

Year 3 Design and Technology: Food and Nutrition – Block B

What do we mean by a balanced diet?

- This block is set in the context of the CUSP Science unit Animals, including humans.
- The outline and structure of the block is as follows:

Lesson 1	Lesson 2	Lesson 3
Exploring nutrition	Exploring the healing qualities of food	Exploring the sensory qualities of food
Explicit teaching of culinary skills and techniques	Applying knowledge	Explicit teaching of culinary skills and techniques
Evaluating outcomes	Modifying and improving	Evaluating outcomes

At the end of this block, pupils will ...	
Know:	Be able to:
What is meant by the term balanced	Make a fruit and yoghurt dessert
Why fresh foods are better	Make homemade chips
	Flavour foods to increase their sensory qualities

		
<i>Fruity yoghurt</i>	<i>DIY popcorn</i>	<i>Homemade chips</i>

In this block, pupils will consider what a balanced diet is. They will make three products that are often bought pre-made or highly processed.

CUSP Design & Technology Long term sequence	Block A	Block B	Block C	Block D	Block E	Block F
Year 1	Mechanisms	Structures	Food and Nutrition	Understanding Materials	Textiles	Food and Nutrition
Year 2	Textiles	Food and Nutrition	Mechanisms	Understanding Materials	Food and Nutrition	Structures
Year 3	Textiles	Food and Nutrition	Mechanisms	Food and Nutrition	Systems	Structures
Year 4	Food and Nutrition	Mechanisms	Textiles	Structures	Electrical Systems	Food and Nutrition
Year 5	Food and Nutrition	Systems	Textiles	Mechanisms	Structures	Food and Nutrition
Year 6	Food and Nutrition	Mechanisms	Food and Nutrition	Structures	Electrical Systems	Textiles

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Point of reference:

Y3 Food and Nutrition – Block B

Pupils will be able to:

- use knife skills with increasing confidence and accuracy
- identify examples of processed food



Prior Learning

- identify some key nutrients found in fresh food
- know the importance of fibre and carbohydrates in a balanced diet

Nutrition Notes:

The concept of a balanced diet has been used to try and simplify what a healthy and realistic diet should be. Although familiar with the term, pupils can struggle to think what this really means for them. A balanced diet should contain the essential nutrients that your body needs. This is very hard to do but eating a variety of foods and not eating too much of any one food is a good place to start. A properly balanced diet should be highest in fruit and vegetables, have a moderate amount of refined carbohydrates (breads and cereals), fish and dairy products, lesser amounts of meat and minimal amounts of fats and refined sugar. If we all ate freshly cooked food most of the time, we would not have the health problems we currently have in the UK.

Links to Literature:

Which Food Will You Choose? by Claire Potter

Health and Safety:

This block requires pupils to use peelers, knives and hobs. Teachers should ensure that they follow their own school's risk assessments and policies for using the necessary materials and equipment. Pupils should be taught about how to use materials and equipment safely and responsibly as part of these lessons.

Food Hygiene:

Please ensure all foods purchased are correctly stored and at the appropriate temperature. All food made should be cooled before being refrigerated. All food should be taken home and consumed within three days. All the recipes are suitable to be eaten hot or cold. Please refer to your school's allergy register before starting this block.

Environmental Factors	Cultural Links
Using frozen fruits means using up fruit that is rejected for sale as fresh fruit. It also means we are not using imported fruits when UK fruits are not in season. This reduces our carbon footprint. Corn kernels are a way of preserving a glut of ingredients and by dehydrating sweetcorn, the kernels will keep for years.	Maize is the second most grown crop on the planet. It is used to make flour and is eaten as sweetcorn. It is thought that popcorn was made as early as 4700BC in Peru. It has been reported that the total weight of chips eaten in the UK each year is equivalent to 14,000 blue whales.

