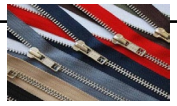
Topic: Packaging

Packaging

Research & exploration to understand hand sewn techniques.

READ.

Textiles Components

Lace & Ribbon 	Include _ _ _ _ _ _ and _ _ _ _ and are used to add decoration and detail.	*Trimmings* *Edging*
E-components 	Include LED lights, buzzers and battery holders, which can be sewn on to a product.	*Novelty jumpers* *Childrens clothing*
Buttons 	are functional and decorative methods of fastening.	*Cardigans* *Bedding* *Blazers*
Zips 	are a fast and secure fastening, They are available in many different colours and types	*Jacktets* *Bags* *Shoes*
Velcro  	is a fastening tape; one side has hooks and the other side a furry surface, when pressed together they stick.	*Shoes* *Lunch bags* *Jackets*
Press Studs	sometimes they may have a magnet within in.	*Baby clothes* *Bedding*

Sustainablity

Ethical relating to moral principles or the branch of knowledge dealing with these.
Sustainable conserving an ecological balance by avoiding depletion of natural resources.
Disposal the action or process of throwing away or getting rid of something.
Consumer a person who purchases goods and services for personal use.
Fast fashion inexpensive clothing produced rapidly by mass-market retailers in response to the latest trends.

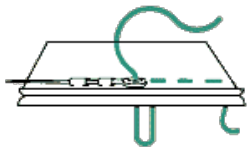
William Morris

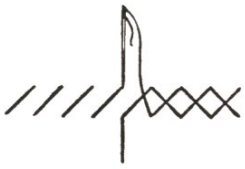
Williams Morris was a designer and artist best known for his bold, nature-themed fabric and wallpaper prints. He was part of the Arts and Crafts movement, with a love of craftsmanship and a hatred of mass-produced products.

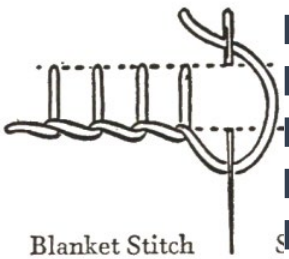
Primark

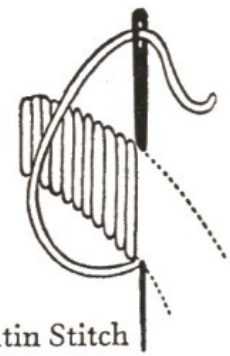
Primark is an Irish fast fashion retailer with headquarters in Dublin, Ireland. The company is named Penneys in the Republic of Ireland, where it was founded. The Penneys brand is not used outside of Ireland because it is owned elsewhere by American retailer J. C. Penney. The company has operations in Europe and the United States.

Types Of Stitches









Topic: Packaging

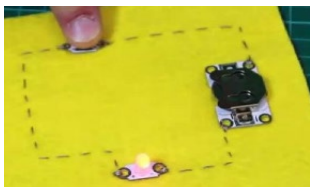
Packaging

Research & exploration to understand hand sewn techniques.

RECALL.

Textiles Components

Write the component underneath the image

State a product that would include e-textiles components

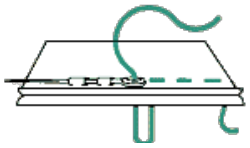
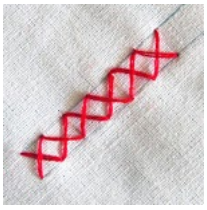
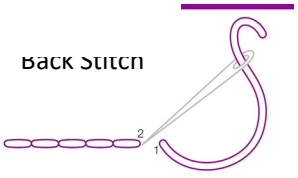
.....

Name a SECURE fastening for a bag.

.....

Hand Stitch

Write the Stitch underneath the image

Sustainable Fashion

Pick THREE Rs out of the 6 Rs of Sustainability that are most important for fast fashion and explain why?

1. R.....

2. R.....

3. R.....

Recommend a way a Primark consumer can improve sustainability.

.....

.....

.....

Topic: Packaging

Packaging

Research & exploration to understand hand sewn techniques.

RETRIEVE & APPLY.

Design a William Morris Pencil Case!

A local museum would like you to design a pencil case inspired by William Morris to be sold in the museum shop.

TASK – Draw and decorate your pencil case!

- This **must** be inspired by William Morris
- The design **needs** to include a hand stitch technique
- It must **incorporate** some link to **sustainability**

Stitch Design

Pencil Case Design

EMBEDDING FOOD SKILLS

Year 9 - Food

Embedding Food Skills			
1. Food Safety		7. Rough Puff Pastry Practical	
2. Chicken Goujons Practical		8. Sausage Roll	
3. How to Evaluate & Plan Time		9. Spring Roll Practical	
4. Risotto Practical		10. Function of Ingredients	
5. Lasagne Practical		11. Muffin Practical	
6. Comparison of Diff Types of Pastry		Knowledge Organiser	

FOOD SAFETY

Date: _____

Learning Objective:_____

DO NOW

Food Poisoning Bacteria	Symptoms	Sources
e.g. Salmonella	Diarrhoea, abdominal pain, usually fever.	Meat, poultry, eggs, unpasteurised milk, meat pie and leftovers.
Clostridium Perfringens		
Staphylococcus Aureus		
Campylobacter		
E-coli		
Listeria		
Bacillus Cereus		

FOOD SAFETY

1. The bacteria that cause abdominal pain are:

_____

_____

2. The bacteria that cause diarrhoea are:

_____

_____

3. The bacteria that can be prevented by good personal hygiene is:

_____

_____

4. The bacteria that can survive cooking is:

_____

_____

5. The bacteria that can cause death are:

_____

_____

CHICKEN GOUJONS – A HIGH RISK FOOD

Date: _____ **Date:** _____

Learning Objective: Today I will learn how to prepare a high-risk food safely - Chicken Goujons

Ingredients

Chicken

Rice Crispies

Breadcrumbs

Paprika

Salt

Pepper

Egg

Flour

Method

1. In a bag add the rice crispies and tie loosely at the top. Begin to crush with a rolling pin until they resemble breadcrumbs.
2. Add to this tablespoon of paprika and a teaspoon of salt and pepper.
3. Pour the 'bread crumbs' onto a paper plate. On another plate add two tablespoons of flour.
4. In a bowl, crack an egg and whisk with a fork.
5. On a chopping board cut the chicken into equal strips. Place in **flour**, then the **egg** and finally the **breadcrumbs**. Place on a baking tray.
6. Spray with fry light and place in the oven for 20-25 minutes

Use a green pen to underline and self assess your chicken goujons practical.

- Prepare and cook ingredients, use oven and control heat safely with support of head chef
- Measure ingredients accurately
- Use all equipment correctly
- Stuff and wrap chicken correctly
- Ensure you know when the food is cooked
- Use a sensory descriptors to help describe your product.

- Prepare and cook ingredients, use oven and control heat safely and independently
- Measure ingredients safely and accurately
- Stuff and wrap chicken with skill
- Explain to others how you know the food is cooked
- Explain using sensory criteria how you could improve your product.

- Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others
- Help others measure with accuracy.
- Understand and demonstrate how to use a temperature probe to identify safe cooking temperatures
- Stuff and wrap chicken with skill and independence
- Use all equipment with confidence to demonstrate and explain an understanding of food safety.
- Use clear sensory criteria to ensure your evaluation is detailed

Glue photograph of your chicken goujons here

CHICKEN GOUJONS – A HIGH RISK FOOD

STAGES of the RECIPIE- What do you need to do?	SPECIAL POINTS – THINK Hygiene and Food Safety

Hazard	Critical control point (what could happen if it is not addressed)	Prevention
Cross contamination from the chicken		
Using the knives		
Using the oven		
Storing the chicken incorrectly		
Disposing of the egg incorrectly		
Undercooked chicken		

HOW TO EVALUATE AND PLAN TIME

Date: _____

Learning Objective:_____

DO NOW

WWW: (What did I do well during this lesson?)

_____
_____
_____
_____
_____

EBI: (If I were to do this practical again, what would I do differently? How did it taste, what would you improve?)

