THE NORWOOD SCHOOL

TECHNOLOGY

YEAR 7 Independent Learning Booklet 2021-2022

NAME:

FORM:

OVERVIEW

Welcome to your Design & Technology Independent Learning Booklet for 2021/2022

We have compiled a range of tasks and activities that relate to all three specialist areas (Food, Product Design and Textiles) that you will complete this year. We expect you to use this booklet to revise key topics, develop your practical skills and use it as guide to extend your theoretical knowledge of Design & Technology.

Please note:

- Students are expected to take ownership of their Independent Learning Booklet and therefore look after it. If the booklet is mislaid students will need to pay to have another one printed or alternatively download and print their own via the copy available on Google Classroom.
- All the tasks in the booklet correlate to the three specialist areas that you will complete on a carousel rotation this year.
- Tasks vary in style but it is expected that students spend between 30-60 minutes on each task and complete a minimum of one task each week.
- Design/drawing tasks are to be completed using a pencil.
- Students may visit/email the VA department to have work printed as and when necessary if they are unable to receive help with this at home.
- No graffiti should be visible in the booklet.
- You will be expected to bring your ILB to lessons and to discuss as well as share your progress with your teacher(s) and peers.
- A copy of this booklet can be found on Google Classroom.

CONTENTS

Contents

Curriculum Content: Food

A. KEY EQUIPMENT & MATERIALS		
Vegetable knife		Used for slicing and chopping vegetables and fruit using the bridge and claw method. They need sharpening from time to time and must be handled carefully and safely at all times.
Peeler		For removing a thin layer of skin from vegetables or fruit such as carrots, potatoes, apples.
Box grater		Two sides are for small/smaller pieces of food that you want to blend into a dish also one for slicing and one for grating very hard items eg. nutmeg.
Sieve		For removing lumps from liquid or lumps from flour. Also separating a food into different textures, and aerating flour.
Colander		For washing and draining vegetables, salad or cooked pasta, noodles or potatoes
Chopping boards		Green =fruit and salad Blue = fish Red = meat Yellow = cooked foods White = bakery & dairy Brown = vegetables
Slotted spatula / Fish slice / flipper		Slots allow liquid to drain away, used for picking up flat, fragile foods from a frying pan or flat dish.
Wooden spoon		Provides firm stirring action in a saucepan that does not cut the food. Used in cake making to beat / cream ingredients together.

B. KEY WORDS

- **Bacteria:** microscopic living organisms that can cause food poisoning.
- **The 4 C's -** explain how we manage bacteria in the kitchen through Cleaning, Cooking, Chilling and avoiding Cross contamination
- **Cooking skills:** applying heat to change the state of a raw food. For example frying steak, boiling pasta. Cooking changes the flavour, texture, mouth feel, odour and appearance of raw food and in some cases makes it safe to eat.
- **Dietary requirements:** this varies according to age, lifestyle, or specific nutritional needs for example with allergies or intolerances, or health requirements such as low salt, high fibre.
- **Eatwell Guide:** government guidance on what constitutes healthy eating. It shows what proportions and variety of each food group you should eat for a balanced diet, recommended calorie and water intake and to eat less sweet, salty and fatty foods.
- **Food preparation:** preparing all the ingredients for cooking through washing, peeling, slicing, rehydrating, dicing etc.
  Food sources: the foods in which nutrients are found
- **Nutrients:** natural chemical substances in foods essential for growth, function and health
- **Sensory descriptor:** Words used to describe the taste, aroma, texture and appearance of food in order to make quality judgements.
- **Whole foods:** foods that have not had any nutrients removed during processing

Curriculum Content: Food technology

C. HEALTH AND SAFETY

1. Always remove your blazer & tie long hair back when completing practical activities. Leave your bag and coat near the door and do not return to it unless invited to do so to avoid contamination
2. Always wash your hands and nails thoroughly. No false nails. Do not touch your face or hair. Report any illness eg colds. Wounds must be covered with a blue plaster.
3. All stop! Means put down your equipment safely, move items from heat and look at the teacher for important instructions or information.
4. Stay in your allocated work area unless fetching ingredients or equipment. Overcrowding is a safety hazard.
5. Demonstrate knife awareness at all times.
6. Be respectful of all resources and equipment by thoroughly cleaning and drying before returning to the correct place.

D. THE EATWELL GUIDE

Learning to work safely in the kitchen using the 4 C's is the most essential skill for you to progress to more challenging recipes.

The Eatwell guide shows how eating different foods can make a healthy and balanced diet. The key food groups are:

- Fruit and vegetables
- Starchy carbohydrates
- Protein and meat alternatives
- Dairy and alternatives
- Oils and spreads

E. Bridge and claw method

Curriculum Content: Product Design

A. KEY EQUIPMENT		
Tenon Saw		A hand saw with a stiff back that is used to cut straight lines in wood. These saws are particularly good for cutting joints such as finger joints or mortise and tenon joints.
Coping Saw		A hand saw that is used to cut curves and complex shapes in wood and plastic. Coping saw blades are much thinner than tenon saw blades which helps them to cut intricate designs.
File		Files are used to shape and smooth wood, metal or plastic. These can be used after cutting materials to ensure a smooth and accurate finish, and ensure joints fit with precision.
Pillar Drill		The pillar drill is used for drilling holes through material including a range of woods, plastics and metals. The material needs to be clamped to the drill table so that it does not move when drilling. The guard needs to be down and goggles need to be worn.
Glass Paper		Glass paper, also known as sandpaper is an abrasive sheet of paper used for sanding wood to make it smooth.
Disc Sander		A machine used to smooth the edges of materials. Unlike the belt sander, the disc sander moves in a circular motion and is better for smaller work or rounding corners.

B. KEY WORDS

- **Design Brief:** A design brief is the statement a client gives to a designer outlining what they want their product to be like, eg 'Design, make and finish a box made from pine and acrylic'.'
- **Hardwoods:** Woods that come from deciduous trees. Trees lose their leaves seasonally, in winter. Hardwoods are not always harder than softwoods. They have a wider variety of colour and texture than softwoods. For example: Oak
- **Manufactured Boards:** (aka Engineered Wood or Composite Boards) are sheet materials produced by pressing and bonding together wood particles, fibres or veneers to achieve particular characteristics - and to create a use for wood scraps/offcuts that would otherwise be discarded as waste. For example: MDF
- **Softwoods:** Woods that come from coniferous trees (they have needles, not leaves). They grow quickly, compared to most hardwoods. When sawn and planed they tend to be light & pale in colour. Softwoods tend to be cheaper than hardwoods due to their quick growth. For example: Pine
- **Specification:** A design specification is a list of criteria a product needs to address. Using the brief as a starting point for research, a specification can be written when more facts are known. Information needs to be found through research to help produce early design solutions and improvements.
- **Evaluate:** Assessing the strengths and weaknesses of something.

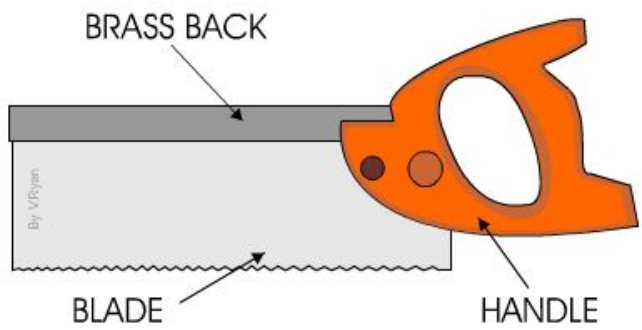
Curriculum Content: Product Design

C. HEALTH AND SAFETY

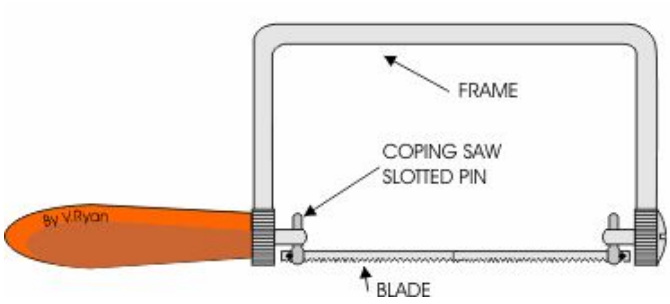
1. Always remove your blazer & tie long hair back when completing practical activities, as well as removing dangly jewellery and tucking ties into shirts.
2. Wear an apron.
3. Ensure all stools are put away and there are no trip hazards in the room.
4. Do not distract others when they are using tools or machinery.
5. Do not use tools and equipment without permission.
6. Do not use machinery without supervision, and ensure you are wearing goggles at all times.
7. Switch off machinery as soon as you have finished.
8. Be respectful of all tools and equipment.
9. Be tidy and put everything back in the correct place when you have finished.
10. Do not play with the vice when seated at the workbench.g practical work

