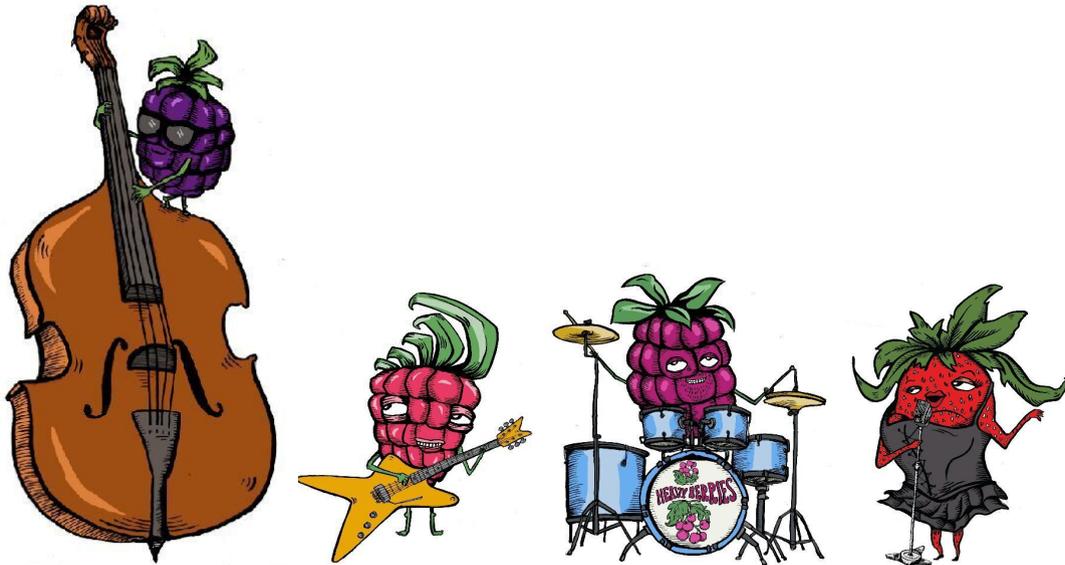


LESSON PLAN FOR STRAWBERRY OAT AND BANANA BARS



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Topic

Take your pick! This is the beauty of his recipe it can fit into all areas of the curriculum.

Aims

To work cross curriculum by teaching English, Maths, Science, Art and Design, Design and Technology, Cooking and Nutrition, Geography, History.

Age

Early years through to key stage 2.

Level

Key stage 1 and 2, plus early years.

Time

Remember the preparation time, if you are using school grown berries make sure you wash them before use with cold water.

60 minutes

Materials

You can make 1 recipe per table (6). Then they will be able to have a taste or take it home

Recipe; Strawberry, Oat and Banana Bars (full recipe at bottom of page)

Ingredients;

6 tbsp sunflower oil, plus extra for greasing

3 tbsp runny honey

200g jumbo oats

60g desiccated coconut

40g seeds (pumpkin, sunflower, poppy, linseed, sesame, etc)

A pinch of salt

200g strawberries, stalks removed and thinly sliced

3 very ripe medium bananas, peeled and sliced

Pinch cinnamon

1 glass bowl for demonstration for the teacher

Blender

Oven

Baking tin 20cm x 24cm

6 Plastic bowls

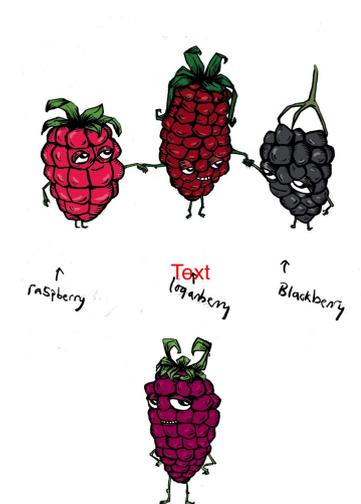
6 mixing spoons

6 sharp knives

Measuring scales

Wire rack

Foil to wrap bars to take home



Introduction

In this lesson the children will be learning the following skills;

- Weighing and measuring using spoons and cups, measuring liquids (oil), using balance and digital scales. All ingredients
- Using a sharp knife. To cut the strawberries and banana, and the finished bar
- Blending foods.
- Using an oven and baking trays
- Mixing ingredients together.
- Presenting the bars

If you're doing this as a whole classroom cooking activity, put the knife skills, cutting on one table, measuring on another and blending on another, so the children can move around the room and master a certain skill.

