



Sirius

ACADEMY NORTH

WHERE STARS ARE BORN

Design Technology Department



KS2-3 Transition Practice Booklet

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Food and Nutrition



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Health and safety is really important in food and nutrition. You need to make sure you are safe so you do not hurt yourself or other people.

Seasonal produce means that food are in season to be harvested and eaten. It is usually fresher and cheaper to buy. It tastes a lot better too.

Seasonality is when food is ready to be harvested and eaten. This is at different times of the year depending on the product.

Cooking methods is how you cook food for it to be eaten. This can include steaming, boiling, frying and baking.

Healthy and varied diet is very important so your body gets the right nutrients for you to survive and grow.

Food groups are important as you need to have a varied amount of each. Food groups include fruit and vegetables, carbohydrates, proteins and dairy.



Practice 1- Knowledge

Secure the basics

| | |
|---|--|
| Why is health and safety important? | |
| What is meant by the term seasonal produce? | |
| What is seasonality? | |
| Name three different cooking methods: | |

Master the topic

| | |
|---|--|
| Why is a healthy and varied diet important? | |
| Name three food groups and give three examples of each: | |

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Preparing and cooking processes

Preparing Processes

Preparing processes are the different ways that we get food ready to be eaten:

- **Slicing:** cutting food using a knife.
- **Mixing:** to blend ingredients together, using a spoon, blender, or whisk.
- **Weighing/measuring:** to get the right amount of an ingredient, using scales and/or measuring spoons.
- **Grating:** to peel a layer off something (like carrots or cheese) using a peeler or grater.
- **Serving:** making food look nice on the plate.



Cooking Processes

Cooking processes are the different ways that we heat food before it is eaten:

- **Baking:** to cook food in a heated oven.
- **Boiling:** to cook food in boiling (100°C) water.
- **Frying:** to cook food in a pan of heated oil.
- **Grilling:** to cook food by putting it under a hot grill (like a radiator in a cooker).
- **Griddling:** to cook on a flat iron plate called a griddle.
- **Steaming:** to cook using steam, normally from boiled water.





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Preparing and cooking processes

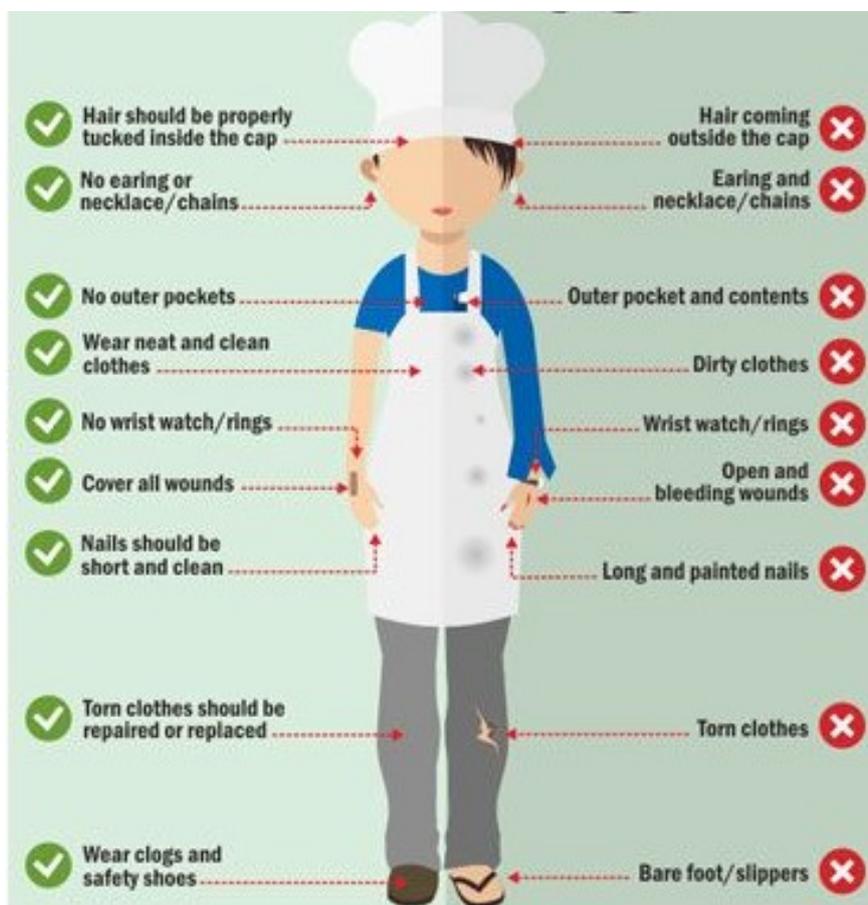
| Secure the basics | |
|--|--|
| How would you describe mixing? | |
| Define weighing: | |
| What food would you traditionally grate? | |
| How do you boil food? | |
| How do you fry food? | |
| How do you steam food? | |
| Master the topic | |
| Define preparing processes: | |
| Define cooking processes: | |