D. TENON SAW AND COPING SAW

Parts of the tenon saw:

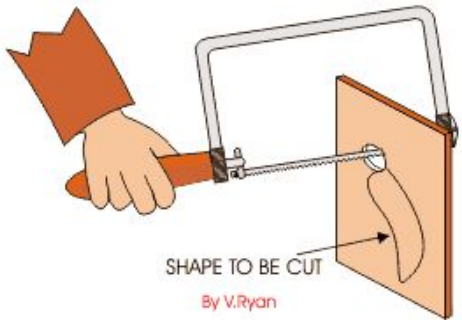


Parts of the coping saw:



How to hold the tenon saw:

Using a coping saw to cut shapes:



The tenon saw is a type of back saw. Back Saws get their name from the steel or brass back, labelled on the diagram above. The heavy back gives the saw its weight which is useful when sawing wood. The weight of the saw along with the forward sawing motion allows the saw to cut through woods relatively easily. Tenon saws are used for general sawing and cutting. They are used for cutting straight lines.

Coping saws are used for cutting a range of materials, including woods and plastics. Using a coping saw is a test of skill as it can be difficult to control and requires practice.
A coping saw can be used to cut shapes in the middle of a piece of material. First, the blade is removed from the coping saw and then passed through a hole that has been drilled. The blade is then fitted to the coping saw frame. The saw can then be used in the normal way, cutting the 'internal' shape.

Images and information from: www.technologystudent.com

Curriculum Content: Textiles

A. KEY EQUIPMENT & MATERIALS		
Fabric Shears		Fabric shears are specifically used to cut fabric. The blades must be 15-20cm long to give a smooth cutting motion. Cutting paper with them will make the blades blunt.
Needles		Needles come in various sizes. The right size or type is chosen based on the type of thread you want to use. There is a sharp point at one end and the other has an "eye" that the thread is placed through.
Pins		Dressmakers pins are usually thin, about 2-3cm long, sharp at one end with a "head" at the other. They are used to temporarily hold two or more layers of fabric together when cutting or sewing.
Embroidery Thread		Also known as embroidery floss or stranded cotton. Strands of thread are twisted together. Embroidery thread is used to sew by hand decoratively.
Tailors Chalk		Tailors chalk is used to mark out where you want to sew or cut fabric. It is available in different colours and was traditionally used by tailors.
Fabric Paint		Fabric paint is a paint specially designed for use on fabric. Once the paint has dried it is set with heat. This will ensure that the paint will not wash away when the fabric is washed.

B. KEY WORDS

- **Analysis**: Examine something in detail, in order to explain and interpret it.
- **Appliqué**: One shape of fabric is sewn on top of another piece of fabric, it can be attached using hand embroidery or by using the sewing machine.
- **Design Brief**: A design brief is the statement a client gives to a designer outlining what they want their product to be like, eg 'Design an environmentally friendly bag, using a a nautical theme'
- **Hand Embroidery**: A thread and needle are used to sew shapes and patterns onto fabric by hand
- **Evaluate**: Assessing the strengths and weaknesses of something.
- **Fabric Painting**: Fabric paint is used to paint directly onto fabric. When dry it needs to be heat set with an iron so it does not come off.
- **Paper Pattern**: Is a template used to draw and cut around, which is in the shape required. Usually made from card.
- **Seam**: A line where two pieces are sewn together.
- **Seam Allowance**: Is the area between stitching and the raw cut edge of the fabric. It allows a seam to be made and the standard measurement is 1.5cm.
- **Specification**: A design specification is a list of criteria a product needs to address. Using the brief as a starting point for research, a specification can be written when more facts are known. Information needs to be found through research to help produce early design solutions and improvements.

Curriculum Content: Textiles

C. HEALTH AND SAFETY

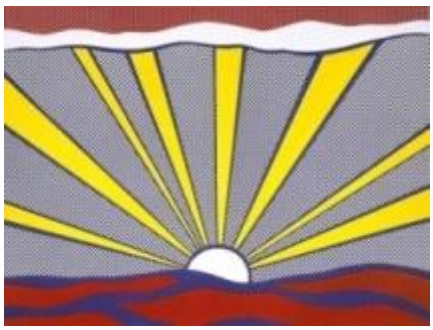
1. Always remove your blazer & tie long hair back when completing practical activities
2. Ensure that you hold fabric shears and scissors by the handle, carrying them down by your side
3. Remove your blazer or wear an apron when you are using fabric paint or dye
4. Do not talk when you are using a sewing machine, you must concentrate
5. Do not distract others when they are using sewing machines.
6. Be careful with pins and needles. Make sure they are put away after use and they are not left on tables
7. Do not use an iron without supervision
8. Switch off equipment when you have finished.
9. Be respectful of all resources and equipment
10. Be tidy and put everything back in the correct place when you have finished.

D. WHAT IS POP ART?

Pop Art is an art movement that emerged in the 1950's and flourished in the 1960's in both Britain and America.

Pop art began as a revolt against the traditional approaches to art and culture. Young artists wanted their work to express their lives and what they saw around them everyday. So they drew inspiration from sources in **popular** and **commercial culture** such as Hollywood movies, advertising, product packaging, pop music and comic books for imagery.

https://www.tate.org.uk/kids/explore/what-is/pop-art

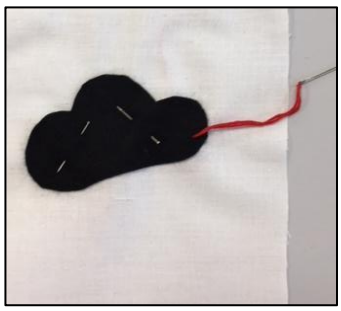


Sunrise, C1965
Roy Lichtenstein

Marilyn Monroe 1967.
Andy Warhol

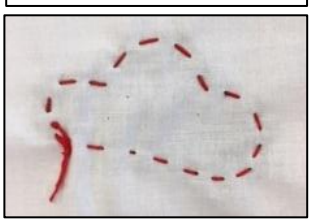
E. FELT APPLIQUE WITH HAND EMBROIDERY

1. Draw your appliqué shape onto felt with tailors chalk and cut it out. Then pin the shape onto the base fabric.



2. Choose your embroidery thread and thread the needle, knot the end. Start to sew by pushing the needle up from the back.

3. Leave a small gap and then take the needle through the appliqué and back underneath.



4. Continue around the outline of the shape sewing with the running stitch. When complete knot the thread on the back.

Food

Skill focus: Safety

1a. Washing Up Safely and the 4 C's
Fill in the missing words using the word bank below and label the equipment correctly.

Fill the sink with _____ water quarter way adding a squirt or 2 of _____ ___ liquid.

Scrub food off the equipment using a _____ before rinsing off with clean water.

A clean, damp _____ _____ is used to wipe the surfaces using anti-bacterial spray.

Some equipment needs to be _____ then _____ to remove stubborn food debris.

Wash _____ and cutlery first so they do not smear.

Do not put _____ into the sink as you cannot see them and they could hurt you.

Make sure you wash _____and _____ on knives and dry up thoroughly; place knives back first.

Use a ____ _____ to dry the dishes thoroughly to avoid _____ forming on moist surfaces. Drain the water, clean out the plughole and place the equipment neatly on the draining rack if using.

WARM, HANDLE, DRY, SPONGE, SOAPY, RINSE, CLOTH, SOAKED, GLASSWARE, WASHING UP, BLADES, TOWEL, DISH, SCRUBBED, BACTERIA

1b. Label the 4 C's

_____ _____ _____ _____

Food

Skill focus: Equipment Knowledge

2. Explain your understanding of safe knife skills with these true / false statements (T / F) then correctly identify key equipment.