_____
_____
_____
_____
_____

To make good progress in my next lesson, I need to:

_____
_____
_____
_____

During your evaluation think about;

- Attention to Health and safety.
- Following instructions.
- The quality of your overall dish.
- Which skills did you develop (shaping, rolling, teamwork).
- What skills do you think you need to develop in your next practical lesson. Accuracy, measuring, time management.

Equipment Needed:

_____
_____
_____
_____
_____
_____

Specialist / New Skills:

_____
_____
_____
_____
_____
_____

Could this dish be developed? How? Why?

_____
_____
_____
_____
_____
_____

HOW TO EVALUATE AND PLAN TIME

RISOTTO PRACTICAL

Date: _____ **Date:** _____

Learning Objective: Today I will produce a dish high in fibre and carbohydrate

Ingredients

1 tbsp olive oil

1 onion, chopped

1 medium carrots

100g risotto rice

1 litre hot stock

140g frozen peas

50g cheese

Method

1. Heat the oil in a large shallow pan. Tip in the onion and carrots, cover and gently fry for 8 mins until the onion is very soft.
2. Stir in the rice and bay leaf, then gently fry for another 2-3 mins until the rice starts to turn see-through around the edges.
3. Add 1/2 the stock and simmer over a gentle heat, stirring until it has all been absorbed. Carry on adding the hot stock, a ladleful at a time, letting it be absorbed before adding more.
4. Continue until the rice is just cooked and all the stock has been used, adding a little more water or stock if needed. This will take 18-20 mins.
5. Stir in the peas. Heat through for a few mins, then add most of the cheese and season to taste.
6. Sprinkle with the remaining cheese

Use a green pen to underline and self assess your risotto practical.

- Prepare and cook ingredients, use oven and control heat <u>safely</u> with <u>support of head chef</u>
- Measure ingredients accurately
- Use all equipment correctly
- Ensure you know when the food is cooked
- Use a sensory descriptors to help describe your product.

- Prepare and cook ingredients, use oven and control heat safely and independently
- Measure ingredients safely and accurately
- Explain to others how you know the food is cooked
- Explain using sensory criteria how you could improve your product.

- Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others
- Help others measure with accuracy.
- Understand and demonstrate how to use a temperature probe to identify safe cooking temperatures
- Use all equipment with confidence to demonstrate and explain an understanding of food safety.
- Use clear sensory criteria to ensure your evaluation is detailed

Glue photograph of your risotto here

RISOTTO PRACTICAL

Ingredients used and amount **(g) (ml):**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Skills I have used and **examples(e.g. boiling, steaming, baking, frying etc)**:

_____

_____

_____

_____

_____

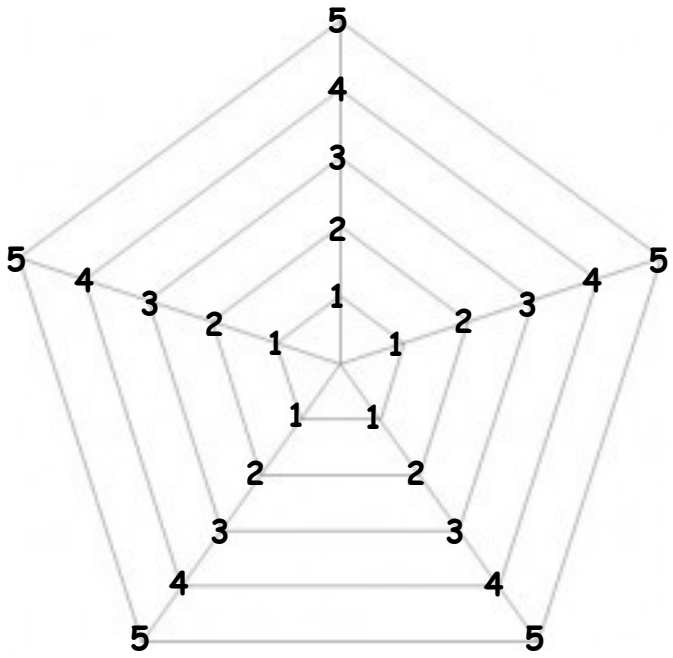
Positives

_____

_____

_____

_____



Negatives

_____

_____

_____

_____

To improve next time I could …

_____

_____

_____

_____

Using sensory analysis descriptors, describe your product. You should explain how it could be improved.

_____

_____

_____

_____

_____

_____

LASAGNE PRACTICAL

Date: _____

Learning Objective: Today I will learn how to prepare a high risk food safely.

Ingredients

Onion

Carrot

Garlic

150g frozen mince

Tomato puree

½ of chopped tomato's

50g cheese

3 tablespoons of crème fraiche.

Method

1. Dice an **onion** finely, then peel and grate a **carrot**. Then peel and finely chop a **garlic** clove.
2. Weigh out 150g of **frozen mince** in a pan.
3. Add the **carrot, garlic and onion** to the pan.
4. Place on a high heat until the mince is cooked and vegetables are soft.
5. Add a tablespoon of **tomato puree**.
6. Add **½ can of chopped tomatoes** and a pinch of **mixed herbs**.
7. Turn the heat down and simmer for 5-10 minutes.
8. In the meantime, in a small bowl add two tablespoons of **crème fraiche**. Grate a small amount of **cheese**. Add half to the **crème fraiche**. Save half for later.
9. Once the bolognaise sauce in the pan has reduced. Remove from the heat. Start to layer the lasagna.
10. Place a little of the bolognaise sauce on the bottom of the foil dish. Place a pasta sheet on top (you may have to break the sheet to fit it in the dish). Repeat the layering process.
11. Add the **crème fraiche** on top and sprinkle with the remaining **cheese**.

Use a green pen to underline and self assess your lasagne practical.

- Prepare and cook ingredients, use oven and control heat safely with support of head chef
- Measure ingredients accurately
- Use all equipment correctly
- Ensure you know when the food is cooked
- With support, prevent cross-contamination

- Prepare and cook ingredients, use oven and control heat safely and independently
- Measure ingredients safely and accurately
- Explain to others how you know the food is cooked
- Work safely to prevent cross contamination

- Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others
- Help others measure with accuracy.
- Understand and demonstrate how to use a temperature probe to identify safe cooking temperatures
- Use all equipment with confidence to demonstrate and explain an understanding of food safety.
- Work safely to prevent cross contamination and help others to do so

Glue photograph of your lasagne here

A COMPARISON OF DIFFERENT TYPES OF PASTRY

Date: _____

Learning Objective:_____

DO NOW

Name of product and pastry type	Colour of pastry	Texture of pastry	Why is this pastry good for this product?	Score /10 (for the pastry)

A COMPARISON OF DIFFERENT TYPES OF PASTRY

ROUGH PUFF PASTRY – HIGH SKILL

Date: _____

Learning Objective: Today I am learning how to make a high skill pastry product.

Ingredients

100g of cold butter

150g plain flour

100ml cold water

Method

1. Measure out 150g of plain flour and 100g of butter.
2. Cut the butter in to small 1cm cubes in the bowl.
3. Add a small amount of water and bring the dough gently into a ball.
4. Turn out onto a floured work surface.
5. With **gentle** pressure on the rolling pin.
6. Roll the pastry into a rectangle.
7. Fold the bottom edge towards the middle.
8. Fold the top edge over the bottom edge.
9. Repeat the process a 5 times.

Use a green pen to underline and self assess your pastry practical.

• Prepare and cook ingredients, use oven and control heat <u>safely</u> with <u>support of head chef</u> • Measure ingredients accurately • Use all equipment correctly • Ensure you have some lamination
• Prepare and cook ingredients, use oven and control heat safely and independently • Measure ingredients safely and accurately • Laminate the pastry independently
• Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others • Help others measure with accuracy. • Understand and demonstrate how to use a temperature probe to identify safe cooking temperatures • Laminate effectively and with skill

Glue photograph of your pastry here

SAUSAGE ROLLS – BATCH PRODUCTION

Date: _____

Learning Objective: Today I will demonstrate how to make rough puff pastry into sausage rolls

Ingredients

3 sausages

Seasoning

Egg

Method

1. Roll out the pastry evenly and divide in to three rectangles. Approx 20cm x 10 cm
2. Take three sausages and remove the skin using a knife.
3. Roll the pastry over to cover the sausage meat. Brush a small amount of egg wash on each side.