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Health and safety

When preparing, cooking and serving food in the food room it is really important to be safe and hygienic. If not, you could hurt yourself and other people. Some rule we follow whilst in the food room include:

- Remove any jewellery and tie back long hair.
- Wear an apron and roll up your sleeves. Tie your apron securely.
- Wash your hands with hot water and antibacterial soap, for at least 20 seconds. Then dry with paper towels
- Washing your hands should be done before, during and after preparing food.
- Use different chopping boards and knives for raw meat & other foods. This stops bacteria spreading.
- Use a food thermometer to check that food is cooked through. All food should be cooked to 75°C.
- Check the dates on food, and check for allergies & diet e.g. vegetarian, vegan.
- Make sure that you clean up properly after yourself.





Secure the basics

| | |
|--|--|
| What should you remove to complete a practical? | |
| What should you put on to complete a practical? | |
| How would you wash your hands? | |
| Why would you wash your hands? | |
| Why would you use different chopping boards for different ingredients? | |

Master the topic

| | |
|--|--|
| Why would you cook certain foods? | |
| What are the problems if you have allergies? | |

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A healthy and varied diet

Food Groups

You should now know how much to eat of each food group:

- **Fruit and vegetables** – Eat lots! About 5 portions per day.
Good for vitamins, minerals and fibre. Fresh, tinned and juices all count.
- **Carbohydrates** – Eat lots! Include in every meal.
Good for energy (carbohydrates), vitamins, minerals and fibre.
- **Proteins** – You should eat about 2-3 portions per day.
Good for muscle-building (protein), vitamins and minerals.
- **Dairy** – You should eat about 2-3 portions per day.
Good for muscle-building protein, vitamins and minerals.
- **Fats and Sugars** – Only eat occasionally and in small amounts.



A Varied Diet

In order to stay healthy, it is important that we eat a balanced diet of foods from each of the five food groups. Too much of any one food group is not healthy for us.

- You should be able to create a weekly food plan, incorporating a healthy and varied diet of foods across each day and the week.
- Your plan should apply your understanding of which foods within groups have advantages and disadvantages (e.g. 'fish has less fat than red meat' and 'use a low-fat butter alternative').

| | MON | TUE | WED | THU | FRI |
|----------------------------|---|--------------------------------------|---|--|---|
| BREAKFAST | Green Smoothie | Berry Smoothie | Creamy Smoothie | Green Smoothie | Berry Smoothie |
| Mid-morning Snack | Easy Green / Ginger Shot | Easy Green / Ginger Shot | Easy Green / Ginger Shot | Easy Green / Ginger Shot | Easy Green / Ginger Shot |
| LUNCH | Balance Soup / Protein Bread (2 slices) | Glow Soup / Protein Bread (2 slices) | Nourish Soup / Protein Bread (2 slices) | Refuel Soup / Protein Bread (2 slices) | Balance Soup / Protein Bread (2 slices) |
| Mid-afternoon Snack | Snack Bar | Snack Bar | Snack Bar | Snack Bar | Snack Bar |
| DINNER | Coconut Curry | Mac & Greens | Vegan Chilli | Coconut Curry | Vegan Chilli |

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A healthy and varied diet

| Secure the basics | |
|--|--|
| How many portions of fruit and vegetables should you have? | |
| Why do we need carbohydrates? | |
| How many portions of protein should you have a day? | |
| Why do you need dairy foods? | |
| How much fats and sugars should you have? | |
| Master the topic | |
| How could you adapt a food plan to be healthier? | |

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Where food comes from

Grown, Raised, Caught

It is important to know that foods are grown, raised and caught more easily during certain seasons. This is called seasonality.