Once it has been prepared bring the class together and mix everything in one large bowl before putting in the oven.

Procedure

- See recipe for method.
- Make sure you clean all the environment before cooking. I recommend you buy a wipeable table cloth for the tables and store it away dry and only use it for cooking.
- Line the children up to wash their hands, put on an apron, tie their hair back and remove nail varnish.
- Weigh the ingredients out in a maths lesson the day before and set aside on trays. Put out the ingredients and equipment the night or morning before the cooking. Or weigh and measure the ingredients out for the children and lay put on the tables before the children arrive along with the equipment.
- The children could wash up if there is a suitable height sink and the water is not too hot. Or the adults clean as part of their clean down at the end of the day.

Follow up tasks

- If you have lots of berries try and think of other recipes that include them. Maybe a salad. You could develop the idea of fruit being used in salads, and how that would change seasonally
- What about trying the recipes with different berries.
- Try to think of other recipes that use oats For example bread, porridge, smoothies or crumble.

Health and safety

Cutting

- When using a sharp knife teach the children the bridge and claw techniques. For key stage 1 and 2 use a small bladed serrated knife. A small size for their hands and if it is serrated the children can tell which is the sharp side. As some children like to rest their index finger on the top of the knife to steady this. If they do this and the teeth are facing upwards they could cut themselves. Teach them it's like a saw or a crocodile's teeth.
- When cutting something in half make a bridge shape with the other hand the knife it is not in. Teach the children to put the knife through the bridge to keep the blade away from their fingers and use a sawing movement to cut through. If continually cutting find the flat side as it will prevent the food rolling around. If cutting food into pieces use a claw technique, shape the hand that does not have the knife into an animal's claw and rest on the food. The fingers and thumb are tucked underneath so they cannot be cut and keep moving their hand back when the knife gets close to the hand. Before using the knife they can practice with their index fingers.

Blending

- Using a blender or food processor. The adult would take charge of this, as there is often an exposed blade.

Healthy eating messages

- I recommend you make or buy some flash cards of fruit and vegetables and how they grow.
- Eat as part of a balanced diet.
- Increase the amount of fruit and vegetables. Working towards the 5 a day.
- Nutrition benefit of berries. It is said to be high in fibre, vitamins and minerals. A great antioxidant and anti-inflammatory. Combat cancer.
- Nutrition benefit of oats. Contains dietary fibre and minerals. Said to combat cancer, be beneficial to intestines, blood pressure. (If required unsure oats are gluten free as they can contain gluten if grown in the same fields as wheat or barley).
- Nutrition benefit of banana. Contains dietary fibre. Said to combat cancer, high blood pressure and asthma, contains large quantities of potassium and other minerals.
- Nutrition benefit of seeds. Good source of protein, vitamin and minerals.
- Using honey is a natural sugar made from bees but it is still classed as sugar and the connection between tooth decay and weight gain, sugar swaps. What I mean with sugar swaps change processed sugar to a natural sugar like with honey or maple syrup.
- Vegetable oil is a fat, which can contribute to weight gain.

Skills

- Weighing and measuring. The ingredients could be weighed and measured the day before as part of a numeracy lesson. The children don't have to weigh and measure every time you cook, ingredients can be already weighed and measured and placed on a tray ready for the children to cook. Remember not to do too much especially if you are making it as whole classroom cooking.
- Mixing. Teach the children to hold the side of the bowl with one hand and stir with the other, slowly, as some children mix very quickly and lose their mixture.
- Using a blender or food processor. The adult will take responsibly for this but do it in front of the children so they can see what happens in a blender or food processor. Talk to the children about the sharp blade and not to touch it. And when washing up, never put the blade in the washing up bowl covered in bubbles as someone else could come along and place their hand in the sink and cut themselves.
- Using a sharp knife. To cut the strawberries and banana, and the finished bar
- Encouraging teamwork and communication.

Using an oven and baking trays

Mixing ingredients together.

Presenting the bars.

Ingredients and cultural diversity

Berries

You can buy berries that have been grown around the world in this country. But we grow some of the best berries in the world in this country like strawberries, blackberries, raspberries and blueberries. Try berries that are produced overseas and buy some British berries and do a taste test comparison. Talk about the taste, texture, the different uses, method of cooking. You could also talk about the air miles involved in the transportation and how that affects taste, cost and effect on the planet.