4. Seal and crimp the edges using a fork.

5. Brush with a small amount of egg wash.
6. Make a small slice in the top of the sausage roll to allow the steam to escape.

Use a green pen to underline and self assess your sausage roll practical.

- Prepare and cook ingredients, use oven and control heat <u>safely</u> with <u>support of head chef</u>
- Measure ingredients accurately
- Use all equipment correctly
- Ensure you have even sized sausage rolls

- Prepare and cook ingredients, use oven and control heat safely and independently
- Measure ingredients safely and accurately
- Ensure you have even sized and well finished sausage rolls

- Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others
- Help others measure with accuracy.
- Understand and demonstrate how to use a temperature probe to identify safe cooking temperatures
- Ensure you have even sized and well finished high quality sausage rolls

Glue photograph of your sausage roll here

USING FILO PASTRY – SPRING ROLLS

Date: _____

Learning Objective: Today I will demonstrate how to use filo pastry to make spring rolls.

Ingredients

Casing

4 sheets Filo pastry

Vegetable oil

Filling

1 clove garlic (crushed)

2 carrot

4 spring onions

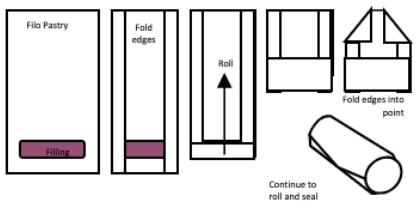
Handful beansprouts

2 tablespoons peas

1 cm cube of root ginger (chopped)

Method

1. Preheat the oven to 180°C/ gas mark 5.
2. Wash, peel & cut the vegetables into small evenly sized pieces.
3. Heat 1 tsp of vegetable oil in a wok, add the crushed garlic & chopped ginger & fry on a medium heat for 2 minutes. Then add the chopped vegetables and stir-fry for a further 2 minutes. Tip into a mixing bowl & leave to cool.
4. Carefully take one sheet of filo pastry at a time. Cut the sheet in half to make a rectangle & brush the whole rectangle with oil, using a pastry brush.
5. Place 3 teaspoons of the filling along one short edge of the pastry. Fold 2cm over on the two long edges to trap the filling, then roll up from the filling end (see diagram).
6. Place each spring roll on the baking tray & brush with vegetable oil & bake in the oven for 15-20 mins until golden brown.



Use a green pen to underline and self assess your spring roll practical.

• Prepare and cook ingredients, use oven and control heat safely with support of head chef • To demonstrate how filo pastry is used with some assistance • With help at a finish to the produce • Discuss how to make it better next time
• Prepare and cook ingredients, use oven and control heat safely and independently • To demonstrate how filo pastry is used • To consider the finish • Develop and explain improvement points
• Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others • To demonstrate independently how filo pastry can be used • To finish to a high level • Develop and explain, in detail, improvement points.

Glue photograph of your spring roll here

WHAT ARE THE FUNCTIONS OF THE INGREDIENTS

Date: _____

Learning Objective:_____

DO NOW

Recipe Change	How would you expect the product to turn out?	How the product actually was
No sugar		
No egg (water)		
No margarine		
Correct recipe		

WHAT ARE THE FUNCTIONS OF THE INGREDIENTS

Method	Ratio of fat to flour	How is it done?	What is the cake like?
Rubbing in method	1:2 in cakes 1:4 in scones	The fat is rubbed into the flour and then the wet ingredients such as eggs and milk are added.	Used for Rock cakes and fruit cakes - the cakes are crumbly and not too fatty.
Creaming method	1:1	Butter or margarine is beaten with sugar until creamy, then eggs and self raising flour are added.	Victoria sandwich and cup cakes - these cakes are soft and well risen and will keep for up to a week.
All in one method	1:1	This is used for cakes where the fat, sugar, eggs, flour and some baking powder are mixed all in one go.	Victoria sandwich and cup cakes - Easy to make cake which is soft and spongy.
Whisking method	No added fat	Eggs and sugar are whisked together to make a foam and the flour is folded in gently.	Used for Swiss Roll, Fruit flan and Gateaux. This makes a fatless sponge cake which is very light and low in fat.
Melting method	See recipe	The fat is melted in a saucepan and the sugar added, then cooled and the dry ingredients and egg stirred in.	Chocolate brownie, Gingerbread. Used for sticky cakes which are moist.

EMULSIFICATION – MUFFIN PRACTICAL

Date: _____

Learning Objective: Today I will apply my understanding of emulsification in cooking a batch of muffins

Ingredients

150g SR Flour

150ml of milk

50g sugar

1 egg

25g of porridge oats

2 tablespoons of oil

75g chunks of chocolate

Method

1. Pre heat the oven to 180C.
2. Line a muffin tray with 6 muffin cases
3. In a measuring jug, measure the milk, oil and add one egg.
4. In a bowl, measure the flour and porridge oats.
5. Add the wet ingredients to the dry ingredients in the bowl.
6. Cut a chocolate bar into even chucks, stir through the mixture.
7. Divide the mixture equally, using two tablespoons, into the muffin cases.
8. Place in the oven and cook for 20-25 minutes.

Use a green pen to underline and self assess your muffins practical.

• Prepare and cook ingredients, use oven and control heat <u>safely</u> with <u>support of head chef</u> • To demonstrate how filo pastry is used with some assistance • Produce an even batch
• Prepare and cook ingredients, use oven and control heat safely and independently • Produce an attractive, even shaped batch
• Prepare and cook ingredients, use oven and control heat safely and independently and by supporting others • Produce and attractive and even shaped batch independently- you decide when it is ready

Glue photograph of your muffins here

GLOSSARY

Use the **sensory analysis word bank** below to **describe** the dish that you have made. Remember to write in **full sentences**, using lots of **adjectives** (describing words) and **grammar** (capital letters, full stops and punctuation) accurately. Don't forget to **check spellings** either!

Appearance		**Aroma**	**Flavour**		**Texture**	
Appetising Attractive Bright Browned Bubbly Cheap Chunky Clear Cloudy Coarse Colourful Colourless Crisp Crumbly Crystalline Delicate Dry Dull Expensive Fancy Fattening Fine dining Firm Flaky Flat Fluffy Foamy Fragile Fresh Glossy Golden Greasy Grainy Hard Healthy	Heavy Hot Limp Lumpy Mediocre Moist Mottled Mushy Nutritious Opaque Plain Powdery Pretty Risen Runny Shiny Sloppy Smooth Soggy Solid Sticky Stringy Syrupy Tasty Translucent Unhealthy Upmarket Value for money **Visual consistency:** Thick, Watery Lumpy Wet	Acidic Acrid Aromatic Bitter Bland Burnt Cheesy Citrus Fatty Floral Fragrant Fresh Lemony Mild Minty Musty Perfumed Piquant Pungent Rancid Rotten Savoury Scented Sickly Spicy Strong Sweet Tainted Tart Weak Zesty	Acidic Aftertaste Bland Bitter Burnt Buttery Cheesy Citrus Cool Creamy Dry Fatty Flavoursome Fresh Fruity Heavy Hot Light Meaty Mediocre Metallic Mild Minty	Nutritious Nutty Plain Rancid Rich Salty Savoury Sharp Sickly Sour Spicy Stale Strong Sweet Tainted Tangy Tart Tasteless Tasty Under-cooked Warm Weak Zesty	Bouncy Brittle Bubbly Chewy Chunky Clammy Close consistency Coarse Crispy Crumbly Crunchy Crystalline Dry Elastic Fibrous Firm Fizzy Flaky Fluffy Foamy Gooey Greasy Gritty Hard Hot Juicy Light Lumpy Moist	Mushy Open texture Pulpy Powdery Rubbery Runny Sandy Short Slimy Smooth Soft Soggy Spongy Springy Sticky Stiff Stodgy Stretchy Stringy Syrupy Tacky Tender Thick Thin Tough Treacly Watery Warm Waxy

Topic: Food

Food

Developing and embedding high level skills.

READ.