Read each statement carefully!	T / F?
When using the claw method, the thumb is tucked behind the 4 fingers which are balanced with nails pressing onto the food being sliced.	
When using the claw method, all 5 fingers are positioned around the edges of the food being sliced.	
When using the bridge method, the fingers are on one side and the thumb on the other with the food held firmly in between	
When using the mini bridge, you only use thumb and one or two fingers to hold the food.	
When slicing, press from the middle of the blade downwards.	
Cooks knife, paring / vegetable knife, serrated knife and blended knife are all types of knives.	
Top and tailing means to cut the root and tip off a vegetable	
Squaring off means to create a flat surface / straight edge so that the food is easier and safer to slice.	
A sharp knife is safer to use than a blunt knife	

Draw a line to connect the equipment to the correct name

Peeler

Colander

Sieve

Spatula

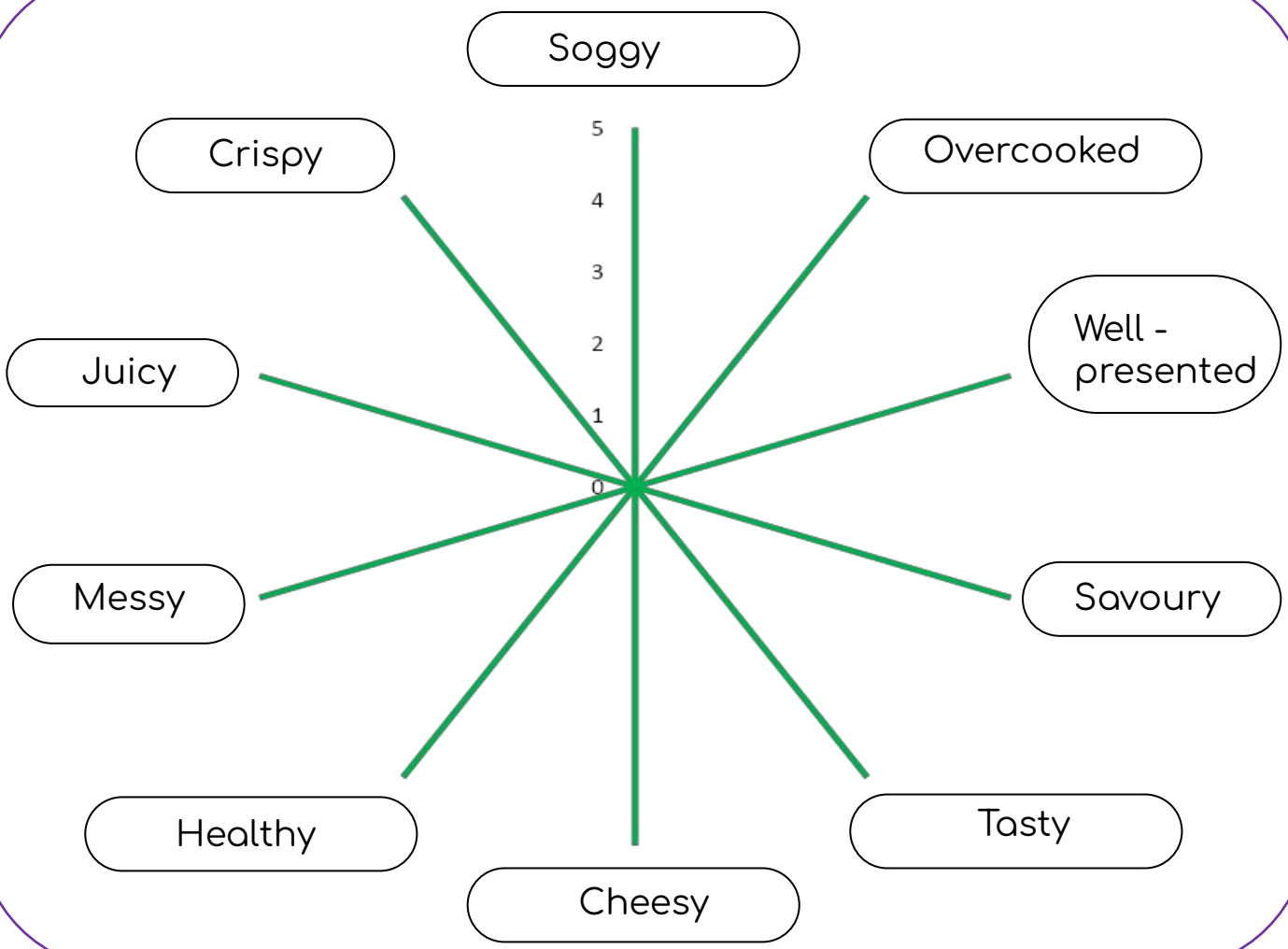
Fish slice

Food

Skill focus: Evaluating

3. Complete the sensory star diagram based on your pitta pizza. Use the sensory descriptors to place a cross on each green line to rate your finished product on a scale of 1-5. List the ingredients and cooking skills used.

Ingredients used:	Cooking skills used:



What was good?	What was not so good?	How could it be improved?

Food

Skill focus: Investigating

4. Food Labelling

Find a label from a ready meal, stick it in the middle of the page. Draw arrows to identify each mandatory piece of information (needed by law) that is shown on the label.

Name of food	Date of minimum durability	Nutritional declaration	Any special storage conditions	The net quantity of the food	Country of origin

Stick food label here, then draw arrows to the correct information in the boxes showing what is on the label

Eg. Contains gluten

Allergens information	Ingredients list	Instructions for use	Name & address of food manufacturer	Red, amber green traffic light reference intake

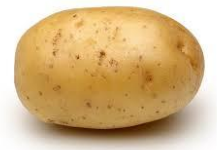
Food labeling is important to help us:

- Decide which food to buy
- Store and cook food correctly
- Be aware of the nutritional content of the food

Food

Skill focus: Research

5. Macronutrients and Micronutrients
Research the foods below and **categorise** the main nutrient in each food. Explain the **function** of the essential nutrient and say whether it is a macro or micro nutrient.

Food	Nutrient	Function
		
		
		
		
		
		
		

Food

Skill focus: Knowledge and Understanding

6. Food Science: Fermentation
Demonstrate your understanding of the fermentation process by numbering the descriptions in the correct order.

Add the water	Heat, moisture
Sieve the flour into a bowl with the salt and yeast	Place in the oven for 15 mins to bake
The water must be lukewarm.	Carbon dioxide which forms bubbles in the dough causing it to rise
Make a well in the flour	Knead the dough for 10 mins on a floured surface
Preheat the oven	For fermentation to take place, there must be 3 elements
Divide the dough into balls	And food
Place the dough balls on a baking tray	If the water is cold the yeast will not be activated.
The yeast will eat the sugar in the flour and produce	Leave the dough to prove and double in size.

