' scheme at school with the Year 6 children leading different physical activities at break times for the whole school. They can be sports, such as football, tag rugby or cricket, or just fun activities like Lewis was leading in the play such as using hula hoops, skipping, limbo dancing or even bouncing on space hoppers! Don't forget old favourites such as Hide and Seek, Hopscotch, French Skipping etc.

## **WHAT'S IN YOUR FOOD - SUGAR**

One of the focuses of the play is to highlight hidden sugar in the food we eat. The Doctor uses his sugar detector to find out how much sugar there is in a variety of snacks.

Fruitshoot – 20 grams or about 5 teaspoons worth  
Dairy Milk – 25 grams or about 6 teaspoons worth  
Twix – 20 grams or about 5 teaspoons worth  
Toffee Crisp – 21 grams or about 5 teaspoons worth  
Mars Bar – 31 grams or about 8 teaspoons worth

It's recommended that we have no more than 6 teaspoons worth of added sugar a day.

The Doctor then explains that because the sweets are full of sugar they are also full of calories.

Twix – 284 calories  
Mars Bar – 260 calories  
Dairy Milk – 255 calories  
Toffee Crisp – 218 calories  
Fruit Pastilles – 187 calories  
Fruit Shoot – 110 calories



That's 1,314 calories in snacks alone. The daily recommended calorie intake for a child is 1,500.

They visit a supermarket and buy some ice cream – 21 grams of sugar per serving, or about 5 teaspoons worth and the Doctor discovers that even baked beans have added sugar – 3 teaspoons worth in every serving.

It is widely recognised that a serious problem has developed with children's diets. The National Diet and Nutrition Survey found that:

- 92% of children consume more saturated fat than is recommended
- 86% consume too much sugar
- 72% consume too much salt
- 96% do not get enough fruit and vegetables.

Junk food diets also have significant effects on children's behaviour, concentration, learning ability and mood. Children with diets lacking in essential vitamins, minerals and essential fatty acids tend to perform worse academically, cannot concentrate and are more aggressive.

**IN CLASS:** Again, get the class to keep individual food diaries. The children must write down every item they eat or drink for a day and then assess how many calories they are taking in. Ask the children for suggestions as to how to improve their diets.

Ask the class to bring in a selection of food products and investigate what the calorie count is for each foodstuff. They might be surprised at the calorie content of some of their favourite foods, such as Pizza, peanut butter, sweet popcorn, sausage rolls, and the mayonnaise that appears in almost every healthy-looking sandwich!

### **WHAT ELSE IS IN YOUR FOOD? READ THE LABEL...**

At the Supermarket the Doctor shows Lainey that the labels give you all the information you need to know about what's been added to the food.

They examine the contents of a pizza, which contains 5.4 grams of salt. As it is recommended that no one have more than 6 grams of salt a day the pizza contains almost an entire day's intake of salt.

They then examine the fat content of the pizza. It contains 50 grams, which goes a long way to explaining why the pizza is full of calories – 1,070 calories, almost a whole day's calorie intake in one pizza.

Even a small bag of crisps is found to contain 1 gram of salt and 9 grams of fat – 150 calories in the bag.

And on examining a sausage roll they discover it contains 1.8 grams of salt and 38 grams of fat – 499 calories in one sausage roll.

**IN CLASS:** Take a selection of food packaging and examine the labels, finding the hidden salt and sugar content of each. Work out the percentages using the amounts given per 100g.

Find healthy alternatives: If you are having pizza, choose one with a thin and crispy base and not much cheese. Choose the low sugar and low salt varieties of baked beans. Try making toast with wholemeal or granary bread, and use just a small amount of low-fat spread (e.g. margarine) or jam. Choose a spread that is high in polyunsaturates or monounsaturates (both types of unsaturated fat), instead of one that's high in saturated fat, such as butter. Discuss the fat content in milk and suggest trying semi-skimmed, 1% or skimmed milk, or low-fat yoghurt (but remember 1% or skimmed milk isn't suitable for children under 5). Swap ice cream for tinned fruit in fruit juice or fresh fruit such as strawberries or fruit salad for a healthy but delicious dessert.

## A BALANCED DIET



Our bodies need a balanced diet to work properly. Good health involves drinking enough water and eating the right amount of items from the four main food groups.

The four main food groups are carbohydrates, proteins, fats, vitamins and minerals. Each of them performs a specific function for our bodies.

### Carbohydrates

Carbohydrates give us energy. They are found in foods such as bread, potatoes, rice and pasta and we need them when we take part in a lot of physical activity.



### Proteins

Proteins help our bodies to build our muscles and when we're injured to repair ourselves. They are found in foods such as fish, meat, nuts, seeds, eggs and cheese.

### Fats



Fats give our bodies energy that can be stored and provide a fat layer under our skin to keep us warm. We need a certain amount of fat, but we must be wary of eating more than we need as it will be stored in the body until it's needed. Fats are found in foods such as butter, cheese and fried foods



### **Vitamins and minerals**

Vitamins and minerals help with all sorts of jobs around our bodies such as healing wounds, building strong bones and teeth, making blood, and keeping our brain working!

Vitamins and minerals are found in foods such as fruits, vegetables, fish and milk.

The Doctor gives the audience an action for each food type to remind them of what they are and what they do.