Food Poisoning

Food poisoning is an illness caused by eating contaminated food. Food can be contaminated by:

- Microbes – bacteria, pathogens, 'germs'
- Physical – pests, glass, packaging, rodent droppings
- Chemicals – cleaning products such as disinfectants and bleach
- Allergies – such as peanuts

Types of food poisoning:

- Salmonella – Found in raw meat, poultry and unwashed vegetables. Symptoms can show within 48 hours but can last for up to 3 weeks. Symptoms include, fever, vomiting, abdominal pain and diarrhoea.
- Campylobacter – Found in raw meat and poultry. Symptoms can last for up to 10 days. Symptoms include, fever, headache, abdominal pain and diarrhoea.
- Clostridium Perfringens – Found in animal poo, soil, manure, sewage, raw meat and poultry. Symptoms of can last for up to 3 weeks. Symptoms include, nausea, abdominal pain and diarrhoea.
- E-coli - Found in the gut of animals and humans. It can take up to 5 days for symptoms to show. Symptoms include, diarrhoea.
- Listeria - Found in soil, vegetation, meat, poultry, soft cheese and salad vegetables. Symptoms can last for up to 3 weeks. Symptoms include, flu like symptoms, meningitis.
- Bacillus Cereus - Found in soil and dust and rice dishes. Symptoms usually last for 24 hours. There are two types of symptoms, after 1 – 5 hours – vomiting; after 8-18 hours – diarrhoea and abdominal pain.
- Staphyloccus Aureus - Found on the skin, cuts, boils and up the nose. Symptoms are onset within 6 hours.. Symptoms include, severe vomiting, diarrhoea and abdominal pain.

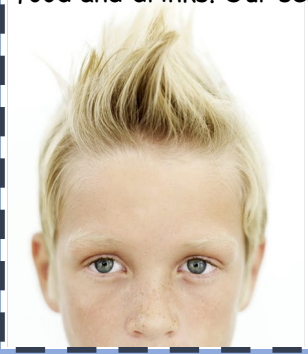
Pastry

Different types of pastry are used to produce dishes with a wide range of textures and flavours. The most common types of pastry are:

- **Short paste/short-crust pastry -** used for sweet and savoury dishes e.g mince pies and quiche.
- **Sugar paste/pate sucre -** used for sweet dishes, e.g lemon meringue pie.
- **Cheese pastry -** used for cheese straws.
- **Choux pastry -** used for eclairs and profiteroles.
- **Puff pastry -** used for sweet and savoury dishes e.g cream horns and sausage rolls.
- **Rough puff pastry -** used in the same way as puff pastry.
- **Flaky pastry -** used in the same way as puff pastry.
- **Filo pastry -** used for sweet and savoury dishes e.g strudel.

Senses

Sensory analysis examines the properties (texture, flavour, taste, appearance, smell, etc.) of a product or food through the senses (sight, smell, taste, touch and hearing) of the panellists. We all like and dislike different food and drinks. Our senses help us decide what we like and dislike In the food industry they conduct something called sensory analysis.



sight

hearing

smell

taste

touch

To describe properties we use describing words such as:

aromatic	fresh	spicy	floral	bland	tainted
perfumed	bitter	savoury	rotten	sweet	citrus
strong	mild	fragrant	musty	weak	scented
brittle	rubbery	short	stodgy	bubbly	gritty
sandy	mushy	tender	soft	firm	flaky

Topic: Food

Food

Developing and embedding high level skills.

RECALL.

Food Poisoning

Food poisoning is an _____ caused by eating _____ food. Food can be contaminated by:

- Microbes – _____, pathogens, 'germs'
- _____ – pests, glass, packaging, _____ droppings
- Chemicals – cleaning products such as _____ and _____
- _____ – such as _____

Types of food poisoning:

- _____ – Found in raw meat, poultry and unwashed vegetables. Symptoms can show within _____ hours but can last for up to 3 _____. Symptoms include, fever, vomiting, _____ pain and diarrhoea.
- _____ – Found in _____ meat and poultry. Symptoms can last for up to 10 days. Symptoms include, fever, headache, abdominal pain and _____.
- Clostridium _____ – Found in animal poo, soil, _____, sewage, raw meat and _____. Symptoms of can last for up to _____ weeks. Symptoms include, _____, abdominal pain and diarrhoea.
- E-coli - Found in the _____ of animals and _____. It can take up to 5 _____ for symptoms to show. Symptoms include, diarrhoea.
- _____ - Found in soil, _____, meat, poultry, soft _____ and salad vegetables. Symptoms can last for up to 3 weeks. _____ include, flu like symptoms, _____.
- _____ Cereus - Found in soil and _____ and _____ dishes. Symptoms usually last for _____. There are two types of symptoms, after 1 – 5 hours – vomiting; after 8-18 hours – diarrhoea and abdominal pain.
- _____ Aureus - Found on the skin, _____, _____ and up the _____. Symptoms are onset within 6 hours.. Symptoms include, severe vomiting, diarrhoea and abdominal _____.

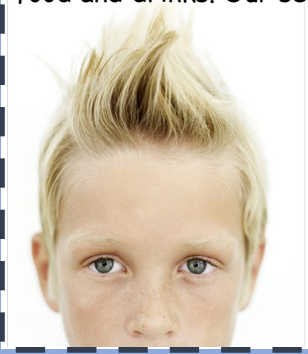
Pastry

Different types of pastry are used to produce dishes with a wide range of _____ and _____. The most _____ types of pastry are:

- **Short paste/_____-_____ pastry** - used for sweet and _____ dishes e.g mince pies and _____.
- **_____ paste/pate sucre** - used for _____ dishes, e.g lemon _____ pie.
- **Cheese _____** - used for cheese _____.
- **_____ pastry** - used for _____ and _____.
- **_____ pastry** - used for sweet and _____ dishes e.g cream horns and sausage rolls.
- **_____ puff pastry** - used in the same way as _____ pastry.
- **_____ pastry** - used in the same way as puff pastry.
- **_____ pastry** - used for _____ and _____ dishes e.g _____.

Senses

Sensory analysis examines the _____ (texture, _____, taste, appearance, smell, etc.) of a product or food through the _____ (sight, smell, taste, _____ and hearing) of the _____. We all like and dislike different food and drinks. Our senses help us decide what we like and dislike In the food industry they conduct something called sensory analysis.



sight

hearing

smell

taste

touch

To describe properties we use describing words such as:

aromatic	_____	spicy	floral	_____	_____
_____	bitter	_____	rotten	sweet	citrus
strong	_____	fragrant	musty	_____	scented
brittle	_____	short	_____	bubbly	_____
_____	mushy	_____	soft	_____	flaky

Topic: Food

Food

Developing and embedding high level skills.

RETRIEVE.

Food Poisoning

Describe **the symptoms of** food poisoning.

Task: answer the questions below-

1. The bacteria that cause abdominal pain are … _____
2. The bacteria that cause diarrhoea are … _____
3. The bacteria that can be prevented by good personal hygiene is … _____
4. The bacteria that can survive cooking is … _____
5. The bacteria that can cause death are … _____

Pastry

1. What is shortcrust pastry primarily used for?

_____

_____

2. What are the main ingredients of shortcrust pastry?

_____

_____

3. What is filo pastry commonly used in?

_____

_____

4. What can be made using choux pastry?

_____

_____

Smell

How would these foods smell?

Pizza = _____

Chilli = _____

Lemon = _____

Touch

How would these foods feel?

Muffin = _____

Carrot = _____

Yogurt = _____

Taste

Describe the taste of these foods using sensory words?

Smoothie = _____

Spaghetti Bolognese:

_____

_____

_____

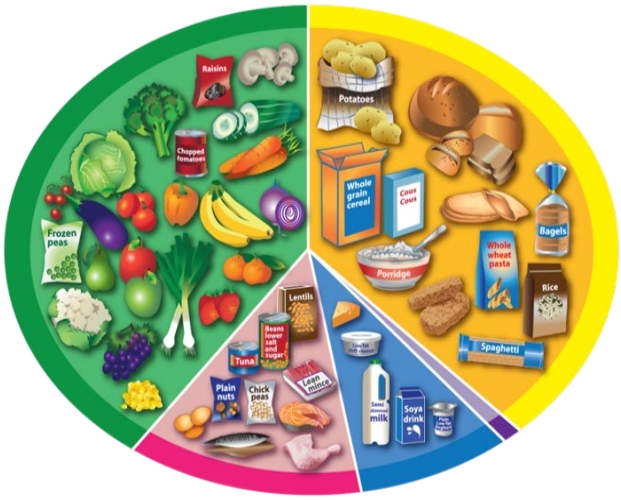
_____

_____

Food

Developing and embedding high level skills.