Food

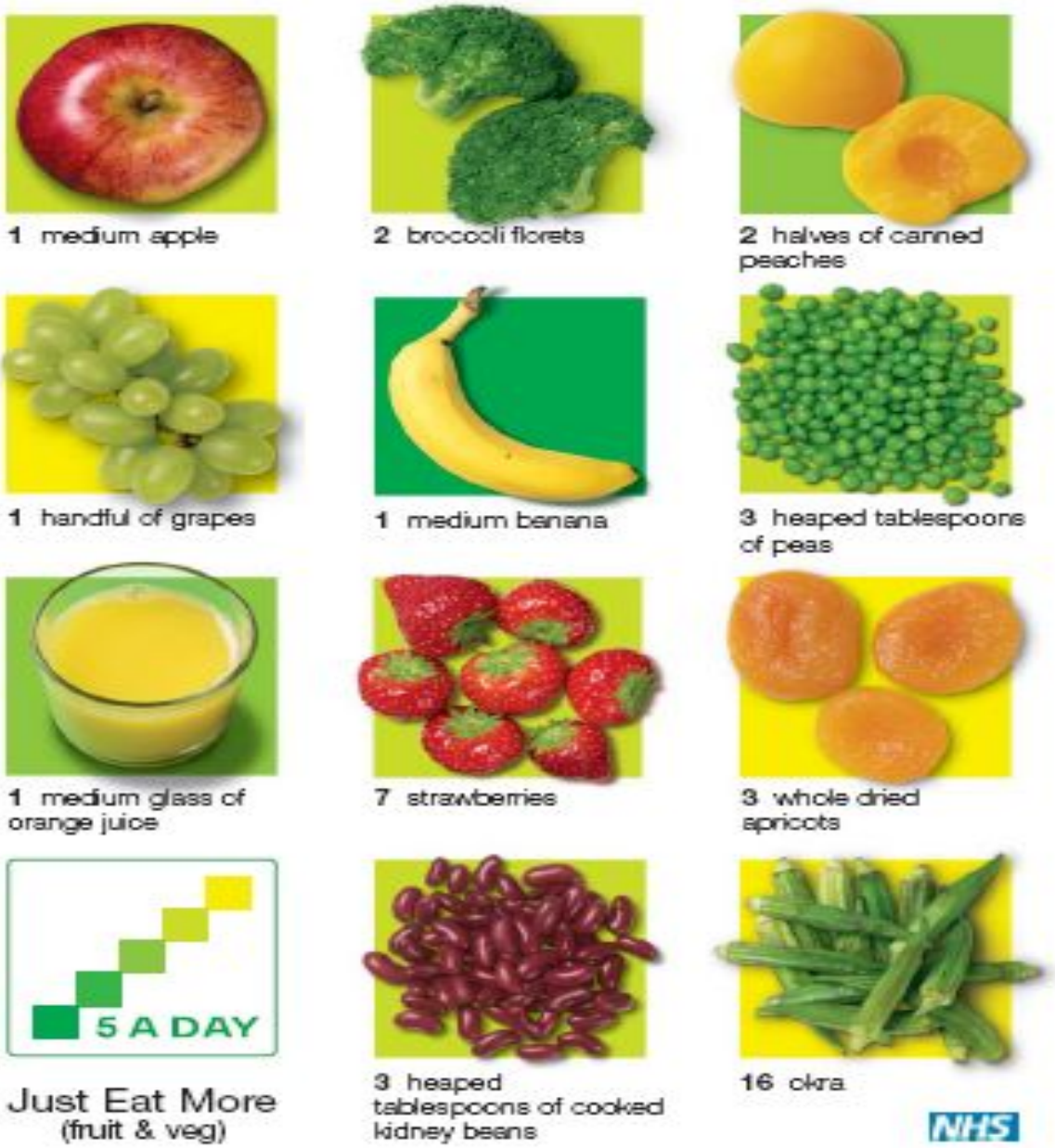
Skill focus: Research

7. Ten a Day
Keep a diary of what fruit and vegetables you eat for the next 5 days. Remember, you can include one fruit juice per day. Dried, canned and frozen fruit and vegetables also count. Ground provisions like sweet potato do not count, as they are carbohydrates.
Find creative ways to add more fruit and vegetables to your diet, e.g. smoothies, slices of fruit with your dinner, a piece of fruit when you watch your favourite programme, add raw vegetable sticks to your packed lunch.

	Breakfast	Lunch	Dinner	Snacks	No of portions
EXAMPLE	Frozen fruit orange	Spinach, peas, red onion	Broccoli Kale	Grapes Banana	7
Mon					
Tues					
Weds					
Thurs					
Fri					

Food

Skill focus: Research



Where can you get your 5 a day from?

Fresh, frozen, chilled, canned, 100% juice, and dried fruit and vegetables all count. The fruit and vegetables contained in convenience foods – such as ready meals, soups and puddings – can all contribute to 5 A DAY

Food

Skill focus: Investigating

8. Food Miles
Select 8 items from your fridge, freezer and food cupboard. Use the food label to find out the country of origin. Then use the website www.foodmiles.com to research how far the food has travelled.

Food item	Country of Origin	Food Miles
Apricots 	New Zealand	11690 miles

What seasonal choices could reduce your food miles and environmental impact?

I could .....

I could .....

I could .....

Product Design

Skill focus: Research & Investigating

1. Iconic Products
Below are several products which have become iconic. Research the product, write down the name of the product and the name of the designer. Explain what you think of the product and why it is iconic. Add your a product that you think is iconic to the last box.

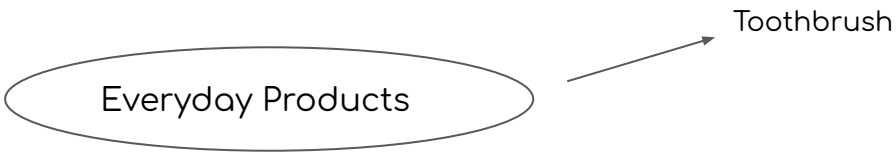
Product Image	Product Name and Designer	What do you think of the product? Why do you think it is iconic?
	Product Name: Designer:	
	Product Name: Designer:	
	Product Name: Designer:	
	Product Name: Designer:	
Your chosen product:	Product Name: Designer:	

Product Design

Skill focus: Research & Investigating

2a. Designer Research
Look at the examples of Philippe Starck's work below. Can you identify the function of each product?

2b. Create a mind map of everyday products you use in your daily life



Product Design

Skill focus: Research & Investigating

2c. Designer Research Continued

Philippe Starck is often thought to have considered form before function when designing products. Choose a product from your mind map to re-design, thinking about form; be creative and imaginative.

Your work must include:

- Design drawing including front and back
- Annotation explaining your idea, including materials, size, colour & design features

2d. Answer the following questions:

I redesigned a ..... because .....

I think my design is more successful that the original design because

.....

.....

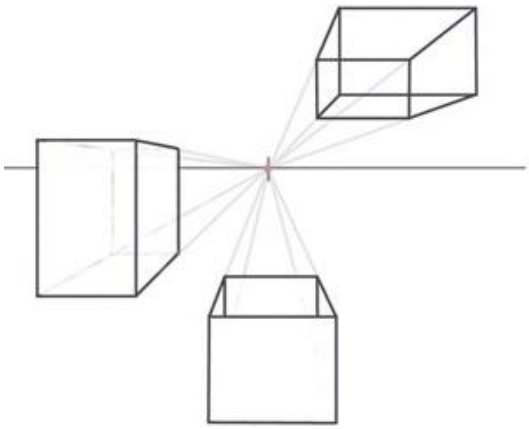
.....

Product Design

Skill focus: Drawing Techniques Part 1

3. Drawing in 1 Point Perspective

A drawing has one-point perspective when it contains only one vanishing point on the horizon line. This type of perspective is typically used for images of roads, railway tracks, hallways, or buildings; viewed so that the front is directly facing the viewer. Go to Youtube and search for One Point Perspective Drawing (https://www.youtube.com/watch?v=bjhkxFDvD78) and watch the 10 minute video. Then choose a shape and complete a one point perspective drawing in the space below.

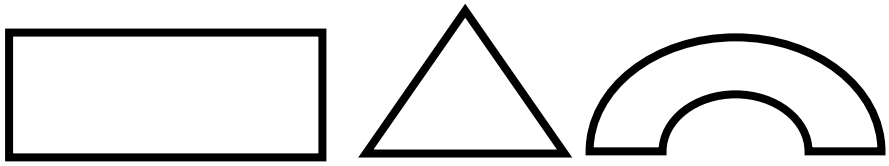


Remember:

1. Find yourself a vanishing point first
2. Draw construction lines in to the vanishing point
3. Mark the back edge of the shape
4. Close the 3D shape

Horizon Line

Some shapes you could try to draw in 1PP



Product Design

Skill focus: Drawing Techniques Part 2

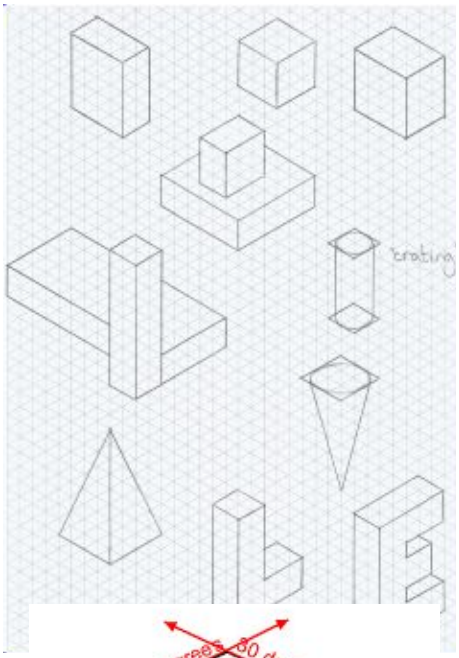
4. Drawing in Isometric

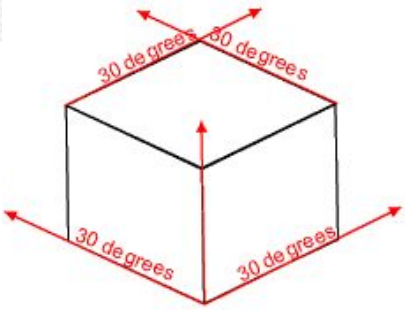
Isometric projection can be used to draw an object in 3D. It doesn't show perspective - things do not get smaller in the distance.