Some food is grown

In order for us to get cucumbers, we need to grow a cucumber plant. Cucumbers grow on the vines of cucumber plants. In the UK, the cucumber season is between March and June, when they grow most naturally in the seasonal conditions.

Some food is raised

In order for us to be able to eat chicken, we need to raise chickens. Eggs are laid by female chickens. In order to be sustainable, we need to know that most chicks are born in the spring/ summer seasons.

Some food is caught

In order for us to get tuna, we need to catch the tuna-fish. There are also seasonal changes for caught food, as animals can migrate. E.g. a lot of tuna is caught between November-May in the Pacific off San Francisco.



Eating Sustainably

With modern technology, it is possible to grow and rear food out of season. However, growing and rearing foods out of season consumes a lot of energy, because the process takes place in artificial conditions, and needs a lot of resources, for example heat, light, water and nutrients. Eating sustainably is about finding the right balance between your food needs and your food choices. It helps to reduce our carbon footprint.



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Food from around the world

Seasonal Foods around the World

It is important to remember that the seasons are different in different places over a year. In the northern hemisphere, spring takes place between March and May. In the southern hemisphere, spring is September to November. Therefore, foods are in season in different places at different times of the year. Cucumbers can be naturally grown in the northern hemisphere March-June, and in the southern hemisphere October-December.



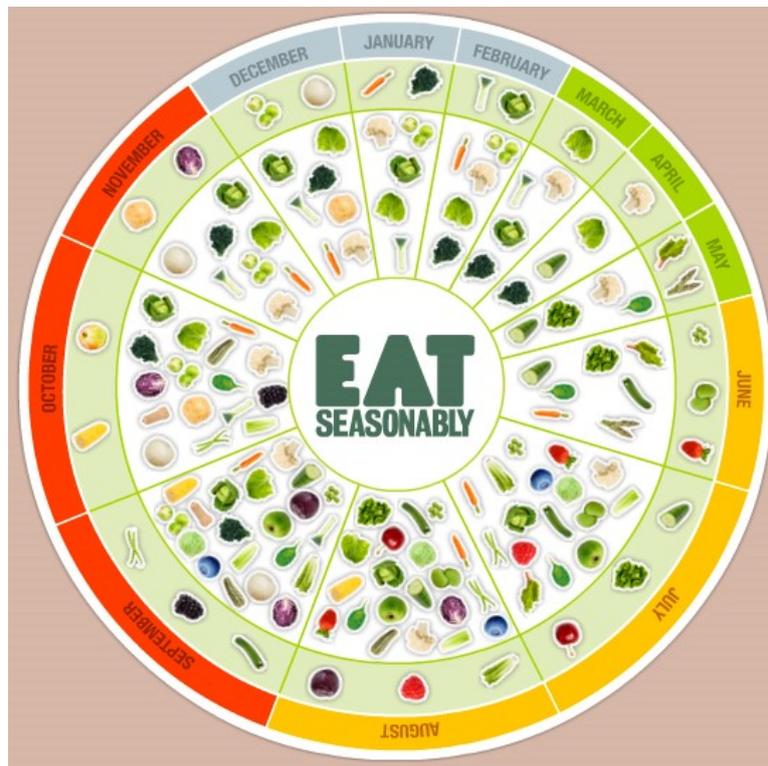
UK Seasonal Foods

Winter: Apples, Beetroot, Sprouts, Cabbage, Leeks, Mushrooms, Onions, Parsnips, Pears, Turnips.