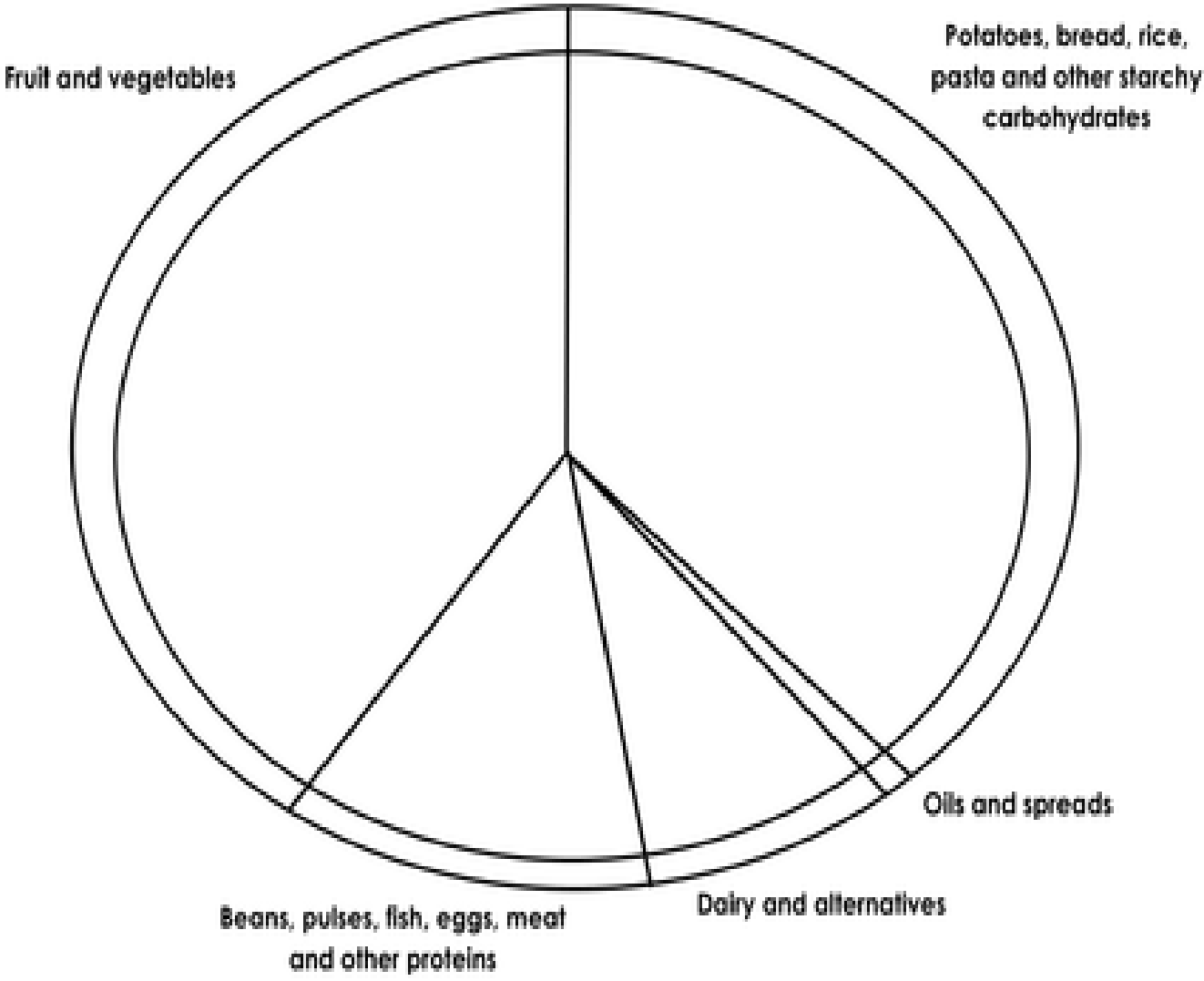
EatWell Guide



Design a main meal which represents the Eatwell Guide and is balanced.

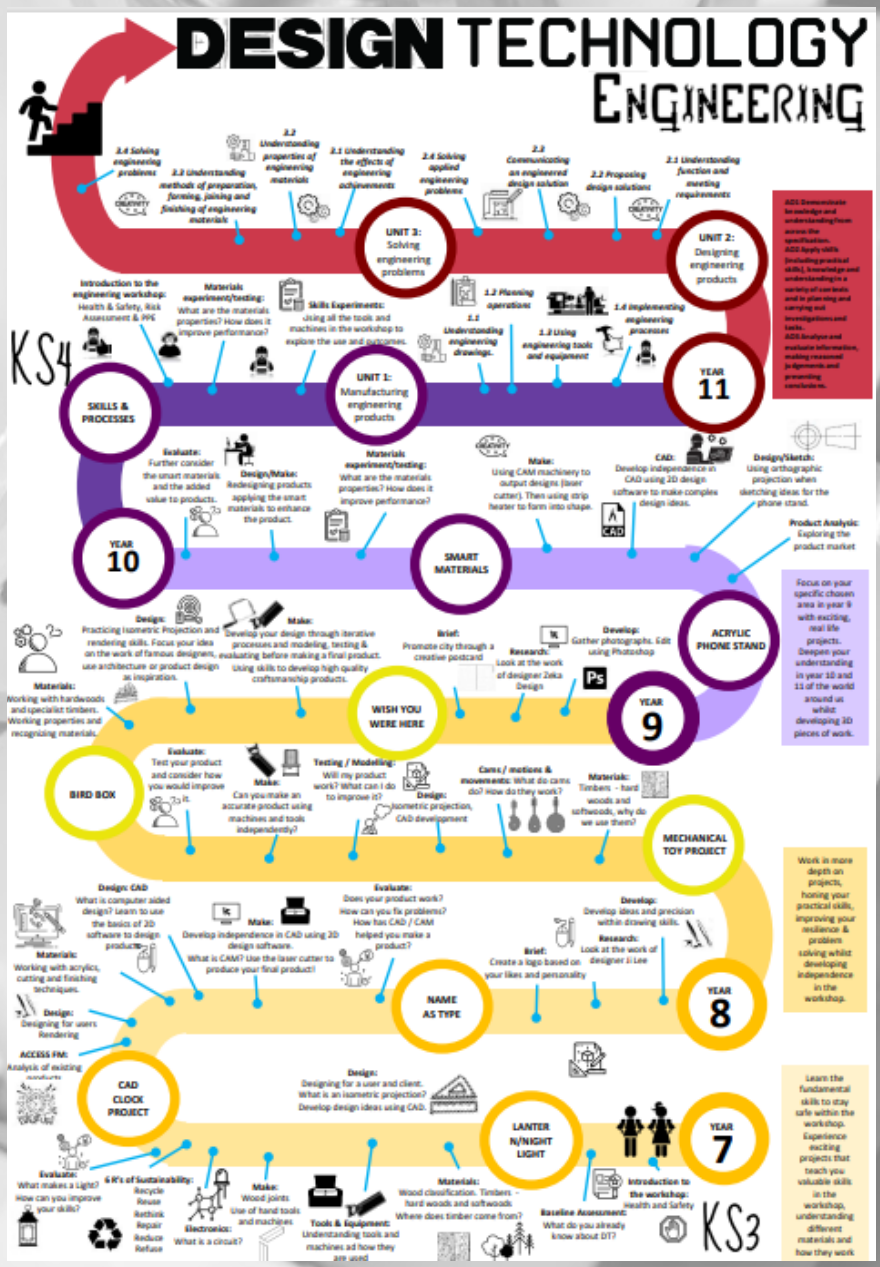
Some examples would be:

- Pasta with a meat/fish, vegetables and a sauce
- Shepherds pie (potato, meat, vegetables, cheese)
- Lasagna (pasta, meat, vegetables, cheese sauce)
- Quiche (pastry, egg, vegetables, meat, cheese)
- Stir fry (meat, vegetables served with rice/noodles)



Polymer Forming	
1. Polymers & their properties	
2. Polymers	
3. Smart Materials	
4. Vacuum Forming	
5. Line Bending	
6. 2D & Orthographic Drawing	
7. Evaluation	
Knowledge Checkpoint	

Year 9 - Engineering



EDEXCEL

POLYMERS & THEIR PROPERTIES

Date: _____

Learning Objective:_____

DO NOW

A **metal** is a material that, when freshly prepared, polished, or fractured, shows a lustrous appearance, and conducts electricity and heat relatively well. Metals are typically malleable (they can be hammered into thin sheets) or ductile (can be drawn into wires). A metal may be a chemical element such as iron; an alloy such as stainless steel; or a molecular compound such as polymeric sulfur nitride.