Supporting Recipe: Y3 Food and Nutrition – Block B

	Lesson 1	Lesson 2	Lesson 3
Dish 	Fruity yoghurt	DIY popcorn	Chips
Equipment 	Oven tray Saucepan (for stewing fruit) Bowls Chopping boards Small vegetable knives	Large saucepan with lid Mixing bowls Graters	Mixing bowls Oven trays Chopping boards Small vegetable knives
Ingredients 	<i>Quantities for one pupil:</i> • 3 tbsp Greek yoghurt • 100g frozen berries • 1 tsp sugar • ½ eating apple • Handful of porridge oats • Fresh fruit if available • Seeds • Fresh mint	<i>Quantities for one pupil:</i> • 25g popping corn • 1 tbsp light flavoured oil (not olive oil) • Limes, oranges and lemons • Dried herbs and spices • Dried fruit • Seeds • Salt • Sugar	<i>Quantities for one pupil:</i> • 1 potato • 1 tsp olive oil • Spices • 1 tsp semolina flour
Method 	1. Place the oats on a baking tray and toast for 8 – 10 minutes at 190°C. 2. Add the fruit, sugar and diced apple to a saucepan and simmer until thickened. 3. Pupils combine the ingredients to prepare their dessert to their taste.	1. Place seasonings in bowls ready to use. 2. Heat the oil in a saucepan and add the kernels. 3. Shake and place the lid on. 4. Keep on a medium heat until the corn pops. 5. When the popping has stopped, turn off the heat and leave to stand for 1 minute. 6. Gently take off the lid and pour into a mixing bowl. 7. Pupils complete their popcorn using the zest of fruits and seasonings.	1. Pre-heat oven to 190°C. 2. Slice the potato into chips and place in a bowl of cold water. 3. Prepare the oil, semolina and flavourings. 4. Drain and pat the chipped potatoes. 5. Dry the chips, add the flavoured oil and mix well. 6. Place on a lined baking tray and cook in the oven for 20 – 25 minutes until golden brown.

Point of explanation:

Y3 Food and Nutrition – Block B

Core Knowledge	Explanation
seasonal	Spring, summer, autumn and winter are the four seasons of the year. Seasons are created by the changing amount of sunlight as the Earth orbits the Sun. Weather conditions in a country are known as the climate. The climate determines which foods can grow and when. Seasonal foods are fruit and vegetables that are ripe and ready in a particular season. They will no longer grow when the weather changes. Most foods that come from animals are not seasonal and can be eaten all year round.
balance	Balance means when different things exist in equal, correct or good amounts. The human body needs a balanced diet to work properly. Good health involves drinking enough water and eating the right quantity of foods from the different food groups.
preserve	To preserve means to prevent something, especially food, from decaying (being destroyed by natural processes) by treating it in a particular way. Pickling, salting, smoking, canning, bottling and dehydrating are examples of preservation methods.

Technical Vocabulary	Definition
stew	to cook slowly in liquid
pressure	the force or weight with which something presses against something else
seasoning	salt, herbs or spices added to food to enhance its flavour

Link to Video: https://vimeo.com/691955642/47bb9b4598
• Explanation and demonstration of taught content • Lesson by lesson guidance • Exemplification of techniques and outcomes

Point of delivery:

Y3 Food and Nutrition – Block B

Revisiting prior learning 	Taught content 	Point of practice 	Point of reflection 
1. Vegetables contain vitamins and minerals Processed food is food that has been treated in some way to preserve or change it Many processed foods contain additives or high quantities of salt or sugar which is unhealthy	Explain that to have a balanced diet we should eat healthy foods regularly and less healthy foods in moderation Explore how seasonality affects our diet Show examples of different methods of preserving fruit Demonstrate how to stew fruit Evaluate results and suggest ways in which the recipe could be adapted	Introduce the key question for this block: What do we mean by a balanced diet? Challenge pupils to name the key food groups and see if they are able to recall some of the essential nutrients such as vitamins, calcium, protein, carbohydrate etc. Explain that a balanced diet is not necessarily one which excludes all foods that are considered unhealthy. Emphasise that it is important to ensure that these foods, such as those containing sugar, fat or salt, are eaten in moderation. Use the Knowledge Note to introduce the key vocabulary for this block and discuss the meaning of <i>seasonal</i>, challenging pupils to identify at what point in the year particular fruits grow. (See www.nationaltrust.org for a full list). Using strawberries as an example (see supporting information), explain how certain weather conditions are required for optimal growth – for strawberries, these conditions occur between May and September. Ask pupils why we can still buy strawberries in the shops throughout the year. Discuss the environmental impact of importing food from around the world in order to satisfy consumer demand. Explore the different methods of preservation that can be used to prolong the enjoyment of seasonal fruit. Demonstrate how to prepare a fruit and yoghurt dessert as an alternative to the processed varieties that are so popular. Explain how this dessert can be made either with seasonal fruit or with frozen fruit. Show pupils how to stew the fruit with a small quantity of sugar and chopped apple, which contains pectin, helping the fruit compote to thicken. Once stewed, pupils add the fruit to natural yoghurt, toasted oats and seeds, and garnish with fresh mint. Prompt pupils to evaluate the results and compare this fresh yoghurt dish with the processed versions they may be familiar with. Also encourage pupils to suggest ways in which they might adapt the recipe. Could they use different fruits? Could spices such as cinnamon be used? Pupils should make a record of what they have learnt about balanced diets and seasonality in their portfolios, using notes and drawings.	Can identify some key nutrients Can distinguish between healthy and unhealthy foods Can identify some foods that should be eaten in moderation Can name different methods of preserving fruit Can use a knife safely and with increasing accuracy Can suggest ways in which a recipe could be adapted: - by changing the fruit used - by adding spices - by adding flavour to the yoghurt - by changing the seeds

Questions for assessment

What does preserve mean?

What does seasonal mean?

Is sugar always bad?

Which method preserves fruit for the longest period – refrigeration or dehydration?

How could you adapt this recipe?

Point of delivery:

Y3 Food and Nutrition – Block B

Revisiting prior learning 	Taught content 	Point of practice 	Point of reflection 
2. To have a balanced diet we should eat healthy foods regularly and less healthy foods in moderation Processed food can contain high levels of salt and sugar, making it unhealthy Key flavours are sweet, salty, spicy and sour	Explore the difference in ingredients between processed and homemade popcorn Teach pupils about the origin of popcorn and the plant it comes from Explain and demonstrate how to make popcorn Investigate flavour and seasoning combinations Evaluate results	Remind pupils of the key question for this block: What do we mean by a balanced diet? Recap the learning from the previous lesson and remind pupils that a balanced diet is one where foods that are considered less healthy are eaten in small quantities and less frequently than healthy food. Ask pupils if they like popcorn and, if so, discuss where they get their popcorn from. Explain that pre-made popcorn often contains very large quantities of salt, sugar or fat, depending on the variety. Discuss the history and origins of popcorn and explain that it is made from dried kernels of a particular type of corn (refer to supporting information). Explain that the kernel contains water which, once heated, turns to steam. The pressure builds in the kernel and eventually the seed explodes to produce the puffed treat pupils will be familiar with. Demonstrate the cooking of the popcorn. Provide pupils with a range of ingredients such as dried fruit, spices, citrus zest, salt and sugar, and encourage pupils to experiment with combinations of these to coat their popcorn. Several batches of popcorn could be cooked to enable pupils to evaluate and modify their popcorn flavourings. Pupils then evaluate the results, make notes in their portfolios and complete Vocabulary Task 1.	Can explain what a kernel is, where it comes from and how it reacts to heat Can show an understanding of moderation by adding small amounts of salt or sugar to popcorn flavourings Can show creativity in their exploration of ingredients and flavour combinations Can apply their knowledge of sweet, salty, spicy and sour flavours Can suggest ways in which flavours can be adapted

Questions for assessment

What is a kernel?

How does homemade popcorn compare to popcorn bought in the shops?

What makes the kernel burst?

How could you change the flavour of your popcorn?

Is popcorn an unhealthy treat?

Which flavours were your favourite and why?