Spring: Artichokes, Asparagus, Aubergines, New Potatoes, Rhubarb, Rocket, Spinach, Spring Greens, Spring Onions.

Summer: Blackcurrants, Broad Beans, Cherries, Chillies, Courgettes, Gooseberries, Garlic, Strawberries, Water Cress.

Autumn: Butternut Squash, Cauliflowers, Chicory, Elderberries, Marrow, Pumpkin, Wild Mushrooms, Squash.



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Where food comes from

Secure the basics

| | |
|--|--|
| Define food that is grown: | |
| Give examples of food that is raised: | |
| Define food that is caught: | |
| Give examples of food harvested in Spring: | |
| Give examples of food harvested in Autumn: | |

Master the topic

| | |
|--|--|
| Describe sustainability: | |
| Discuss the differences in seasonality in the different hemispheres: | |

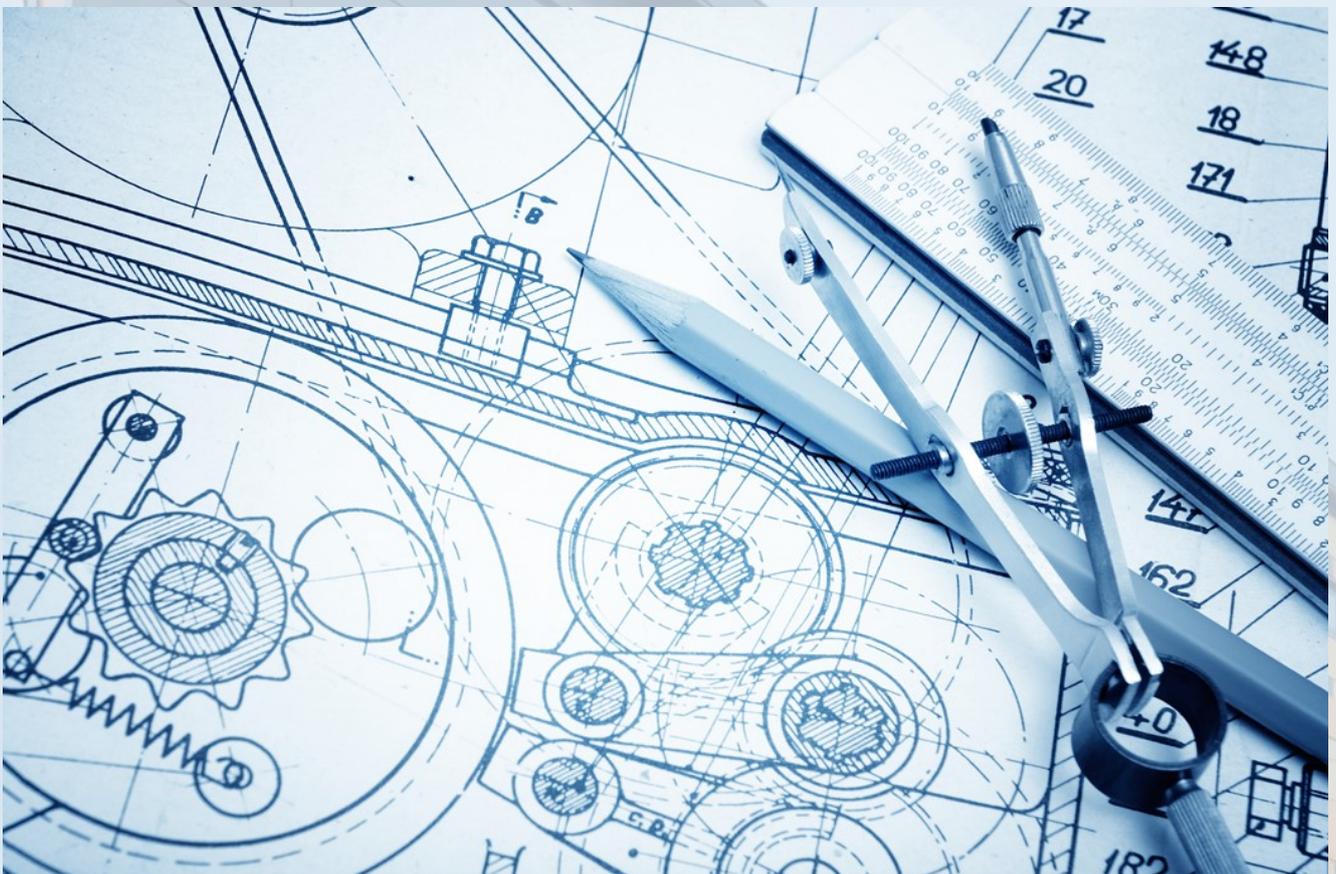


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Resistant Materials



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Practice 6 - Knowledge

Health and safety is really important in the workshop. You need to make sure you are safe so you do not hurt yourself or other people.

Hand tools can seem to be less of a threat than powertools however these are usually much sharper than their powered alternatives. If left around these can cause injury for the following class entering the room.

Power tools are tools which incorporate a motor to remove the amount of force required by the user to, for example, sand a piece of wood.

To make remove material and alter a products appearance we can **cut** areas off, **file** away (a lit-

Being careful to remover material slowly is very important so you do not remove too much— You can remove materials but it is impossible to put it back. Think about cutting a slice from a cake. If you were to put it back, it may look similar but it will never be a complete cake again with its full strength and properties.

Knowledge of **Material properties** are important as you need to be able to identify and select the correct material to do a job. Material properties vary within their groups; in resistant materials you will use wood/timber predominantly as it is suitable for your projects and sustainable



Practice 6 - Knowledge

Secure the basics

Why is health and safety important in the workshop?