Polymers are of two types: naturally occurring and synthetic or man made.
Natural polymeric materials such as hemp, shellac, amber, wool, silk, and natural rubber have been used for centuries. A variety of other natural polymers exist, such as cellulose, which is the main constituent of wood and paper.
The list of synthetic polymers includes polyethylene and polypropylene,

A **ceramic** is any of the various hard, brittle, heat-resistant and corrosion-resistant materials made by shaping and then firing a nonmetallic mineral, such as clay, at a high temperature. Common examples are earthenware, porcelain, and brick.

POLYMERS & THEIR PROPERTIES

Fill in the blanks on this page.

Plastics are one of the most widely used manmade materials. They can be easily shaped when _____ and _____ quickly to _____ products with many desirable properties. Plastic is light, fairly strong, tough and durable. Plastics come in a variety of _____ often giving products an attractive appearance in terms of aesthetics. Plastic does not conduct electricity making it highly suitable for the _____ of many electrical appliances. Since 1907, technology has developed, and **chemical engineers** have been able to develop **polymers** that can be _____. There are hundreds of plastics, each with their own specific properties but they can be classified into two groups:

PVC Windows

Styrofoam

Acrylonitrile butadiene styrene (ABS)

Heated	*form*	*casing*	*cool*	*colours*	*recycled*

Thermoplastics / Thermoforming

Thermoplastics can be _____ and _____. They have an excellent surface finish and can be recycled. Common thermoplastics include acrylic, polystyrene and ABS.

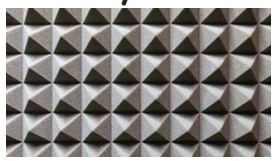
Polyethylene terephthalate (PET)

Acrylic	*Recycled*	*Re-shaped*	*Re-heated*

Thermoset

Thermoset plastics can only be _____ and _____ once. They can be difficult to finish and cannot be recycled however they are more _____ _____ making them ideal for high-heat applications. Common thermoset plastics include epoxy resin and urea formaldehyde.

Polyurethane



Heat resistant	*Shaped*	*Heated*

SMART MATERIALS: POLYMORPH

Fill in the blanks on this page.

Polymorph is a _____ material that can be shaped and reshaped any number of times. it is normally supplied as _____ that look like small plastic beads. In the classroom it can be heated in hot water and when it reaches 62 degrees centigrade the granules form a mass of 'clear' material. When removed from the hot water it can be shaped into almost any form and on cooling it becomes as solid as a material such as nylon. Although _____, polymorph is suitable for 3D _____ as it can be shaped by hand or _____ into a shape through the use of a _____.

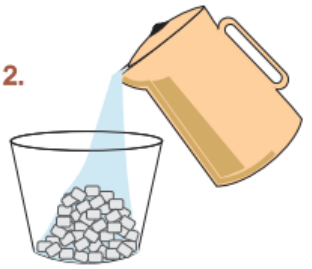
Granules	*Modelling*	*Thermoforming*	*Expensive*	*Pressed*	*Mould*

Describe the process,

1.

POLYMORPH GRANULES

2.



ADD HOT WATER

3.

GRANULES SLOWLY JOIN TOGETHER

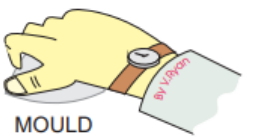
4.

MASS OF POLYMORPH

5.

REMOVE POLYMORPH

6.



MOULD POLYMORPH GRANULES

ORTHOGRAPHIC DRAWING AND CONSTRUCTION

Date: _____

Learning Objective:_____

DO NOW

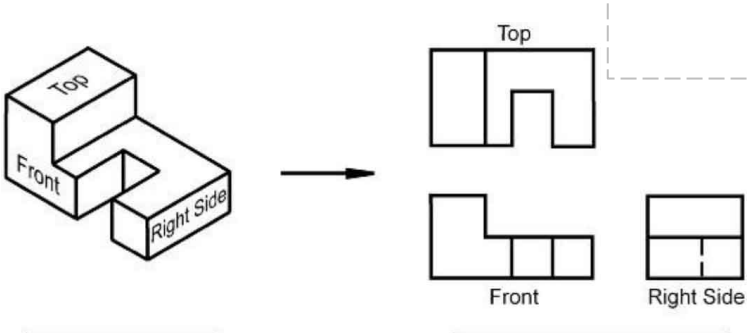
ORTHOGRAPHIC DRAWING AND CONSTRUCTION

TOP

FRONT

RIGHT SIDE

3D REPRESENTATION



POLYMERS & MANUFACTURING PROCESSES

Date: _____

Learning Objective:_____

DO NOW

Date: _____

Learning Objective:_____

DO NOW

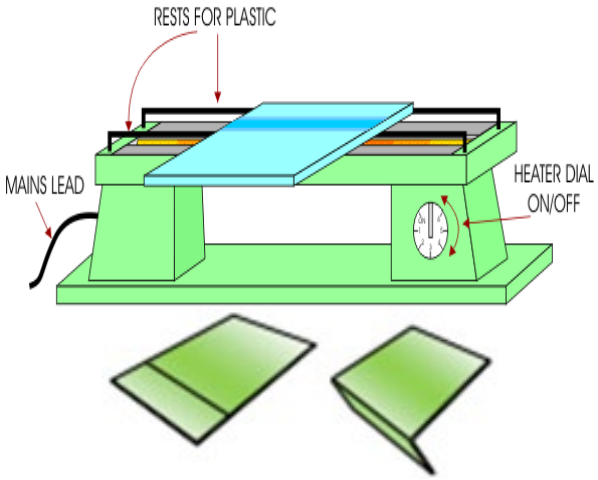
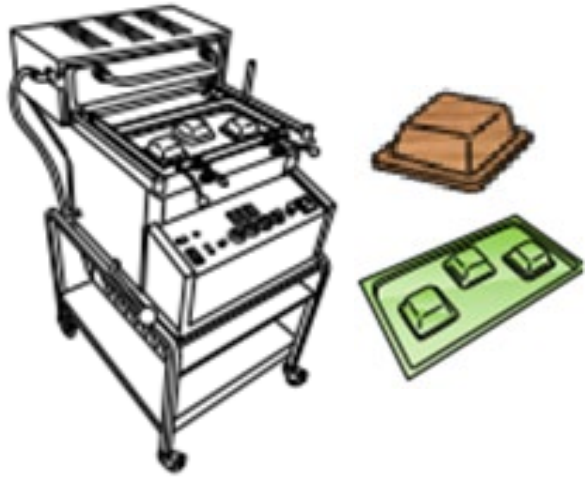
POLYMERS & MANUFACTURING PROCESSES

Date: _____

Learning Objective:_____

DO NOW

Thermoforming is the process of using heat to shape a material. Shown below are two methods of thermoforming plastic, which we use in the workshop. Most plastics can be molded and shaped at temperatures ranging from 70 degrees to 260 degrees, depending on the type of plastic.