Blueberries are very popular, and are fast growing UK fruit; production is up almost 500% since 2008. Bilberries are native to UK, but blueberries arrived from North America.

The most popular berries in the UK are strawberries, followed by blueberries (since 2008), then raspberries.

What is the difference between wild berries and cultivated - especially blackberries.

Honey

There may be local honey you could buy and do a taste test against other honey from around the world. Get the children to describe what the honey tastes like.

Banana

You could discuss fairtrade bananas. What other products are fairtrade. What is it like being a banana farmer? Where are bananas grown and where do they originate?

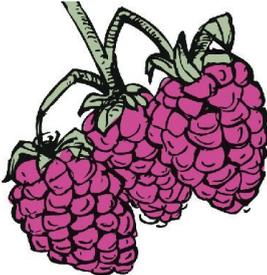
Oats

Oats. They are classified a cereal. Where they grow? And why? The health benefits of oats. There are also lots of alternative flours that are available especially if there is a wheat allergy within your class or school. They do react quite differently so make sure you test the recipe first before cooking with the class. Some absorb more liquid than others for example.

Seeds

Which food are seeds? Some seeds are spices. Some seeds, like peas and beans can be eaten fresh or dried, while some like lentils and chickpeas are usually eaten from dried. Some seeds, like pumpkin and sunflower used can be eaten raw as a healthy snack, an alternative to nuts. Seeds are also important in bread, and are a very important food source.

Growing Berries in Schools



- Taking cuttings is easy and makes good learning. Cuttings are a great way to increase your plants and reduce cost. If you have some berries or wish to have some at your school you can do the following:
- Strawberries - A firm favourite and the UK's favourite berry. Divided into three strawberry categories - Summer, perpetual or remontant and the lovely alpine. We will focus on the summer strawberry but you are most welcome to plant the other two types should you wish. Alpine strawberries are lovely and create a good conversation. Some gardeners like to plant new plants every year but in general plants are very productive for the first three years if not longer. I suggest to replant every three years as this will reduce pests and diseases plus reduce the amount of plants that have grown over the years. Plant out in late July, August but no later than mid September. Loads of varieties out there but go for varieties with flavour and not cosmetic effect. It's important! Plant 40cm apart and 1 meter between rows. I recommend the beds are mypeked (a woven weed control material) to reduce weeds as they can be a nightmare. Water well for the first few weeks but be careful when watering plants with strawberries as they can be damaged. To propagate strawberries just place 8 cm pots filled with compost under the runner (this tends to be in June/July when the strawberries have fruited. Peg the runner down and allow to grow. In about four to six weeks the new plants will be ready to plant out into a new row. Remove the stem from the parent plant and you are away.
- Blackberries - We all know the humble blackberry from times out picking them. A national pastime so these are generally well known. What's not known is that you can buy thornless blackberries which is a god sent! When purchasing blackberries the fruit tends to be larger in size. They can be planted anywhere and generally tolerate any types of soil. Plant out in November to March when the plants are dormant with a spacing of between 2.5 meters to 3.5 meters depending on the variety. Once planted cut the canes down to 25cm. Each year cut out the old canes that have fruited that year and remember to train the new canes so to help with pruning. Remember blackberries fruit in their second year. To propagate the blackberry use the tip rooting method. This is to bend the young canes down towards the soil and then held down into the soil with a wire staple or twig to hold it in place. In the spring cut the plant away from the parent plant with around 25 cm of stem. Subsequently replant these where they are required.
- Raspberries - basically dead easy! But remember to source autumn varieties and not summer varieties. Summer fruiting varieties are more complex in management so go for autumn varieties such as Autumn Bliss, Joan Squire and the beautiful yellow variety Fallgold. Each autumn just cut all the canes down to ground level. This is generally undertaken after the first frost. It's that easy! Autumn raspberries produce their fruit in the first year and not the second year like the early or summer varieties. Raspberries produce new canes and they can spread quickly. Remember to remove some of these plants but not

all as they can join the other canes to increase the crop. Removing canes can be undertaken at any time of the year but the best time to do this is in the summer. Also remember to feed the crop every year with Manure or pellets in the winter.

