

D&T Year 8 Bag Project

Key Words and Definitions:	
Pins	a piece of metal with a point at one end for holding fabric together
Scissors/shears	Used for cutting fabric
Sewing Machine	A machine used to produce stitches in fabric
Needle	a piece of metal with a point at one end and a hole or eye for thread at the other, used in sewing
Thread	a strand of cotton, used in sewing or weaving
Tailors chalk	Chalk used to mark fabric
Fabric	Cloth produced by weaving or knitting textile fibres.
Unpicker	A small piece of equipment with a sharp pointy end used to unpick stitches
Tie dye	Resist method of dying- created by tying string/ elastic bands around areas of the fabric.
Applique	Applying 1 fabric to another to create a design
Reverse Applique	cutting away a layer of fabric to reveal a shape appliqué underneath
Embroidery	Decorative stitching by hand or machine
Design	A drawing to show the look of your idea
Annotation	Labelling to explain your design
Evaluation	Making a judgement about your product
Specification	A list of requirements that a product must meet

Material Fastenings

Fastenings can be used to close the bag and add pockets (function) and Aesthetics.



Velcro



Button



Zip



Press Studs

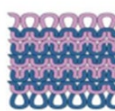
Key Concepts – Core skills I am learning this half term

- Learn about types of fabric materials.
- Analyse different products that carry items.
- Investigate design movements
- Design a strong and aesthetic tote bag for home or school
- Decorate the bag with a range of textiles decorating techniques.
- Join the bag together with the sewing machine.

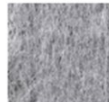
Fabric construction.



Woven



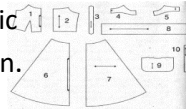
Knitted



Bonded/ non-woven

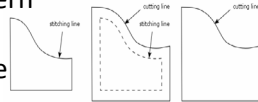
Key Terminology

Pattern - a paper template to aid in the cutting out of fabric for accurate construction.



Seam Allowance

This is usually a 10mm 'boarder' around your pattern to allow for construction to be the correct size.

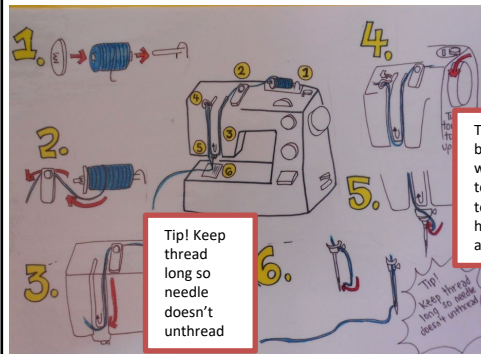
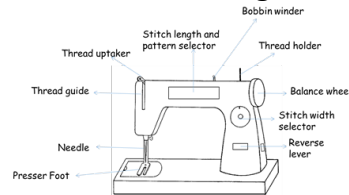


Wrong Side - This is the side of the fabric that you do not wish to see.



Right Side - This is the 'correct' side of the fabric that you wish to see.

How to thread a sewing machine



Tip! Keep thread long so needle doesn't unthread

Turn balance wheel toward you to bring hook up and down

Decorative Techniques to be used on your bag.

Appliqué



Appliqué is where you stitch a decorative material on top of the main material

Screen printing



Screen printing is where is you apply ink or paint through a mesh onto a fabric- this is very accurate.

Block printing

Block printing is where you apply paint, dye or ink using a pre-cut block



PRODUCT ANALYSIS

Customer Describe the typical person who might be interested in buying this product. How does the product appeal to them? What factors may have on the customer's life. Who do you want to aim your product at and why?	Size Measure the product! Describe the size of the product, is it the right size for the customer? Say how it is used. What would happen if it was bigger or smaller? Does the size of the product determine where it will be stored?	Materials Explain what materials the product is made from. Why do you think these materials have been chosen? Are they are suitable? What other materials could have been used? Explain how they might have improved the product or made it worse.
Cost How much do you think the product would cost to make compared to the retail price? Explain whether you think it is good value for money. Do you think it is affordable?	Function Describe the function of the product. What is it used for? Say how the product fulfills its purpose - does it do its job successfully? If not, how could it be modified to do so?	
Aesthetics Describe how the product looks; colour, texture, patterns, shape... include both positive and negative thoughts. Say how your opinion on the look of the product might affect your own design ideas.	Environment What impact might this product have on the environment? Explain how the materials might be disposed of after the product is no longer required... would they degrade? How might this information make you consider your own choice of materials?	Safety Look carefully at the product and say how the designer has considered safety implications. Consider sharp edges, small components and ergonomics. Explain what the designer might have done to make the product safer to use.

The 4 Rs of sustainability

The UK wastes around £1 billion of clothing each year, which effects the environment we live in. A way to support the environment is to follow the four Rs of sustainability at home

Recycle – Making unwanted clothing in to something new i.e. Jeans in to shorts.

Reduce – Buy high quality clothing which will last for longer.

Repair – If there is a rip or hole in your clothing, fix it by hand sewing it or adding a patch.

Reuse – If you no longer want your clothing, donate it to a sibling or local charity shop.