Rules for drawing in isometric:

- Vertical edges are drawn as vertical lines
- Horizontal edges are drawn 30 degrees (from horizontal)
- Parallel edges appear as parallel lines

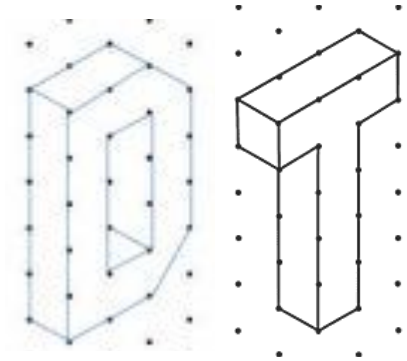
Look at the image below and create your own version on the grid. Make sure you use a ruler and pencil.

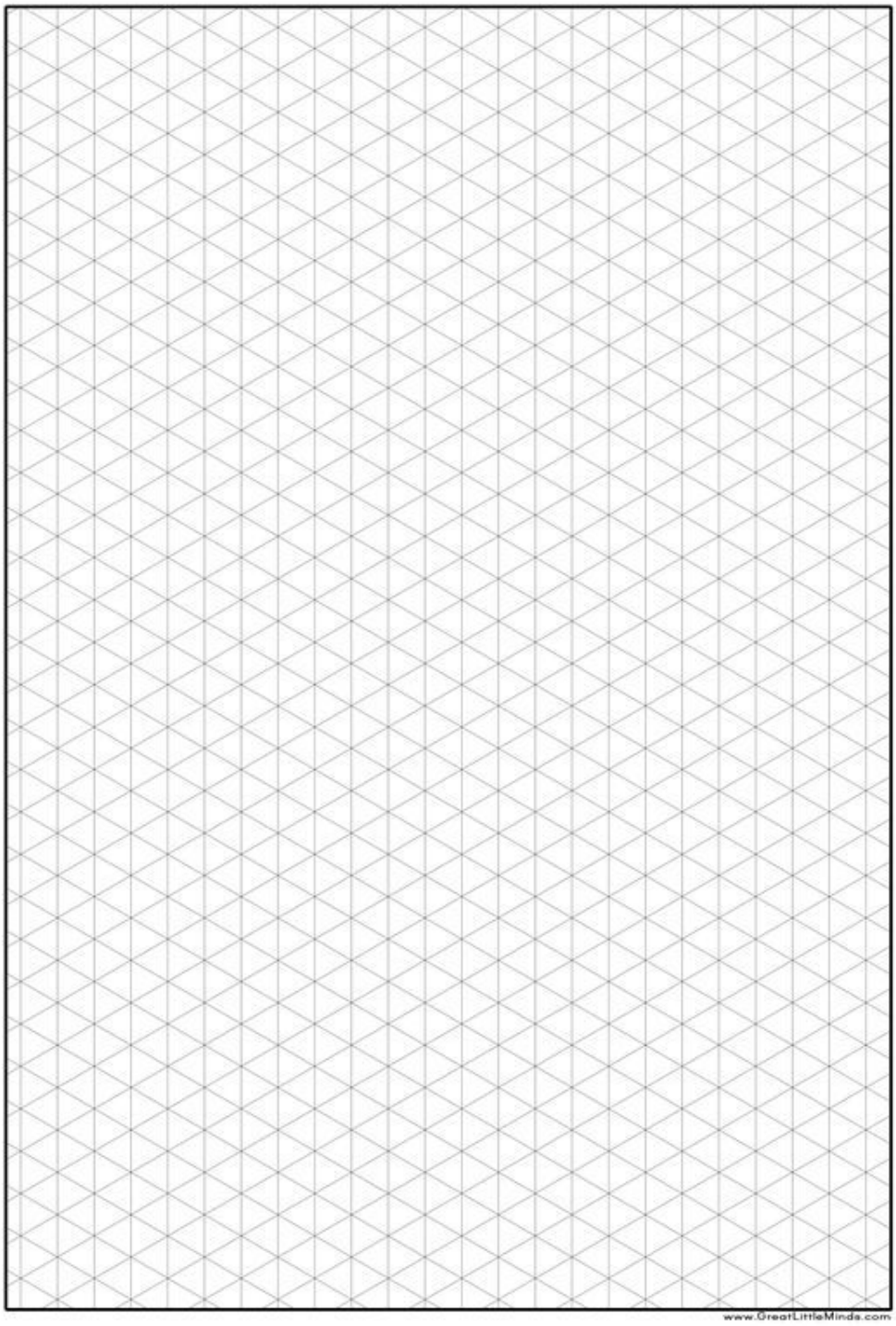




Extension:

Try to draw your initials in isometric





Product Design

Skill focus: Equipment Knowledge

5. Research the tools listed in the table below. Draw an image of each tool and write down its function. You will use each of these in your practical lessons over the course of the rotation.

Tool	Image	Describe what the tool is used for
Coping Saw		
Tenon Saw		
Flat File		
Vice		
Pillar Drill		
Glass Paper		

Product Design

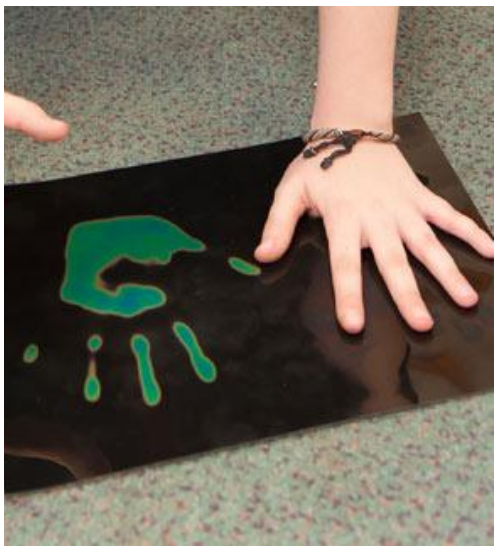
Skill focus: Research

6a. Read the information about smart materials and identify the stimulus of the products.

A **SMART MATERIAL** responds to different environments like light, moisture or temperature.

They are called **SMART** because they can sense and respond to change. Smart materials appear to '**think**' or some have a '**memory**' as they revert back to their original state.

What is the stimulus of the 3 smart products shown below:



Thermochromic

Thermochromic inks are used on a variety of products and respond to **HEAT**. The ink changes colour with a change in the temperature. Products include 2D stick on thermometers, egg timers that are placed in the water with the eggs and gimmick products like cups that change colour when hot water is added.

Photochromic:

Photochromic materials respond to changes in **LIGHT**. They have been used commonly for glasses where the lenses become dark in the sun/bright light, energy-efficient windows that switch from transparent to opaque spontaneously upon exposure to increasing levels of sunlight or even t-shirts that show new colours/images in sunlight.

Product Design

Skill focus: Research

6b. Read the information on shape memory alloys then answer the smart material questions.

Shape Memory Alloys

Have the ability to change shape and revert back to the original shape when heated. 'Nitinol' is a smart wire that changes length when heat is applied to it. You may have already had some in your mouth! If you have ever had a brace fitted to your teeth, the chances are it was made from 'Nitinol'. Your body heat attempted to shorten the wire, which then pulled your teeth back into shape.

'Memoflex' glasses are made from a shape memory alloy that can return to the original shape even when they have been very badly bent.

Questions:

1. What is a smart material?

2. Name 3 smart materials and their stimulus

3. Name a product that could be made using thermochromic inks?

4. Is the following a smart product?
   Explain your answer.

Product Design

Skill focus: Equipment Knowledge

7a. The Pillar Drill

There are two types of machine drill, the bench drill and the pillar drill. The bench drill is used for drilling holes through materials including a range of woods, plastics and metals. It is normally bolted to a bench so that it cannot be pushed over and that larger pieces of material can be drilled safely.

The larger version of the machine drill is called the pillar drill. This has a long column which stands on the floor. This can do exactly the same work as the bench drill but because of its larger size it is capable of being used to drill larger pieces of materials and produce larger holes.