Provenance and sustainability

- Planting and harvesting will introduce the children to seasonality.
- Berries and oats are grown in Great Britain.
- Berry leaves are beautiful and can be used in an art lesson to draw or rub over with crayons.
- Describe what environment is needed for a berry plant to grow.
- You could use frozen berries out of season and discuss seasonality.

Links to the national curriculum

English

Listen and respond appropriately to adults and their peers.

While the teacher demonstrates the children will be listening, responding and asking questions.

- Ask relevant questions to extend their understanding and knowledge.

The children will be encouraged to ask questions on why certain things are done or added, for example what is the role of the honey.

- Use relevant strategies to build their vocabulary.

The children will be building their vocabulary by the teacher introducing new words including ingredients, methods of cooking etc.

- Articulate and justify answers, arguments and opinions.

The children will be encouraged to share their opinions on ingredients and methods, likes, dislikes and why?

Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings.

It is a good idea to have a word bank on the wall of the classroom to increase and encourage feelings, descriptions, explanations etc.

- Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments.

All children will stay on topic as they will be too busy to engage in other activities. As all ingredients and equipment will be set out for them.

- Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas.

What will happen to the banana if it is cut and left uncovered? It oxidises and turns brown. What will happen to the blended ingredients if mixed and left to stand? It's called a temporary emulsion.

- Speak audibly and fluently with an increasing command of Standard English.

While demonstrated the teacher will be asking questions throughout, increasing their Standard English.

- Participate in discussions, presentations, performances, role play, improvisations and debates.

You could get the children discussing and debate how you could change the method, how you prepare the ingredients, and how this would change the presentation of the fruit bar. For example grate or dice the berries or banana. What about using different berries.

- Gain, maintain and monitor the interest of the listeners.

The children will be watching and listening very closely as they will understand that they will have to do it my memory afterwards.

- Consider and evaluate different viewpoints, attending to and building on the contributions of others.
- Evaluate how many children liked the preparing process and how they would change it/build on the skills and knowledge in the future. Could a masher be used instead of the blender?

Working in a whole classroom environment or in small groups.

This recipe could be done in a whole classroom environment with 3-4 adults or in small groups of 6-8 with one adult, see below for details.

Mathematics

- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from a given number.
- Count, read and write numbers to 100 in numerals, count multiples of twos, fives and tens.
- Given a number, identify one more or less.
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.
- Read and write numbers from 1 to 20 in numerals and words.
- Add and subtract one-digit and two-digit numbers to 20, including zero.
- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.
- Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

All the above will and can be taught through weighing and measuring all the ingredients.

- Fractions-recognise, find and name half as one of two equal parts of an object, shape or quantity.
- Weighing and counting the berries. How many berries to 100g, how much does a berry weight?
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

This can be taught using the banana. The children can cut the bananas from a whole into $\frac{1}{2}$'s, $\frac{1}{4}$'s before slicing or grating.

- Pupils should be taught, Lengths and heights, mass and weight, capacity and volume, time.

This can be demonstrated with the liquid, oil.

- Sequences events in chronological order using language for example before and after, next, first etc.

Why you mix the ingredients at the end, what happens if you mix and leave them?

- Recognise and use language relating to dates, including days of the week, weeks, months and years.

You can use the packets that the fruit and vegetables came in. Talk about the date on it and what does it mean? Used by date. What could happen if left? The rest of food poisoning.

- Recognise and name 2-D and 3-D shapes

What are berries?

- Choose and use appropriate standard units to estimate and measure length/height in any direction, mass, temperature, capacity to the nearest appropriate unit, using rulers, scales, thermometer and measuring vessels.

What shall we use to weigh and measure? Measuring jugs, scales, spoons, balance and digital scales.

- Read and write numbers up to 100 in numerals and in words.

You can ask the children to read the amounts of the ingredients placing in the fruit bar.

- Know the number of seconds in a minute.
- Compare durations of events (for example to calculate the time taken to particular event or task)

The two above will be taught through telling the children how long the fruit takes to prepare, look at the clock and let the children know what time they will finish their fruit bar. They could estimate how long it will take. How long to prepare, and how long to cook.

Science

Asking simple questions and recognising that they can be answered in different ways.

- Observing closely, using simple equipment.

Using mixing bowls, knives, grater, mixing, what are their roles in making this recipe. Watching what happens to the ingredients when blended or baked.

- Performing simple tests.