Are Hand tools any less dangerous when left unaccompanied in the workshop?

What is a power tool?

Name three different ways to remove material and alter a products appearance or shape

Master the topic

Why is it important that you work slowly and **carefully** when removing material?

Which material will you be using in the workshop in year seven?

Why has that material been chosen?

Health and safety

When producing any practical work in the technology workshop it is essential that you are wearing the correct PPE (Personal Protective Equipment). Goggles must be worn only when using a powered machine; however the general rules when working practically in the workshop include:

- Remove any loose jewellery and bracelets
- Tie back long hair.
- Wear an apron and roll up your sleeves. (Tie your apron securely!)
- Place all stools away from your work bench





Health and safety

| Secure the basics | |
|---|---|
| What should you remove before completing a practical? | |
| What should you put on to complete any practical? | |
| Where would you place your bags? | |
| When must you wear goggles? | |
| Why would you wear an apron? | |
| Master the topic | |
| What might happen to your hair if you failed to tie it up when using a fast moving machine? | <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> |
| Why is it best practice to put all tools away immediately after using them? Why should you not just leave them lying around on the desk for someone else to us? | <hr/> |

Timber (Wood)

Softwoods

Softwood comes from coniferous trees.

These take about 30 years to grow.

They do not lose their leaves – these trees are evergreen. The leaves are needle like.

Softwoods have less grain it is wider apart. It can be very knotty. This makes it:

Weaker along the grain and knots

Less durable

Less aesthetically pleasing

Hardwoods

Hardwood comes from deciduous trees.

These take about 100 years to grow.

They lose their leaves every winter – these are big broad leaves.

Hardwoods have more grain and it is closer together this makes it;

Structurally stronger

More durable

Timbers/ Woods are renewable, this means we can always plant more when we chop one down. Trees should be grown and managed in sustainable forests, any product made from timber should have this symbol on it.