	LINE BENDING (Strip Heater)	VACUUM FORMING
		
HEALTH AND SAFETY POINTS		
EXPLAIN THE PROCESS		
EXAMPLE OF USE		

VACUUM FORMING

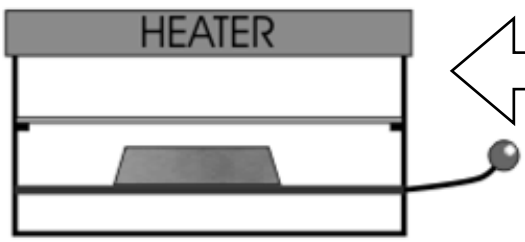
Date: _____

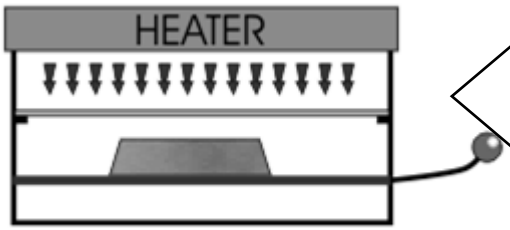
Learning Objective:_____

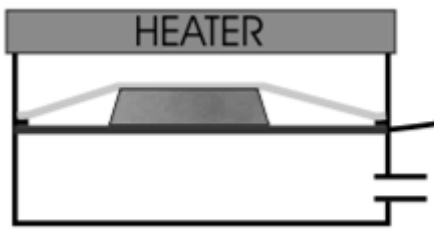
DO NOW

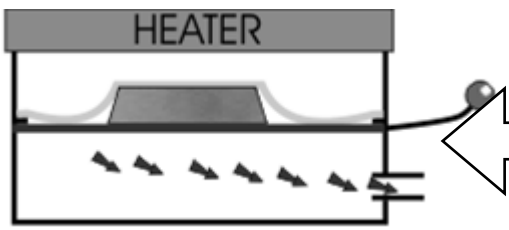
There are two groups of plastic. They are _____ and _____. In this project we will be using a plastic called_____ which is a_____. This means it can_____.

THERMOFORMING *HIPS* *THERMOSETTING*









POLYMERS & THEIR PROPERTIES

Date: _____

Learning Objective:_____

DO NOW

ACRYLIC PHONE STAND: MAKING DIARY

Learning Objective:_____

Date: _____	**Comments**
What have you done this lesson?	
What has gone well?	
How can you improve your work?	
What are your next steps for next lesson?	

Date: _____	**Comments**
What have you done this lesson?	
What has gone well?	
How can you improve your work?	
What are your next steps for next lesson?	

POLYMERS & THEIR PROPERTIES

Date: _____

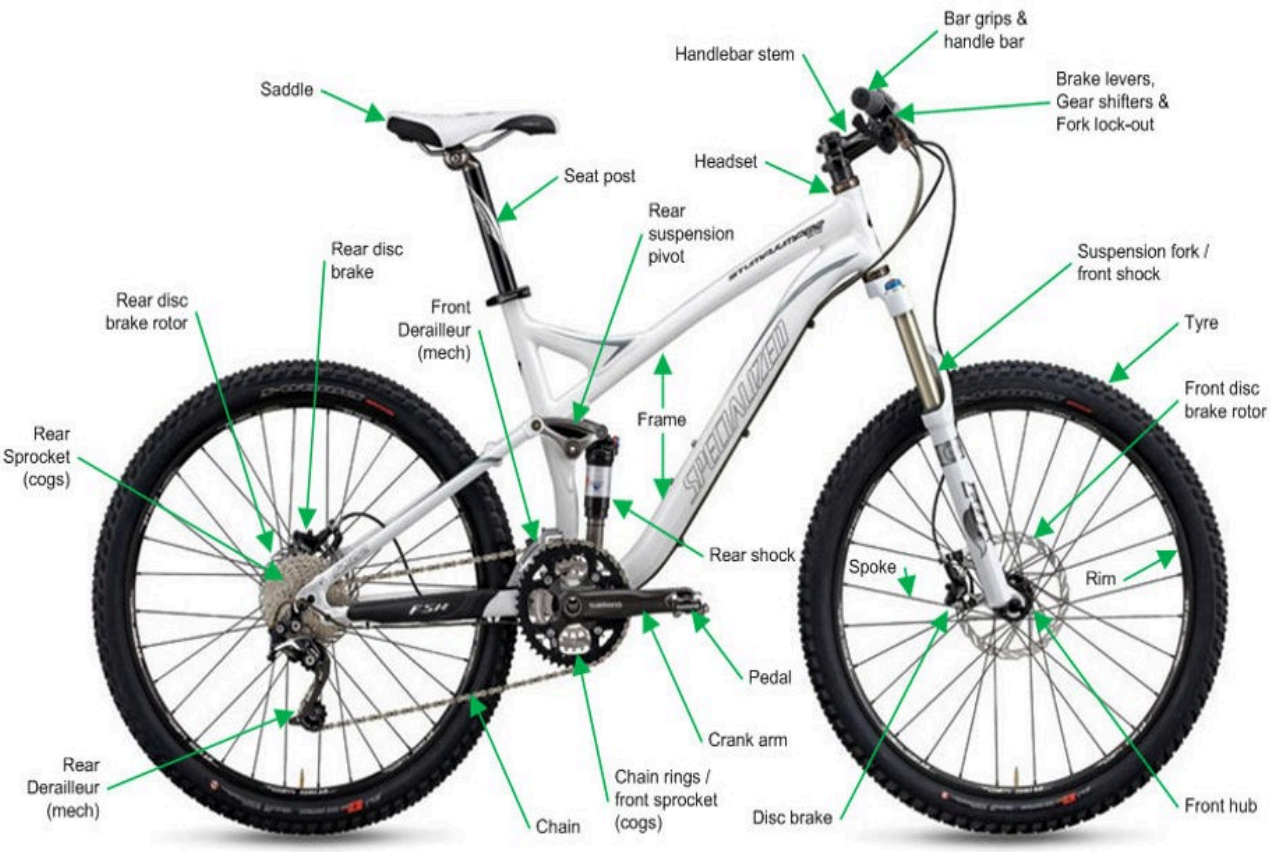
Learning Objective:_____

DO NOW

EXTENSION – BICYCLE COMPONENTS

Fill in the table below *(use the image to help)*

Component (pick a part)	Role/function	Properties (what it has to be able to do)



EVALUATION

Date: _____

Learning Objective:_____

What element of your design did you like the best?

_____

_____

Is there anything that you would do differently if you made it again?

_____

_____

Did you manage to work to your plan? Did you make any changes? If so, why?

_____

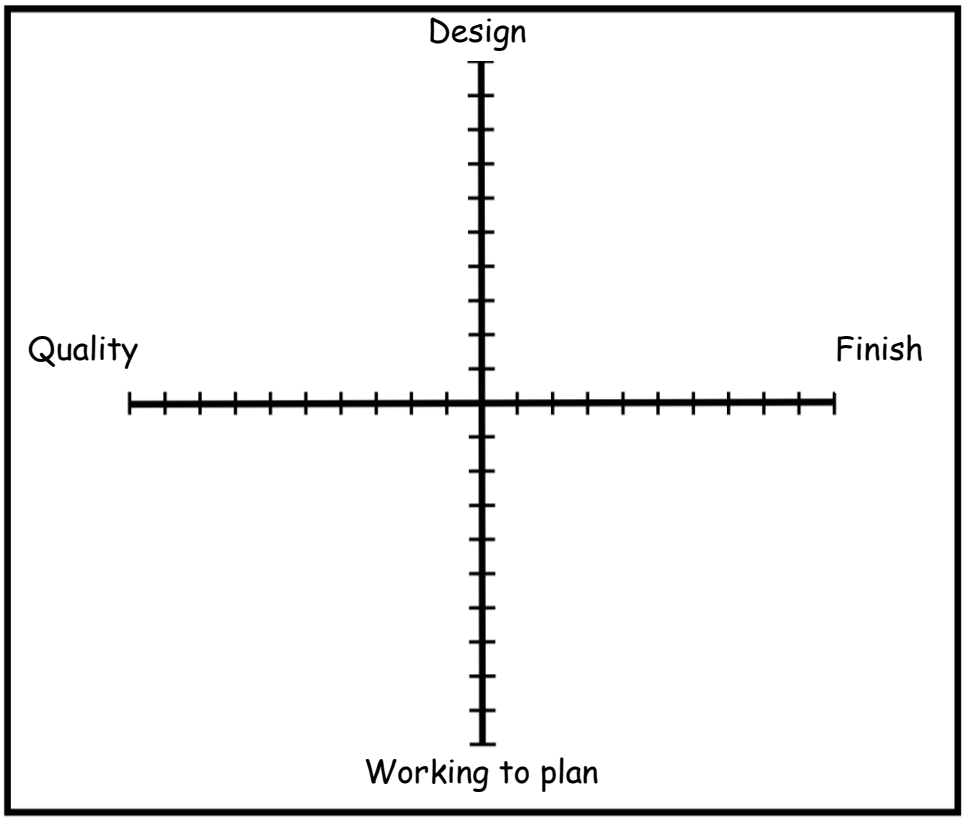
_____

Did the product have the finish that you wanted?