Cut the banana and leave it out in the air, you could do this in minute intervals to see how long it takes to turn brown. You could even buy different ripeness and see if that has an effect on the time it takes. It is the size of the banana or the ripeness that has a different effect. While you are doing the experiment let the children try each banana, so they could do a taste test. If any of the children are brave enough they could taste the banana after it's been left out and compare it to a freshly cut banana, taste, texture, etc.

- Performing simple tests.

Freeze the berries and see what happens when they defrost. Do different berries freeze and defrost better. Do any freeze quicker than others. What happens when berries are roasted alone.

Why does liquid come out if they are heated or defrosted?

- Identifying and classifying.

What is liquid and what is solid and how you can change the structure, for example the temporary emulsion that is made with the oil other blended ingredients?

- Using their observations and ideas to suggest answers to questions.

What will happen to the berries?

- Plants, identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.

Where do berries grow and why? Look at the whole plant through pictures or in a garden, what part do we eat and why.

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.

Describe and compare the structure of a variety of common animals.

- Identify a name a variety of everyday materials including wood, plastic, glass, metal, water and rock.

You could take the opportunity to talk about packaging, in particular with the fruit, is it necessary? What harm does it do to the planet? What is it made from? Look at the different options they could use as an alternative.

- Observe changes across the four seasons.

If growing fruit and vegetables in school the children will have a far better understanding of the seasons and how it affects the growing and harvesting of fruit and vegetables. This is where you can talk about the beetroot, see notes above.

Observe and describe weather associated with the seasons and how day length varies.

Talk to children about what is grown in autumn and spring and the effect the weather has on the seasons and what grows at that time.

- Explore and compare the differences between things that are living, dead, and things that have never been alive.

You can talk through the ingredients naming what was living or man made.

- Identify that most living things live in habitat to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

You can take the example of a berries as it famously grown in Hereford, Kent and Somerset

- Identify and name a variety of plants and animals in their habitats, including micro-habitats

What else grows on plants other than berries? Pears, plums, what grows in the UK and what grows in other countries.

- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.

Humans eat cows and cows eat grass.

- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

If you're growing berries the children will fully understand that water is needed from the rain, light from the sun, and the warmth of the spring, summer months.

- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)

See above.

- Describe the importance for humans of exercise, the right amounts of different types of food and hygiene.

Will be done in all cooking activities.

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and strengthening.

This will be highlighted when the berries are being sliced. Cutting makes the food smaller.

Art and design

- To use a range of material creatively to design and make products.

This will happen in every practical cooking lesson.

- To use drawing, painting and sculpture to develop and share their ideas, experiences and imagination.

Before cooking you could paint, draw or sculpture what they will be preparing. Discussion why they chose the make what they did. Berries would be great to draw and paint or even rub using crayons.

- To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space.

This will happen in every practical cooking lesson.

- About the work of a range of artist, craft makers and designers, describing the differences and similarities between different practices a disciplines, and making links to their own work.

Don't forget cooking is a culinary art form, the children could look at some cooking books for inspiration, ideas, some of the greats, idols of the cooking world.

Design and Technology

- Design purposeful, functional, appealing products for themselves and other users based on design criteria.

This will happen in every practical cooking lesson.

- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and where appropriate, information and communication technology.

This will happen in every practical cooking lesson.

- Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing)

This will happen in every practical cooking lesson.

- Select from a wide range of material and components, including construction materials, textiles and ingredients, according to their characteristics.

This will happen in every practical cooking lesson.

- Explore and evaluate a range of existing products.

If there is a similar product on the market you could buy it and compare it to what the children have made. Nutritional and cost wise. You can now buy fruit bars, but are they nice? Do they last outside of packaging. Do they have any strange ingredients

- Evaluate their ideas and products against design criteria.

This will happen after every practical cooking lesson.

Build structures, exploring how they can be made stronger, stiffer and more stable.

Cooking and nutrition

- Use the basic principles of a healthy and varied diet to prepare dishes.

See notes above.

- Understand where food comes from.

See notes above.

- Understand and apply the principles of a healthy diet and varied diet.

See notes above.

- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.
- Salads using fruit and vegetables are great to make as they can show the children how they can achieve their 5 a day.
- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

See notes above.

Geography

- Name and locate the world's seven continents and 5 oceans.

When talking about the coconut, you could be talking about India and Southeast Asia.

- Understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country.

You could also talk about what things grow in the same countries and why?