Go to Youtube (https://www.youtube.com/watch?v=fGbnim4GcAE) and watch the video 'How to use a pillar drill'.

7b. List some health and safety rules that you need to follow when using the drill

.....

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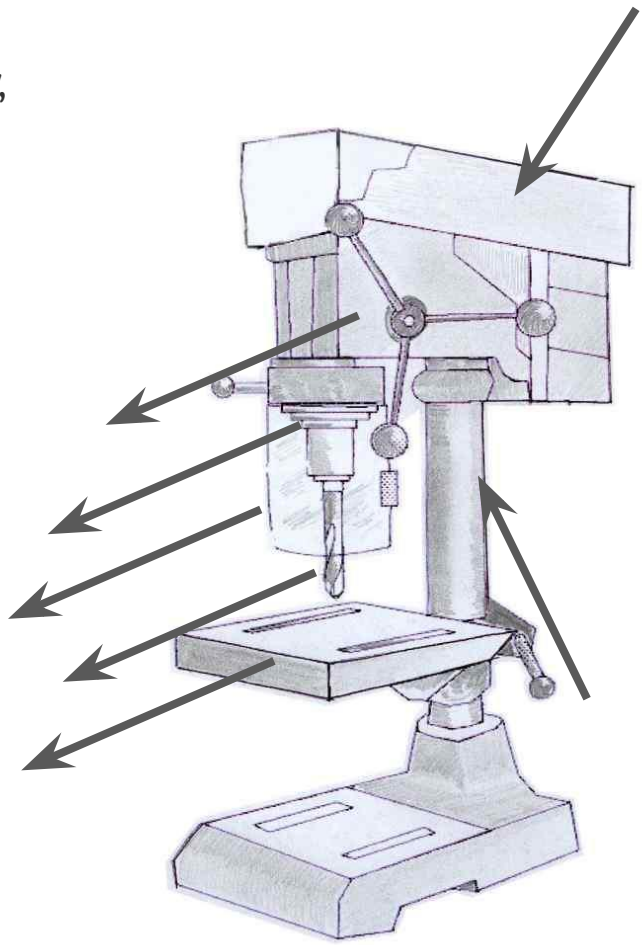
Product Design

Skill focus: Equipment Knowledge

7c. Read the steps carefully, then using your knowledge from the video explain using drawings how to drill holes using the pillar drill. Use extra paper if needed.

Step 1. Secure work. **Step 2.** Secure bit - remove key **Step 3**. Check safety before drilling. **Step 4**. Lower drill assembly carefully. **Step 5.** Turn off drill. Wait before touching it,l as it will be hot!!!

7d. Using the key words listed below, label the picture of the Pillar drill.



KEYWORDS

Chuck
Table
Handle
Pillar
Pulley gear casing
Guard
Drill bit

Textiles

Skill focus: Research

1. What is Pop Art? Create a pop art research page on the next blank page in your booklet. Read carefully below what you need to find out and include on your work.

- What is pop art? What inspired pop art (historical context)?
- What was the date/place of the movement?
- Who were the main artists?
- What are the main themes in the work?
- Explain with reasons what do you like/dislike about pop art?
- Include 5 different images of POP art, consider paintings, clothing and different products (name the artist & date under each image)

Remember:
•Do not copy and paste from the internet
•Write in your own words.
•Include pictures, facts, instructions, illustrations.
•Complete by hand or use the computer.
• Present work in the style of the movement

You could draw your own images or print images from the internet.
If you would like to make your research page bigger, then you can complete it on a separate piece of paper. We can then colour photocopy it to put it in your ILB.

Textiles

Skill focus: Research

Present your pop art research page below. Be creative and use colour!

Textiles

Skill focus: Investigating

2. A mood board is a type of collage using images, text or samples to convey a mood or a concept to an audience.

Designers use mood boards to help inspire their design work. They can use mood boards to help inspire the following:

- ❑ Colour scheme
- ❑ Motifs
- ❑ Patterns
- ❑ Shapes
- ❑ Text / Words
- ❑ Fabrics
- ❑ Trimmings e.g ribbons

2b. On the next page, create your own Pop Art mood board. Read the success criteria clearly before you begin.

Success Criteria

- Use a range of pop art inspired images
- Think about a colour scheme
- Do not stick anything down until you have planned where it will go
- Use glue not sellotape to stick things down
- Try to add texture into your work, for example you could add thread or fabric
- Try to include mixed media (internet images, magazine cuttings, colour charts, drawings, fabric, coloured paper or card).

Textiles

Skill focus: Investigating

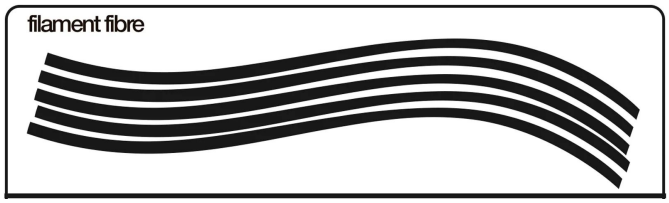
Present your Pop Art mood board below.

Textiles

Skill focus: Investigating

3. Textile Fibres

All textiles are made from fibres. Fibres are single hair like strands that come from either natural or synthetic sources. Some fibres are short, these are called staple fibres. Some fibres are long, these are called filament fibres.



Natural fibres come from sources found in nature such as animals, insects or plants. Look at the images below and identify the fibre and the source. The first one has been completed for you.

				
Fibre: *Cotton* Source: *Cotton Plant*	Fibre: Source:	Fibre: Source:	Fibre: Source:	Fibre: Source:

Textiles

Skill focus: Investigating

4. Felt

Read the information on felt and then answer the questions on the next page.

Felt is a soft fabric that has lots of good points. It can be very strong and has a wide range of uses. It is safe to use to make children's toys, it comes in a variety of colours, it doesn't fray when cut and is easy to sew or stick. However, felt cannot be easily made into clothing, as it cannot be washed without becoming damaged. Also, it is quite firm so cannot be used to make a wide range of clothes. But how is felt made and what from?

Traditionally, felt was made from sheep's wool, a natural animal fibre. This is because the sheeps wool has "scales", that is, a coarse textured surface. These are really important in the felt making process. Felt making is a very old craft and, though not practiced commercially in the UK today, it is still an important part of many cultures, including the Mongolian people and some rural parts of Russia, North America and Scandinavia.

To make felt, the wool is placed in a machine with soap and washed at a high temperature. The agitation of the machine combined with the soap and hot water, forces the scales of the wool hair to become permanently entangled. This tangling cannot be reversed or undone. Steam can be used to bend felt wool into new shapes, so for this reason it is commonly used to make hats. Wool felt is very expensive to buy, so a cheap alternative is acrylic felt.

Acrylic is a manmade fibre, engineered to have the same basic structure as wool, including the scales.

Textiles

Skill focus: Investigating

4b. Felt Questions

Answer the following questions in your own words, using the information provided on the previous page. Make sure all questions are answered in full sentences. Remember to check **SPAG**.