**IN CLASS:** Try this experiment to see if a foodstuff contains fat: rub brown paper against the foodstuff and then hold it up to the light. If the paper turns see-through the food has fat in it.

In class the children can cut out paper plate shapes and draw their favourite meals. Which food types do they contain? The children can then draw a balanced meal using foods they like to eat.

A demonstration of how fibre works can be done with a sock, a hard ball and a soft foam ball. Put the hard ball in the sock and squeeze the sock so that the ball moves along. Then try the same thing with the soft ball and compare results.

### **5 A DAY CHALLENGE**

Eating more fruit and veg is important for us all. They are packed with essential vitamins, minerals and fibre which may help reduce the risk of diseases such as cancer and heart disease. So it's important for kids to eat a variety of at least five portions of fruit and veg every day. For a child, a portion is about 60g, which is roughly a handful of whatever fruit and vegetables you choose.

Lainey is meeting Tyler in Happy Burger after her trip to the supermarket with the Doctor. She has a bag of fruit and veg. Taking an apple, an orange, a carrot, some raisins and sweet corn out of her shopping bag she shows Tyler six easy ways to get your 5 portions of fruit and veg a day.



- Snack it! Almost any of the fruit or veg would make a tasty mid-morning snack – the apple, the carrot, the orange or the raisins and would count as one portion towards your five a day.
- Dip it! You can also dip the carrot in something tasty like humous, salsa or guacomole.
- Veg it! Have a portion of two different veg, such as carrots and sweetcorn, with your chicken for supper. If you're not used to the taste of vegetables then hide it in gravy.
- Add it! Cut the veg up small and add them to a sauce, such as Bolognaise or a curry. You'll never know they're there!
- Sprinkle it! Add chopped apple, banana or a handful of sultanas or raisins to your cereal in the morning instead of sugar.
- Drink it! The apple, the carrot and the orange can all be juiced to make a lovely drink. You can experiment with a mixture of different fruit to make a tasty smoothie

**IN CLASS:** Discuss how you can get your five portions of fruit and veg a day. Suggest canned and frozen fruit and veg, 100% juice and dried fruit and veg which are often overlooked. They all count towards 5 A DAY as well as fresh produce. See what alternatives the class can come up with to replace chocolate, snacks or crisps.

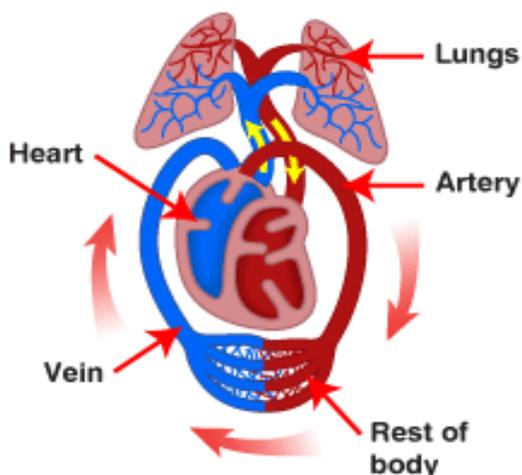
## THE RESPIRATORY SYSTEM

The heart is a very strong muscle that pumps blood around the body and is made up of four chambers, two upper chambers and two lower chambers. Blood enters the upper chambers which then squeeze and push the blood into the lower chambers and these then squeeze and push the blood out of the heart. Exercise strengthens this system, making the heart work more efficiently pumping the oxygenated blood around the body.

The Doctor returns to his time machine to see exactly how the respiratory system works and with the help of a member of the audience he sees how oxygen passes into the blood, is used and the waste products are exhaled.

The heart first pumps blood to the lungs.

Here, the blood picks up oxygen from the air breathed in.



The blood (carrying oxygen) then travels back to the heart.

The heart gives the blood a second push.

This time, it's sent to all the other parts of your body, including the brain, all the other organs and all the muscles.

The blood delivers its oxygen to them all, and collects the carbon dioxide waste products.

The de-oxygenated blood then travels back to the heart, and it all begins again: the blood is pumped to the lungs, we breathe out CO<sub>2</sub>, take in O<sub>2</sub> and it travels back to the heart to be pumped round the body.

The more you exercise, the more oxygen you need – which means you have to breathe deeper and your heart has to work harder - and this strengthens your system.

## YOUR PULSE



Your pulse is a measure of how fast your heart is beating. It is the number of beats your heart makes in one minute. Your heart beats faster or slower depending on what you are doing.

You can feel your pulse at certain points on your body. The easiest place to feel it is in your **wrist**, using the first two fingers of your other hand.

When you sit, the average heart beats about **80 times per minute**. However, everybody is different, so your pulse could be higher or lower than this.

When you **exercise**, your heart beats more quickly. This is because your muscles are working harder and need more oxygen to keep going. Your lungs also work harder, making you breathe more quickly to get more oxygen.

When you **sleep**, your muscles need less oxygen, so your heart slows down.

The Doctor takes the pulse of his helper before and after exercise to see how exercise causes the heart to work harder and so strengthen as a muscle.

## AT THE END OF THE PLAY

At the end of the play the actors will hold a short (5-10 minutes) question and answer session with the children which relates to the information and issues discussed in the play. The audience is then invited to ask any other questions they may have regarding any aspect of the production.