D&T Year 8 –Mechanical Releaser - Bottle Opener Metal Project

Key Concepts – Core skills I am learning this half term

- Learn about types of metal - Ferrous, Non-Ferrous and Alloys
- learn about the three Classes of Levers with examples .
- Learn about Circle Theory – Radius, Diameter and Tangents.
- Learn to produce a template out of card to be used on mild steel for batch production.
- Learn to use hand tools and machine tools safely and accurately.
- Learn to measure and mark on metal.
- Learn how to use the hacksaw to cut out waste
- I will complete the bottle opener by giving a good finish by Dip coating .

Tools for working with metal

Scriber

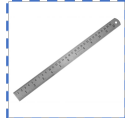


Engineers Square



Centre Punch

Hand File



Steel Ruler



Junior Hack Saw



Levers – There are three classes of Levers

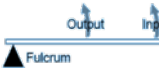
Class One

A class one lever has its input on one side of the fulcrum and its output on the other.



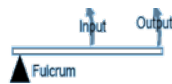
Class Two

A class two lever has its input at one end of the lever, its output in the middle and fulcrum at the other end.



Class Three

A class three lever has its output at one end of the lever, its fulcrum at the other with its input in the middle.



Types of Metals

Types of Metals

Ferrous metals contain iron. Steel is the most common.

Non-ferrous metals do not contain iron. Aluminium is the most common.

Alloys are mixtures of metal and another element(s) which improves on the properties of the metal. Pewter is an alloy of tin and antimony.

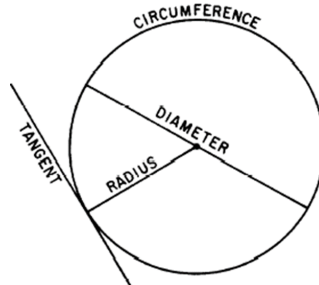
Environmental impact of metals. Metals are made from ore. Ore is mined. Ores use a huge amount of energy to be converted to metal. All metal can be recycled using as little as 5% of the energy need to convert metal from ore

Numeracy: Circle Theory

Radius - A line from the centre of a circle to a point on the circle

Diameter - The distance across a circle through its centre point

Tangent - A line that contacts an arc or circle at only one point



1cm = 10 mm. If there are no units on the drawing, it is mm by default.

Vocabulary

Some keywords/questions to use:

Aesthetics – How it looks, its colour, shape [FORM] patterns, textures. If something is 'aesthetically pleasing' it looks nice!

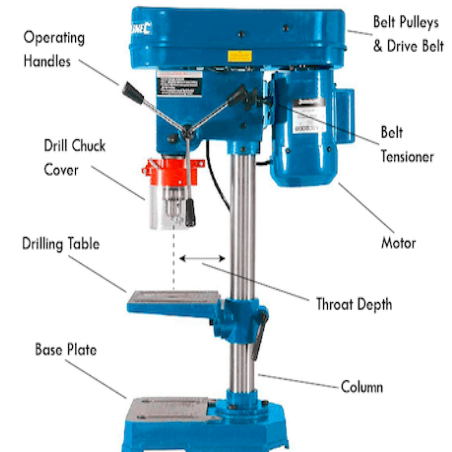
Ergonomics – How comfortable is it to hold or use? Does it 'fit' the user well?

Function - How well do you think it works? Why do you think this?

Target Users - Who do you think the users are and why? Is the toy suitable?

Environment – Where would the toy be used do you think?

Pillar Drill



Year 8 FP&N 1 Food and Health

- Week 1. H&S.
Week 2. **Practical:** Mac 'n' cheese
Week 3. Nutrients and food groups
Week 4. **Practical:** Cheese straws
Week 5. Energy balance. Assessment
Week 6. **Practical:** Mediterranean tart
Week 7. Nutritional needs at different life stages

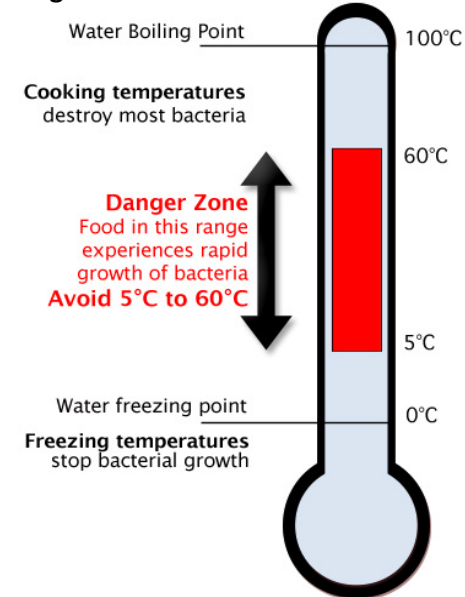
Key words:

- Bacteria
- Pathogenic
- Hygiene
- Nutrition
- Energy
- Growth
- Repair
- Constipation
- Obesity
- Coronary heart disease
- Type 2 diabetes
- Ageing
- Health
- Exercise
- Sleep

Safety Rules:

1. Always wash your hands in hot soapy water before starting practical work.
2. Wear an apron and tie long hair back.
3. Keep all perishable ingredients and prepared food in the refrigerator.
4. Wash all equipment. Work surfaces, the sinks and the top of the cooker when you have finished cooking.
5. Exercise caution when using, carrying and storing sharp knives.