1. What are three good points about felt?

2. What is felt traditionally made from?

3. Why is felt commonly used to make hats?

4. Briefly explain how felt is made.

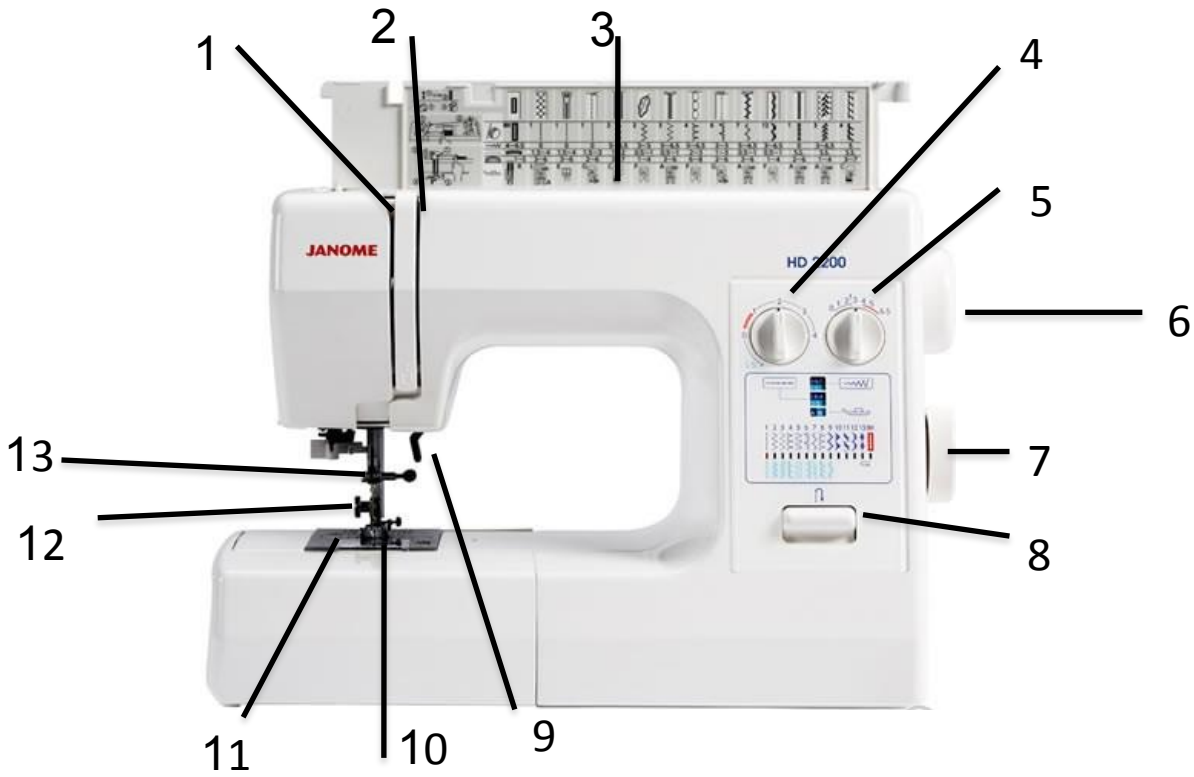
5. What is the cheap alternative to wool called?

6. Watch the film clip on You Tube about the making of felt for a traditional yurt https://www.youtube.com/watch?v=gJ0uojUHYdA Briefly describe how this type of felt is made and how it compares with the felt making that you described in question 4.

Textiles

Skill focus: Equipment Knowledge

5. Parts of the sewing machine
During your Textiles lessons you will be learning how to use the sewing machine. It is important that you know the names of the different parts of the sewing machine. You are using a Janome HD2200.



Label the different parts here, use the keywords below to help you:

1.	2.	3.
4.	5.	6.
7.	8.	9.
10.	11.	12.
13.		

Key Words:

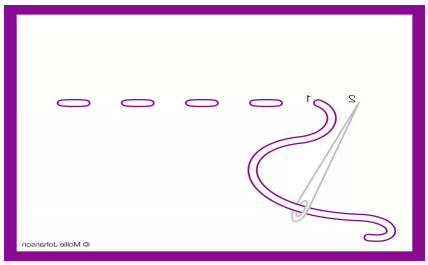
Take up lever	Hand wheel	Presser foot lever
Needle Hook	Presser Foot	Stitch length control
Stitch selector wheel	Top thread guide	Needle
Thread spool	Stitch width control	
Reverse stitch control	Bobbin cover plate	

Textiles

Skill focus: Investigating

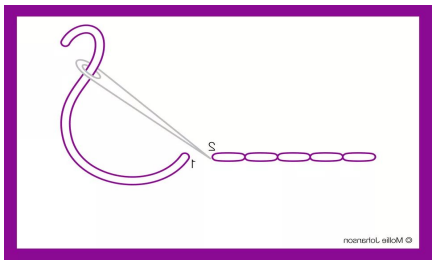
6a. Embroidery Practice

There are many decorative techniques that are used to add interest to fashion and textile products. Embroidery is one of the most common. Using a needle and thread, practice these 5 embroidery stitches on some fabric. If you do not have any fabric at home, you can always stitch onto paper. Use the tutorials to help you.



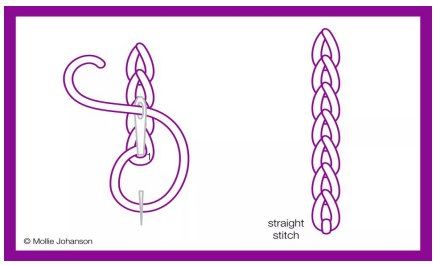
Running Stitch

https://www.youtube.com/watch?v=ui6cZF6GPgQ



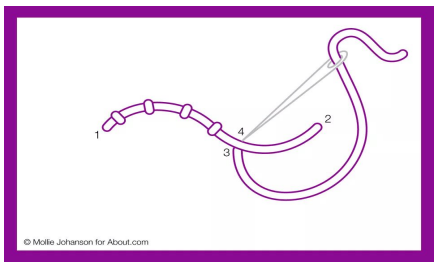
Back Stitch

https://www.youtube.com/watch?v=kqj_lUo1tJo



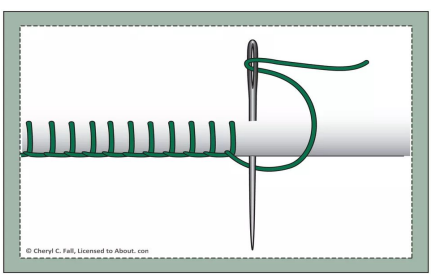
Chain Stitch

https://www.youtube.com/watch?v=BslGFb4L7To



Couching Stitch

https://www.youtube.com/watch?v=LlkW-gpD-Yw



Blanket Stitch

https://www.youtube.com/watch?v=HWiRU7WoQ6c

Textiles

Skill focus: Investigating

6b. Mount your embroidery practice in the space below and label the embroidery stitches you have used.

Textiles

Skill focus: Designing

7a. Pop Art Design Challenge

Pop Art has been a theme that has been multidisciplinary, from art to fashion. Fashion designers have used pop art as a source of inspiration for their collections for decades.

You need to use your research and mood board to inspire a fashion design(s) inspired by Pop Art. You can choose menswear, womenswear or accessories. Sketch out your initial ideas below, before moving onto your final design.

Moschino S/S 2014

Yves Saint Laurent Mondrian Dress F/W 1965

Initial Ideas

Textiles

Skill focus: Designing

7b. Pop Art Design Challenge

Complete your final design on this page. You can collect a figure template from school or print one from the internet if you would like to draw your design onto the body.

Make sure you colour your design with coloured pencils and label the key features such as: Decorative techniques, fastenings, fabrics, special features

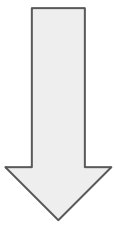
Final Design

Feedback & Reflection

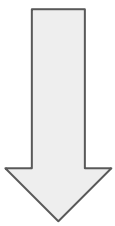
How have you done?

In this section you will be reflecting on your progress in Design & Technology across the three specialist areas: Food, Product Design and Textiles.

1. You will be guided on how to assess your strengths and/or weaknesses across all skill areas by completing a self reflection grid. It is important that you do not complete this self reflection until you have completed that specialist rotation at school.



2. Next you will review your understanding of key concepts in Design & Technology by answering a series of questions. Most of the information to answer those questions will be content found in this ILB or it will be content that you have studied in your lessons. In some cases you will be asked to conduct research to find out the answer to the question.



3. Finally, independently we would like you to recognise and understand what you have done well, as well as be aware of areas for improvement. Therefore you will be asked to write an achievement (something you feel you have done well) and also consider a target for your development in that subject area. We have included example targets to help you with this process.

Feedback & Reflection

Specialism: Food Technology

Self Reflection: Read through each success criteria statement and tick whether you feel your knowledge and skills are competent (green), emerging (amber) or limited (red).

Success criteria	Red	Amber	Green
I understand and can demonstrate how to wash up safely and hygienically. I can use the appropriate cleaning equipment and understand how to prevent the growth of bacteria in the kitchen.			
I was able to peel, slice and chop my fruit accurately, wash up and put away equipment hygienically and safely.			
I was able to grill my pitta pizza until it was golden brown, vegetables evenly sliced and grated cheese safely. I used the cooker safely. I also washed up and put away equipment hygienically and safely.			
I was able to prepare vegetables suitable for a stirfry, use the wok, cook my food quickly so that vitamins were retained and texture still crisp. I understand how different cooking techniques suit different dishes.I also washed up and put away equipment hygienically and safely.			
I was able to measure ingredients accurately, knead my dough using the correct technique, shape my dough and bake it until well cooked. I can explain fermentation. I also washed up and put away equipment hygienically and safely.			
I can peel and chop fruit with more confidence safely. Ican use stewing, rubbing in and baking techniques to prepare a quality apple crumble. I wash up and put away equipment efficiently and hygienically.			
I understand the process of making sugar and what sugar alternatives are available. I know the effects of eating too much sugar on my body. I can prepare sugar free banana muffins			
I can evaluate my own or others cooking and provide helpful feedback for improvement. I understand the importance of sensory descriptors to analyse a food product.			