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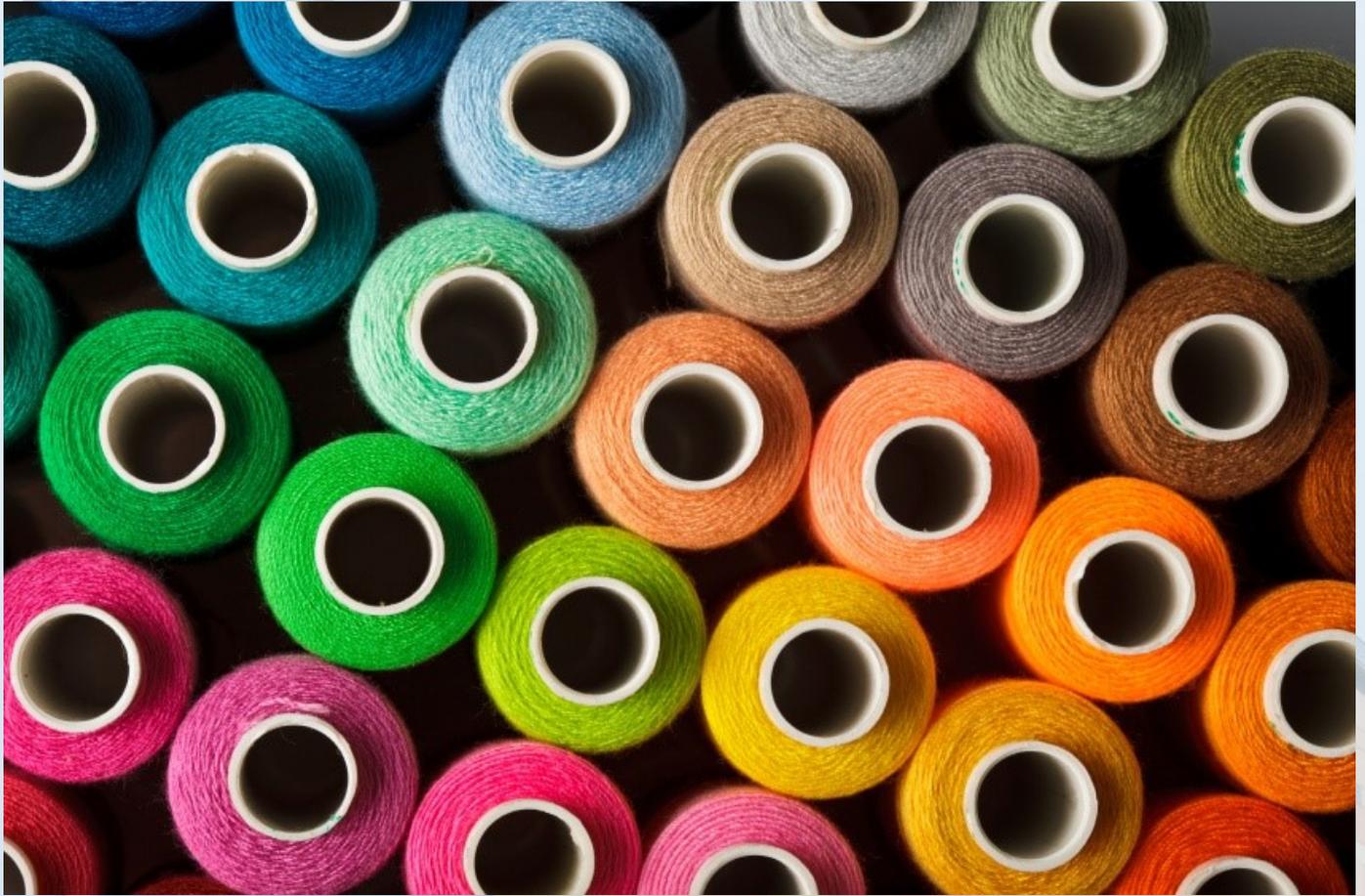
Timber (Wood)

| Secure the basics | |
|---|---|
| Where do softwoods come from? | |
| Where do hardwoods come from? | |
| Name 2 softwoods: | |
| Name 2 hardwoods: | |
| Master the topic | |
| Explain the difference between the grain in softwood and hardwood and how this affects its strength, cost and environmental impact. | <hr/> |
| Why are woods a renewable and sustainable resource? | <hr/> |



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Textiles



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Health & Safety in the Textiles Room

Place bags and coats under the table.