Point of delivery:

Y3 Food and Nutrition – Block B

Revisiting prior learning 	Taught content 	Point of practice 	Point of reflection 
3. Starch is a carbohydrate found in rice, flour and potatoes The bridge is a method of cutting food in half or quarters The claw is a technique used to slice, dice or chop food safely Due to the use of additives, pre-made or processed food is often less healthy than freshly made food	Explore the nutritional value of potatoes and the importance of starch Explain that deep-fried food can be included in our diets if eaten in moderation Explain that the fat pre-made chips are often cooked in can be less healthy than the fat used in homemade versions Experiment with a range of seasonings to enhance flavour Explain what semolina is, where it is often used and why it makes a suitable coating for chips Evaluate outcomes and make comparisons with pre-made chips	Refer pupils back to the key question for this block: What do we mean by a balanced diet? Take a survey of the class to discover how often they eat chips. Do pupils consider chips to be unhealthy? Establish, through discussion, that essentially chips are not unhealthy because potatoes provide us with complex carbohydrates which the body needs for slow release energy. Explain that it is the method of cooking and the fat that chips are cooked in which determines how healthy they are. Also point out that how often we eat certain foods is important to consider when planning a balanced diet. For example: we should eat fruit and vegetables daily, but we should eat deep-fried food, such as chips, far less frequently. Demonstrate how to slice the potato into 1cm chips and soak in water. Ask pupils why the water becomes cloudy. Explain that this is caused by the potatoes releasing starch and discuss the uses and nutritional value of this substance. Show pupils some semolina and see if this is something pupils are familiar with. Teach them that semolina is high in gluten and is a coarsely ground wheat flour used in, amongst other things, pizzas and puddings. Once the chips have been drained and dried, coat in a mixture of semolina, oil and seasonings (provide a variety of seasonings from which pupils can choose). Once cooked, allow pupils to sample their homemade chips and compare their taste and texture to those they have tasted before. Pupils then complete Vocabulary Task 2.	Can explain that potatoes provide carbohydrates and that this nutrient is essential for energy Can explain that a balanced diet means eating some food in moderation Can use knife skills with increasing accuracy Can demonstrate the claw and bridge techniques Can select and use seasoning to enhance flavour and can explain reasons for choices Can explain how homemade chips differ from those bought pre-made

Questions for assessment

What is starch?

Why are carbohydrates important?

Why are pre-made chips less healthy than homemade chips?

Are chips bad for you?

What is semolina? **What** is it used for?

What difference would it make if you did not coat the chips in semolina?

Why should the chips be spread evenly on the baking tray before cooking?

What different seasonings could be used to coat the chips?

How could you make your chips more crunchy?

Supporting information: Y3 Food and Nutrition – Block B, Lesson 1

Strawberry (noun)

- a sweet, soft, red fruit with a seed-studded surface

The low-growing plant which produces the strawberry has white flowers, lobed leaves and runners, and is found throughout north temperate regions.



Strawberries are grown all over the UK, but the best growing conditions can be found in Cornwall, Devon, Sussex and Kent.

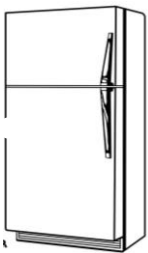
Polytunnels are used to protect strawberry plants from the elements. They are grown in raised beds to aid picking.

The strawberry season officially starts on May 1st and continues until the end of September.

To satisfy our demand for strawberries all year round, the UK imports them from countries such as Spain, Egypt, Israel and Morocco.



Preserving strawberries



refrigerated



frozen



made into jam



dehydrated



tinned

Supporting information: Y3 Food and Nutrition – Block B, Lesson 2

Popcorn (noun)

- a variety of maize (corn) with hard kernels that swell up and burst when heated



Kernel (noun)

- a softer, usually edible part of a nut, seed or fruit stone contained within its shell



What is popcorn?

Popcorn comes from a certain variety of maize that produces small kernels with a hard outer shell. These kernels cannot be chewed without a good chance of cracking your tooth. To get to the fluffy edible part, you must heat the kernel, which turns the moisture within into steam.