Feedback & Reflection

Specialism: Product Design

Self Reflection: Read through each success criteria statement and tick whether you feel your knowledge and skill is competent (green), emerging (amber) or limited (red).

Success criteria	Red	Amber	Green
I understand and can demonstrate how to be safe in the workshop.			
I was able to mark out my wooden base correctly, using a steel ruler and a try-square. I was also able to place my wood in the vice correctly.			
I was able to hold the tenon saw correctly, and cut the corners of my pine base effectively. The corners were cut equally and straight.			
I was able to use the flat file correctly and safely to shape the corners of the pine base.			
I was able to use the disc sander correctly and safely. I was able to use the disc sander to make my pine smooth to touch.			
I was able to use the coping saw to cut the shape of my mobile phone stand out of acrylic plastic. I was able to use the coping saw safely and correctly, without breaking the coping saw blade. I was able to cut curves.			
I was able to use a file and wet & dry paper to shape my acrylic and make it smooth. I was able to remove all the scratches and white saw marks from the edge of the acrylic.			
I was able to use the pillar drill correctly and safely to drill a hole in my acrylic, so that it would be able to be attached to the pine base.			
I was able to use the line bender correctly and safely to bend my acrylic. I was then able to attach the acrylic to the wooden base, and fix it in place with a small screw. The stand was attached securely to the base.			
I can evaluate my own work, considering areas of strengths and areas for development.			

Feedback & Reflection

Specialism: Textiles

Self Reflection: Read through each success criteria statement and tick whether you feel your knowledge and skill is competent (green), emerging (amber) or limited (red).

Success criteria	Red	Amber	Green
I understand and can demonstrate how to be safe in the Textiles room.			
I understand the role of textiles within society and how we use textiles in our everyday lives.			
I was able to prepare my felt applique sample accurately. I was able to cut my shape accurately using fabric shears and pin it onto the base fabric.			
I was able to thread a needle with hand embroidery thread. I was able to knot the thread independently.			
My hand embroidery was accurate, with each stitch being a similar size and an even distance from the edge of the fabric. I made sure that my knot was on the underneath of the fabric.			
I was able to use fabric paint accurately, to make a neat sample with defined edges.			
I was able to stick to the design brief and design specification when designing my cushion cover, using the pop art theme.			
To create accuracy when marking out my cushion, I successfully made a pattern and marker. I used this to get each section the same size.			
I successfully decorated my cushion cover using applique, hand embroidery and fabric paint. My decoration was accurate and reflected my design idea. The applique was sewn securely and the paint work was neat.			
I was able to use the sewing machine to complete a sewing machine driving test and sew my cushion cover together. I could control the machine successfully.			

Retrieval Practice Questions

Specialism: Food

1. Why is it important to tie up hair before you enter the food room?
2. Slipping, burn/scald, cut are 3 hazards in the kitchen. Name 3 more...
3. Which cloth is used for wiping down the worktop?
4. Name the two key methods for holding a knife?
5. Why is grilling not a suitable cooking method for a joint of meat or loaf of bread?
6. What is a ranking test?
7. Name the 3 essential conditions for fermentation to take place?
8. Name the pie shaped sections on the Eatwell guide?
9. How many calories does the Eatwell guide recommend for adults?
10. Why are cakes and biscuits shown outside the Eatwell guide circle?
11. Name the 5 types of commodities in the carbohydrates section of the Eatwell guide?
12. Give an example of who might find the information on the traffic light label very important to their health?
13. Identify the two plants that sugar comes from and which one is sustainable?
14. What are macro-nutrients and micro-nutrients and how are they different?
15. How does wasting food affect climate change?

Retrieval Practice Questions

Specialism: Product Design

1. Name 3 H&S rules that need to be followed when you are in the workshop?

2. Why is it important to wear goggles when you use the pillar drill?

3. What is a tenon saw used for?

4. What is coping saw used for?

5. Why is a vice important?

6. What is a hardwood? Give examples

7. What is a softwood? Give examples

8. We have 3 types of glass paper in the workshop that are identified easily by their colour (red, amber and green). Explain what the difference is between them?

9. Explain the term 2D?

10. Explain the term 3D?

11. Why is it important for a designer to know who they are designing for (their target audience)?

12. What is a product analysis?

13. What is a smart material?

14. Explain the term thermochromic?

15. Research and name 3 famous designers who have designed chairs?

Retrieval Practice Questions

Specialism: Textiles

1. What is a mood board?
2. How can a mood board be used to help a designer?
3. Explain the difference between a staple fibre and a filament fibre
4. Name 4 natural fibres?
5. Research and find out the names of 2 synthetic fibres.
6. Research to find out 3 fabrics that are made from cotton
7. Research to find out 3 fabrics that are made from silk
8. What is felt traditionally made from?
9. What is a decorative technique?
10. What is applique?
11. Give a brief step by step of how to make an applique sample
12. Write a step by step of how to complete a running stitch
13. Name 3 health & safety rules that are specific to Textiles?
14. What is the difference between a pin and a needle?
15. Why should fabric shears only ever be used to cut fabric and not paper?

Feedback & Reflection

Next Steps: Achievements and Targets

Having completed your self assessment and completing the questions in each of the specialist areas; it is now time to consider your next steps by considering your achievements and by setting a target for each specialist area. If you are unsure of a suitable target, you could consider using one of the targets on the following page to help you.

Food:

Achievements:

Target for development:

Product Design::

Achievements:

Target for development:

Textiles:

Achievements:

Target for development:

Feedback & Reflection

Example Targets:

Consider using some of these targets to help you

Written Work
I should always complete tasks fully.
I should use complete sentences to write all my answers.
I should use my own words when completing written work and not copy and paste from the internet
I should read the question or task more carefully and answer the specific question.
I should try to answer questions in more detail.
I should try to use more technical language when completing written tasks.
I need to learn how to spell key words correctly.
I should consider using more mixed media/creativity when presenting my work.
I should always check previous targets & feedback from my teacher to ensure I act upon advice.
Research & Designing
My annotation needs to be more detailed when I am designing ((name, describe & evaluate).
I need to improve the presentation of my design ideas.
I should try to add further creativity to my design ideas using my research to help inspire me.
I should refer to my design specification when developing design ideas.
I should consider social, moral and environmental issues when researching, creating and annotating my work.

Feedback & Reflection

Example targets continued:

Analysis
I must ensure all detail is included on diagrams
When analysing other peoples' work I must also give my own opinion of their work.
When analysing my own work I should gain the opinions of others.
Testing & Evaluating
I must always ensure when testing my work I refer back to my design specification.
When evaluating I must refer to test results, including feedback from others. This includes sensory testing results in food.
I should try to include visual aids/photographs when evaluating my work.
I should always consider what has been successful in my work and what could be developed/improved.
Making
I should continue to practise my practical skills and try to improve my confidence.
I should try to ensure my product has a high level of precision and accuracy.
I should try to choose the correct tools and equipment for the right task.
I should try to be more independent when making my product..
I should try to ensure that all components are securely attached to my product.
I should ensure that my product has a high quality finish.

Curiosity

Why not broaden your understanding of Food, Product Design & Textiles by visiting some websites/galleries or markets.

Websites / Blogs / Online Magazines to browse:

- Tate.org.uk/art
- Vogue
- Artreview.com
- Design Museum
- Wired
- Wallpaper
- Blueprint
- craftscouncil.org.uk
- artmonthly.co.uk
- elephant.art
- Pinterest
- BBC Good Food
- Loving it Vegan
- Little Blog of Vegan

Galleries /Museums/Markets to Visit:

> Tate Modern

> Tate Britain

> The Design Museum

> The Fashion and Textiles Museum

> The British Museum

> The Victoria & Albert Museum

> Herne Hill Market / Brixton Market / Borough Market

For more information or guidance on completing your Independent Learning Booklet, speak to or email your Design & Technology teacher:

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