_____

_____

Glue photograph on final piece here



GLOSSARY

Word	Meaning

Topic: Formed

Engineering

Exploring and manipulating polymers into different forms.

READ.

Polymers

Plastics are one of the most widely used manmade materials. They can be easily shaped when heated and formed quickly to cool products with many desirable properties. Plastic is light, fairly strong, tough and durable. Plastic does not conduct electricity making it highly suitable for the casing of many electrical appliances.

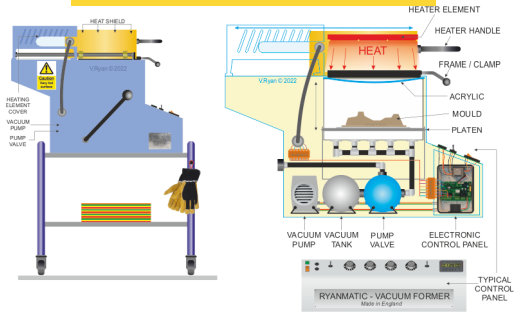
Thermoforming Polymers

Thermoplastics / Thermoforming : Thermoplastics can be recycled and reshaped. They have an excellent surface finish and can be recycled. Common thermoplastics include acrylic, polystyrene and ABS.

Thermosetting Polymers

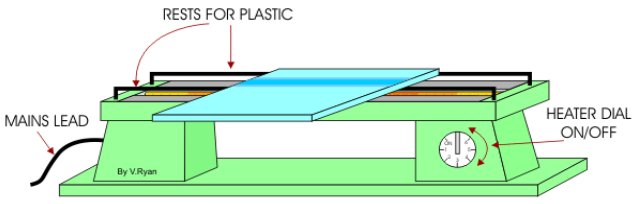
Thermoset plastics can only be shaped and heated once. They can be difficult to finish and cannot be recycled however they are more heat resistant making them ideal for high-heat applications. Common thermoset plastics include epoxy resin and urea formaldehyde.

Vacuum Forming



Vacuum forming is a technique that is used to shape a variety of plastics. In school it is used to form/shape thin plastic, usually plastics such as; polythene and perspex. Vacuum forming is used when an unusual shape like a 'dish' or a box-like shape is needed. Below you can see the stages involved in vacuum forming.

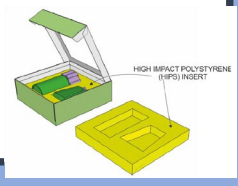
Strip Heater/Line Bender



Plastics such as *acrylic* can be formed (shaped) in different ways. One of the most popular methods of shaping plastic materials like acrylic is to fold (bend) it on a 'strip heater', at different angles. An example of a strip heater is shown below. A heating element extends along the length of the strip heater and gives off intense heat when it is turned on.

High Impact Polystyrene (HIPS)

High Impact Polystyrene (HIPS) is available in a range of colours and transparent form and can be moulded accurately, to the shape of the insert. HIPS can be recycled relatively easily, if disposed of in the relevant recycling bin.



Acrylic

This is the most common plastic in a school workshop. It is purchased usually in the form of sheets and comes in a range of colours. It is resistant to most acids and weather conditions.

Topic: Formed

Engineering

Exploring and manipulating polymers into different forms.

RECALL.

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Plastics are one of the most widely used manmade materials. They can be easily shaped when _____ and _____ quickly to _____ products with many desirable properties. Plastic is light, fairly strong, tough and durable. Plastic does not conduct electricity making it highly suitable for the _____ of many electrical appliances.

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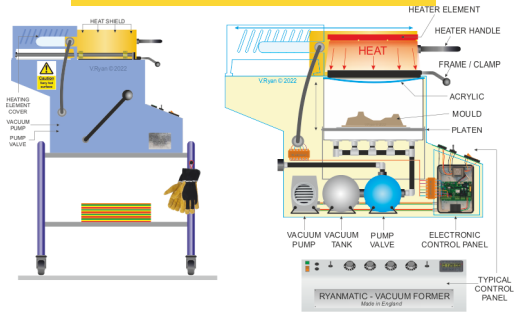
Vacuum Forming



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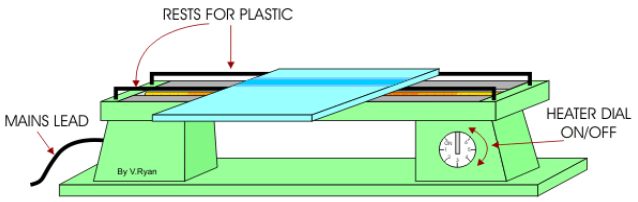

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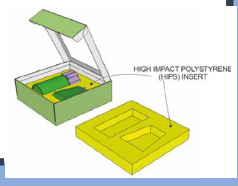

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Topic: Formed

Engineering

Exploring and manipulating polymers into different forms.

RETRIEVE.

Health & Safety

List 2 potential hazards that need to be considered when using the strip heater.

1 _____

2 _____

List 2 potential hazards that need to be considered when using the vacuum former.

1 _____

2 _____

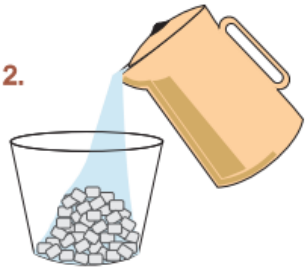
Smart material: processes

Explain the polymorph process, using full sentences with adjectives and connectives, the technique for carrying out the process.

1.

POLYMORPH GRANULES

2.



ADD HOT WATER

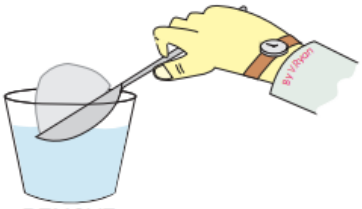
3.

GRANULES SLOWLY JOIN TOGETHER

4.

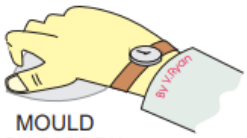
MASS OF POLYMORPH

5.



REMOVE POLYMORPH

6.



MOULD POLYMORPH GRANULES

Orthographic Projection

TOP	FRONT	RIGHT SIDE

Topic: Formed

Engineering

Exploring and manipulating polymers into different forms.

RETRIEVE & APPLY.

Properties

Read the boxes at the bottom of the table carefully. Re-write them into the correct box on the table below to describe the properties

Metal	Properties
HDPE - High Density Polythene Which Is Rigid And Hard. Less Flexible Than LDPE.	
Polypropylene (PP) Is A Thermoplastic Often Formed Into Products Through Injection And Blow Moulding.	
Polyvinyl Chloride. Better Known As PVC.	
LDPE - Low Density Polythene Is Tough And Flexible. Softer Than HDPE.	
High Impact Polystyrene (hips).	
Nylon	

A tough material, purchased as either a hard (inflexible) material or alternatively a flexible form. It can be extruded, welded or bonded with an adhesive.

Machine parts, bowls and crates are generally made from high density polystyrene.

Can be moulded into almost any form. Flexible, comes in range of colours.

Light material and yet strong. Available in a range of colours. Can be vacuum formed. Thinner HIPS is quite flexible.

Is used in engineering to make gears and bearings. It's oily nature means that friction is reduced between moving parts made from nylon.

It is robust, strong, flexible and supplied in a range of colours.
Food containers, chairs, packaging and storage units.