Corn, also known as maize, provides over 20% of the world's nutrition. There are several types of corn, including sweetcorn and popcorn. Each kernel of corn is a seed that, like most seeds, contains an embryo (a baby plant) and a seed coat for protection.

What plant does popcorn come from?

There is only one variety of maize that will make popcorn. This is called *Zea mays everta*. Though it looks like a typical corn kernel, this variety is the only one that can pop and turn into a delicious snack. Archaeologists have discovered that people have known about popcorn for thousands of years.

History

Corn was domesticated about 10,000 years ago in what is now Mexico. Archaeologists discovered that people have known about popcorn for thousands of years. Fossil evidence from Peru suggests that corn was popped as early as 4700 BC.



An early popcorn machine in a street cart, invented in the 1880s by Charles Cretors in Chicago

Nutritional information

Air-popped popcorn (with no salt or other additives) is 4% water, 78% carbohydrates (including 15% dietary fibre), 12% protein and 4% fat. In a 100g amount, popcorn provides 382 calories and is a rich source (20% or more of the Daily Value) of riboflavin and several dietary minerals – particularly manganese, phosphorus and zinc.

Movie theatres commonly use coconut oil to pop the corn, and then top it with butter or margarine, potentially providing the saturated fat equivalent of a breakfast of bacon and eggs, a burger and fries, and a steak dinner combined.

Oracy and Vocabulary:

Y3 Food and Nutrition – Block B

Task 1:

Sort these words according to the senses they are associated with.

bang chatter reek whiff aroma sharp bristly click snap stench coarse

sound



touch



smell



Exploration:



1. Is there a limit to the size a kernel can swell to?
2. Make a list of all the different ways you can flavour popcorn.
3. Does the quantity of popcorn kernels you place in the pan affect how long it takes them to pop?

Task 2:

Work with a partner to answer these questions about the dishes you have made.



Explain to a partner what these words mean: *stew, starch, seasonal, seasoning*.

define

Explain how your homemade fruity yoghurt, popcorn and chips are healthier than pre-made varieties.



Explain which dish you are most pleased with and why.
Tell your partner something you would do differently next time.



Tell a partner about *two* things you now know that you did not know before these lessons.



Vocabulary: Y3 Food and Nutrition – Block B

OWN-it	Analyse
Tick the correct word class for <i>seasonal</i>. ☐ noun ☐ adjective ☐ adverb	
Underline the root word. pressure	
Add a prefix to change the meaning of <i>balance</i>. _____balance	

KNOW-it	Define						
Write another meaning of the word <i>pressure</i>. the force or weight with which something presses against something else							
Why is the <i>claw</i> technique used in cooking? Tick one. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">to chop food in half or quarters</td> <td style="width: 50px;"></td> </tr> <tr> <td style="padding: 5px;">to slice food</td> <td></td> </tr> <tr> <td style="padding: 5px;">to grate food</td> <td></td> </tr> </table>		to chop food in half or quarters		to slice food		to grate food	
to chop food in half or quarters							
to slice food							
to grate food							
Tick true or false. To stew means to cook food quickly over a high heat. true false							

LINK-it	Connect						
Tick two words associated with <i>balance</i>. <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">equal</td> <td style="width: 40px;"></td> </tr> <tr> <td style="padding: 5px;">different</td> <td></td> </tr> <tr> <td style="padding: 5px;">even</td> <td></td> </tr> </table>		equal		different		even	
equal							
different							
even							
Write a synonym of <i>pressure</i>.							
Write a word that means the opposite of <i>preserve</i>.							

USE-it	Use in context
Complete this sentence. <i>Preserving</i> food enables us to ...	
Tick the box if the word <i>balance</i> has been used correctly. Tourists often disturb the delicate <i>balance</i> of nature on the island. <input style="width: 40px; height: 25px;" type="checkbox"/>	
Write a sentence of your own using the word <i>seasonal</i>.	

Knowledge Note:

Y3 Food and Nutrition – Block B

Year 3: Food and Nutrition
What do we mean by a balanced diet?