- Identify seasonal and daily weather patterns in the UK and the location of hot and cold areas of the world in relation to the Equator and the north and south poles

See notes above.

- Use physical features, including beach, cliff, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather.

Berries grow on shrubs or low plants, oats grow in the ground, honey made by bees.

- Key human features including city, town, village, factory, farm, house, office, port, harbour and shop.

Try and visit a farm with the children so they can see, smell and hear the difference.

- Physical including climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle.

See notes above.

- Human including types of settlements and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.

A good opportunity to talk about the production of food and how that affects the price, air miles, fair trade, sustainability.

History

- Stone and Iron Age, Roman Empire, Anglo-Saxons and Scots, Viking, Edward the Confessor, local history study, ancient Greece.
- Strawberries were eaten in Roman times, but more as a medicine
- Strawberries are native to Europe, which berries come from outside Europe?
- Coconut that we can buy in this country mostly come from tropical areas

The recipe

Strawberry, oat and banana bars

Ingredients;

6 tbsp sunflower oil, plus extra for greasing

3 tbsp runny honey

200g jumbo oats

60g desiccated coconut

40g seeds (pumpkin, sunflower, poppy, linseed, sesame, etc)

A pinch of salt

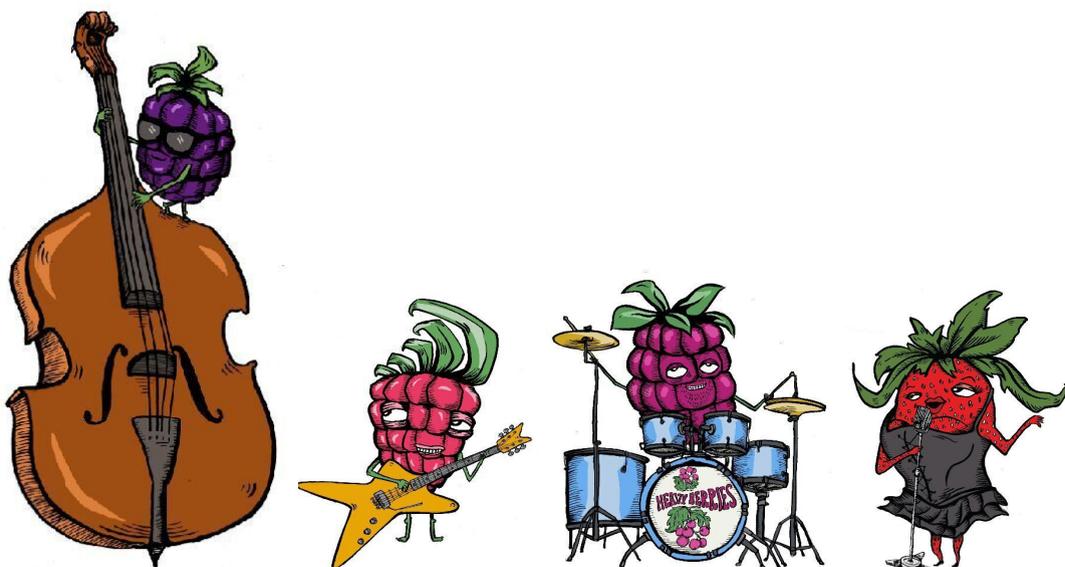
200g strawberries, stalks removed and thinly sliced

3 very ripe medium bananas, peeled and sliced

Pinch cinnamon

Method;

1. Preheat the oven to 180°C/gas mark 4 and grease 20 x 24cm baking tin with a little oil
2. In a food processor or using a stick blender, blend the bananas, honey, $\frac{2}{3}$ of the strawberries, the vanilla and the oil into a smoothish paste.
3. In a mixing bowl, combine the oats, coconut, seeds and salt.
4. Add the dry oat mix to the wet banana mix and combine well.
5. Pour the mixture into the baking tin, level the surface, then top with the remaining strawberries, sprinkle with a tiny bit of honey and bake for about 25 minutes until it's a nice golden brown and firm to the touch.
6. Leave to cool in the tin for 10 minutes, then cut into squares. Cool further on a wire rack before eating.





The Table of Delights is an interactive food entertainment website. Inspiring and mobilising this generation to seize wooden spoons in the spirit of culinary adventure and charge head first into a brilliant and bonkers world of food. Find out more at www.tableofdelights.com