Danger zone



Healthy Eating Guidelines

1. Base meals on starchy foods.
2. Eat lots of fruit and vegetables – 5-a-day.
3. Eat more fish – including a portion of oily fish each week.
4. Cut down on saturated (animal) fat and sugar.
5. Eat less salt – no more than 6g a day.
6. Get active and be a healthy weight.
7. 8 glasses of water (or equivalent) every day.
8. Don't skip breakfast.

Nutrients and functions

Carbohydrate: The only function of carbohydrate is to provide the body with energy.

Fat: Concentrated source of energy. Thermal insulation. Essential fatty acids – omega 3, 6, 9.

Protein: Growth and repair. Energy

Vitamins: A range of different micro-nutrients that have a range of functions, usually relating the metabolism and use of other nutrients.

Mineral: A range of elements that have a wide range of functions.

Fibre: A complex carbohydrate that cannot be digested. Fibre swells up and creates bulk in the large intestine, making it easier to eliminate solid waste.

Water: Many functions – digestion and absorption of nutrients, body temperature regulation, elimination of waste, circulation of substances round the body. Most processes rely on water. 60% of the human body is water.

Food groups

There are five main food groups represented on the **Eatwell guide**. **Starchy carbohydrates** foods give us energy and should make up a third of our diet.

Fruit and vegetables should make up another third of our diet. They provide us with fibre and a wide range of vitamins and minerals.

Milk and other dairy foods give us fat, calcium and protein for growth and repair.

Meat, fish, eggs and beans also provide us with protein

Foods high in fat and sugar should make up only a small part of our diets.

Nutritional needs at different life stages

We need to eat a balanced diet from birth to old age. Our nutritional needs will change at different stages. Usually we need more energy when we are young – we are growing and more active. Following the Eatwell guide helps us stay healthy

Energy

We need energy so our bodies can function. Every cell in our body needs energy every second we are alive.

We get our energy from foods containing Carbohydrate, protein and fat.

- Carbohydrate provides 3.75 Kcal per gram
- Protein provides 4 Kcal per gram
- Fat provides 9 Kcal per gram

Energy balance

- It is important that we eat food with enough energy for our daily activities. Energy intake should equal energy use.
- If we regularly eat food with too much energy, the body stores the excess energy and we put on weight.
- If we regularly eat food with insufficient energy, our body will use the energy in fat stored under the skin, so we lose weight.

Obesity - Description and cause	Prevention
<ul style="list-style-type: none">• A diet related disease where the body contains more fat than necessary.• Routinely taking in more energy than is being used – not being in energy balance.	<ul style="list-style-type: none">• Maintain energy balance – energy intake = energy use.• Lose weight, take in less energy than needed forcing body to burn stored fat.• Increase activity – use more energy – get more exercise.
Coronary heart disease – description and cause	Prevention
<ul style="list-style-type: none">• Affects the heart and blood vessels. Blood vessels around the heart are blocked and cannot deliver oxygen around the body.• Caused by eating too much saturated (animal) fat and salt.• Being overweight and lack of exercise.	<ul style="list-style-type: none">• Too much salt in the diet, change the consistency of the blood meaning the heart has to work harder leading to heart attack.• Being overweight or obese.• Smoking• Lack of exercise• Stress and alcohol• Family history
Type 2 Diabetes – description and cause	Prevention
<ul style="list-style-type: none">• Eating an unbalanced diet – free sugars, refined starch, lack of fruit and veg.• High levels of insulin produced to metabolise blood glucose lead to cell damage and not recognising insulin.• Overweight or obese people, high BP and/or sedentary lifestyle are more likely to develop Type 2 diabetes.	<ul style="list-style-type: none">• By following dietary guidelines.• Losing weight• Taking regular exercise

How to stay healthy:

- Eat a healthy balanced diet.
- Get regular exercise.
- Get plenty of sleep.
- Try to avoid stress – relax.

Key terms:

Food poisoning – the illness caused by eating food contaminated with pathogenic bacteria

Danger zone – the temperature range where bacteria will grow and reproduce.

Energy balance – to maintain normal body weight energy intake = energy out-put.

Mac 'n' cheese ingredients:

- 150g macaroni
- 100g Cheddar cheese
- 30g butter or margarine
- 30g plain flour
- 400ml semi-skimmed milk

An air-tight container to take home

Cheese Straws ingredients:

- 75g cheddar cheese
- 40g butter
- 160g plain flour
- 150 ml milk

Air-tight container to take home

Mediterranean tart ingredients:

- 1 pack of ready rolled puff pastry
- 2 – 3 tbsp pesto – red or green
- 1 medium courgette
- 1/2 a medium onion – red or white
- 1 small red pepper
- 4 – 5 cherry tomatoes
- 5 – 6 black olives (optional)
- 100g goats cheese
- 1 egg to glaze (optional)
- Fresh basil for garnish (optional)

A large container to take home