Core content:

Learn what a balanced diet is.
Make three products that are often bought pre-made or highly processed.

Technical vocabulary:

Seasonal – fruit and vegetables that are ripe and ready in a particular season. They will no longer grow when the weather changes.



Balance – when different things exist in equal, correct or good amounts.



Preserve – to prevent something, especially food, from decaying.



Stew – to cook slowly in liquid.



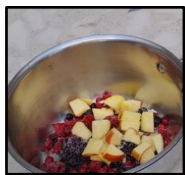
Pressure – the force or weight with which something presses against something else.



Seasoning – salt, herbs or spices added to food to enhance its flavour.



Techniques:



stewing



seasoning



slicing

Year 3: Food and Nutrition
What do we mean by a balanced diet?



Core content:

Learn what a balanced diet is.
Make three products that are often bought pre-made or highly processed.

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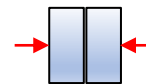
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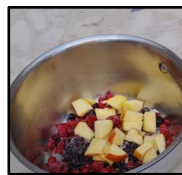
Pressure – the force or weight with which something presses against something else.



Seasoning – salt, herbs or spices added to food to enhance its flavour.



Techniques:



stewing



seasoning



slicing

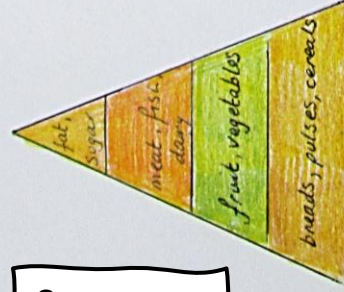
Exemplification: Y3 Food and Nutrition – Block B

What do we mean by a balanced diet?

Food and nutrition

What do we mean by a balanced diet?

To have a balanced diet we should eat food that contains the essential nutrients the body needs. We should eat larger quantities of healthy food such as fruit and vegetables and smaller quantities of less healthy food such as sugar and fat.



Challenge pupils to name some of the key food groups and explain what a balanced diet is

Seasonal

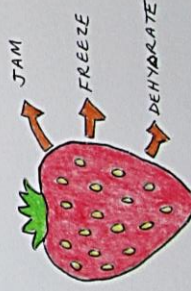
Weather conditions in a country are known as the climate.

The climate determines which foods can grow and when.

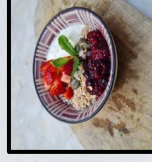
Seasonal foods are fruit and vegetables that are ripe and ready in a particular season.

So that we can enjoy fruit all year round, we import from other countries. We also preserve food.

We can pickle or smoke food to prolong its life.



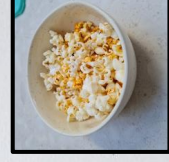
FRUITY
YOGHURT



Stewing the fruit made it soft and increased the flavour. I liked the contrast between the soft fruit and crunchy oats. I think this would work well with stewed apples.

Prompt pupils to describe the dishes they have made and state their preferences

DIY POPCORN



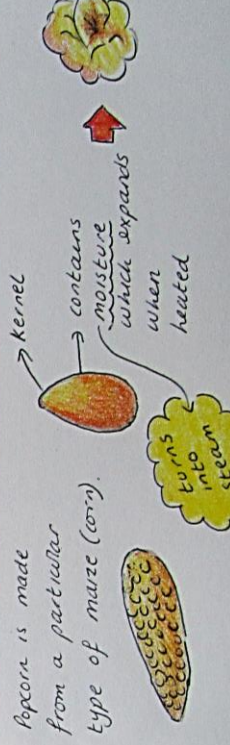
It was very exciting to watch the corn kernels pop. I used salt and paprika to flavour my popcorn. I liked the smoky taste.

HOMEMADE
CHIPS



I was not sure about keeping the skins on the potatoes, at first, but they tasted nice and made the chips more crunchy.

Ask pupils to make notes about any adaptations they would make to the recipes



Popcorn is made from a particular type of maize (corn).

Ask pupils to explain the meaning of seasonal and list ways that food can be preserved