When you leave your stool push it under the desk.

Turn the iron off when you are finished.

When threading up the sewing machine make sure it is turned off.

Do not bring food and drink into the classroom.

Sit down when using scissors and needles.

When carrying scissors hold them in your fist with the blades pointing down.

If you are unsure or have a question, ask.

Noise levels need to be low so you can hear the teacher.

Do not distract someone when they are using electrical equipment.

Keep Long hair tied back.

Don't wear jewellery in the textiles classroom.

Keep hands away from the needle on the sewing machine.

Health & Safety in the Textiles Room

Fill in the missing words in the sentences below, to make a list of the health and safety rules.

- Place bags and coats the table.
- When you leave your stool push it under the
- Turn the iron when you are finished.
- When threading up the sewing machine make sure it is
- Do not bring into the classroom.
- Sit down when using and needles.
- When carrying scissors hold them in with the blades pointing
- If you are unsure or have a question,
- Noise levels need to be so you can hear the teacher.
- Do not distract someone when they are using electrical equipment.
- Keep Long hair
- Don't wear j.....y in the textiles classroom.
- Keep hands from the needle on the sewing machine.
- No r.....g in the classroom.



Tools & Equipment

| Secure the basics | |
|---------------------|--|
| Pinking shears | Stop the edge of fabric from fraying |
| Tailors chalk | Transfer marks onto fabric |
| Fabric shears | Scissors used to cut fabric |
| Thread snips | Cuts excess threads quickly |
| Unpicker | Unpicks unwanted stitches |
| Pins | Used to hold two pieces of fabric together |
| Sewing needle | Used to hand stitch fabric together |
| Tape measure | Used to measure curves |
| Embroidery scissors | Used to snip threads on small, intricate designs |
| Sewing machine | A machine that is used to stitch fabric together |
| Iron | Used to press creases out of fabric |

| Master the topic | |
|---------------------------------|--|
| Knitting machine | An industrial machine that knits fabrics together |
| Lockstitch | An industrial sewing machine |
| Computerised embroidery machine | A machine that uses CAD/CAM to create various logos and pictures |
| Embroidery hoop | Used to pull fabric and give it tension when embroidering |
| Over locker | Used to finish the edge of fabric |



| Equipment | Name the | Definition |
|---|----------|------------|
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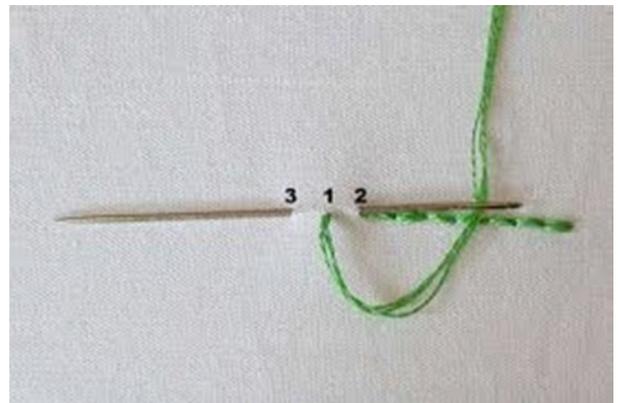
Running Stitch Quality Rules

1. Keep all stitches the same length
2. All stitches the same distance apart
3. Start and finish (knots) on the reverse side
4. Stitch in a straight line



Back Stitch Quality Rules

1. Create your first stitch
2. Keep all stitches the **same length**
3. Stitch in a **straight line**
4. Stitch **back** down your previous hole (1 and 2) No Gaps!



1. On the image below, continue the steps in order to create a back stitch. I have already filled in step 1 and 2. Draw the stitches as you are labelling them with the 4 Quality Rules.



2. Below your back stitch draw a running stitch. Labelling the steps (1,2...) If you need to you can watch a YouTube video to help you with this one.

3. Now comparing both stitches, tell me what is the difference between the two?

4. When might we want to use the backstitch instead of the running stitch? (Think of the effect/appearance it gives.)
