Design Technology –
Year 7 Textiles Homework Booklet

Name: _____

Teacher: _____

Form & Group: _____

- This book is your property, if you lose it you must buy a new one
- Bring it to each lesson

I will get my homework marked at the start of each lesson.
For my technical knowledge I need to know:

- How to spell the word correctly
- What the meaning is
- How and where it is used

Home work 1: Health & Safety
Read and learn the points below

Health and Safety in the classroom - learn the points

- Fill in the missing words in the sentences below, to make a list of the health and safety rules.
- Place bags and coats under the table
- Turn the iron off when you are finished.
- When threading up the sewing machine make sure it is switched off at the mains
- Do not run or push into the classroom.
- When carrying scissors hold them in towards the body with the blades pointing .down
- If you are unsure or have a question, ask your teacher.
- Noise levels need to be quiet so you can hear the teacher.
- Do not distract someone when they are using electrical equipment.
- Keep Long hair tied back
- Keep hands. Away from the needle on the sewing machine.
- When someone is using the sewing machine I should stand clear.
- When using the dyes you should wear protective gloves
- Make sure all of the equipment is picked up after a lesson and put away.
- Do not use pins inappropriately.

Home work 1 : Health & Safety

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

/15 marks

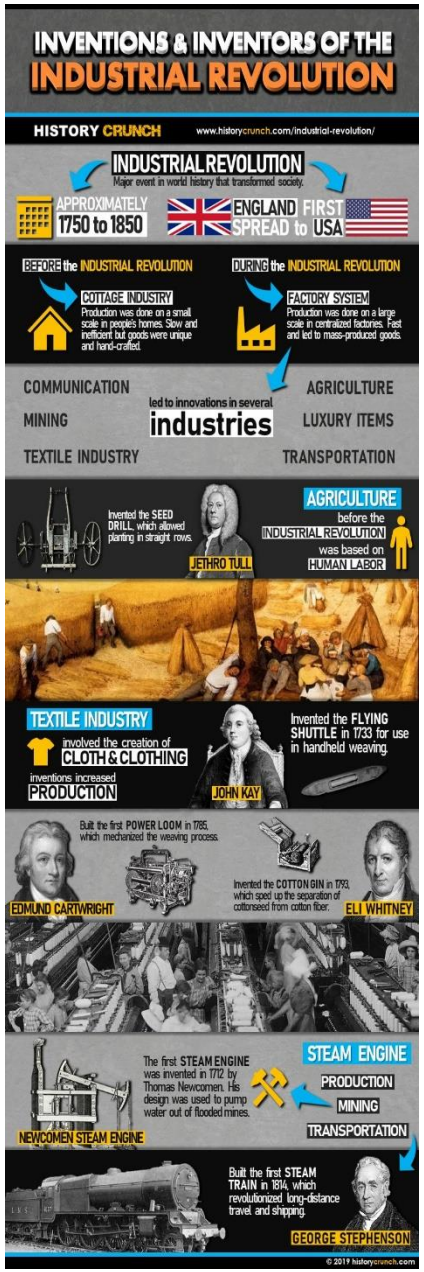
Health and Safety in the classroom - learn the points

- Place bags and coats under the ……..
- Turn the iron …….. when you are finished.
- When threading up the sewing machine make sure it is ……..at the mains
- Do not ……. or push into the classroom.
- When carrying …… hold them in towards the body with the ……pointing down.
- If you are unsure or have a question, ask your ……..
- Noise levels need to be …… so you can hear the teacher.
- Do not……..someone when they are using electrical equipment.
- Keep long hair ……..back
- Keep hands away from the needle on the ……
- When someone is using the sewing machine you should stand ……
- When using the dyes you should wear ……
- Make sure all of the equipment is picked up after a lesson and ……
- Do not use pins……..

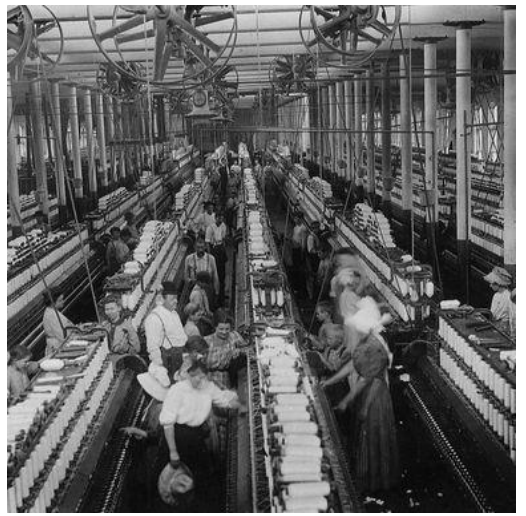
Homework 2 - Industrial revolution Read the piece and learn key points

One of the main industries that benefitted from the Industrial Revolution was the textile industry. The textile industry was based on the development of cloth and clothing. Before the start of the Industrial Revolution, which began in the 1700s, the production of goods was done on a very small scale. Historians refer to this method of production as the 'cottage industry'. Simply put, the cottage industry refers to a period of time in which goods for sale were produced on a very small scale, usually in a home. In this system, people produced goods, such as wool, in their homes or on their own farms and then sold it to local communities since long distance transportation was uncommon. This method of production was slow and inefficient and struggled to keep pace with the growing demand caused by the increased population. In contrast, industrialization allowed goods to be produced in a central location and on a mass scale. It also led to the creation of inventions that helped speed up the production method of many goods, but most noticeably in the textile industry.

Throughout the 1700s, inventors such as Richard Arkwright, Eli Whitney, James Hargreaves, John Kay and Edmund Cartwright, developed machines and techniques that helped improve production, especially in terms of the textile industry. For example, in 1733 John Kay developed a wheel shuttle, later known as a flying shuttle. The machine improved weaving efficiency and reduced labour needs because it could be operated with only one operator. James Hargreaves created the spinning jenny in 1764, which allowed a machine with many spindles of thread to be spun at one time.



Richard Arkwright added to this by developing the water frame in 1769. The water frame allowed over one hundred spindles of thread to be spun at one time but was so large and needed so much energy that he built it next to rivers and creeks in order to use the force of the water to spin the machine. For his part, Edmund Cartwright developed the power loom in 1785 which allowed quicker production of cloth. Finally, American inventor, Eli Whitney developed the cotton gin in 1793, which allowed for quicker production of cotton. Previously, cotton had to be hand cleaned in order to remove fibres and seeds. Whitney's cotton gin sped up this process and allowed for much faster harvesting of the resource. In all, these inventions mechanized the textile industry and led to the establishment of factories throughout Britain, which was the first country to industrialize



Homework 2 -Industrial revolution .

……. Marks/6

Question	Answer
When did the industrial revolution start and what is the cottage system? 2 marks	
What did industrialisation lead to? 2 marks	
Who invented: The flying shuttle Spinning jenny 2 marks	

Homework 3 :Fill in the gaps

Metric units of measure (1)

Length

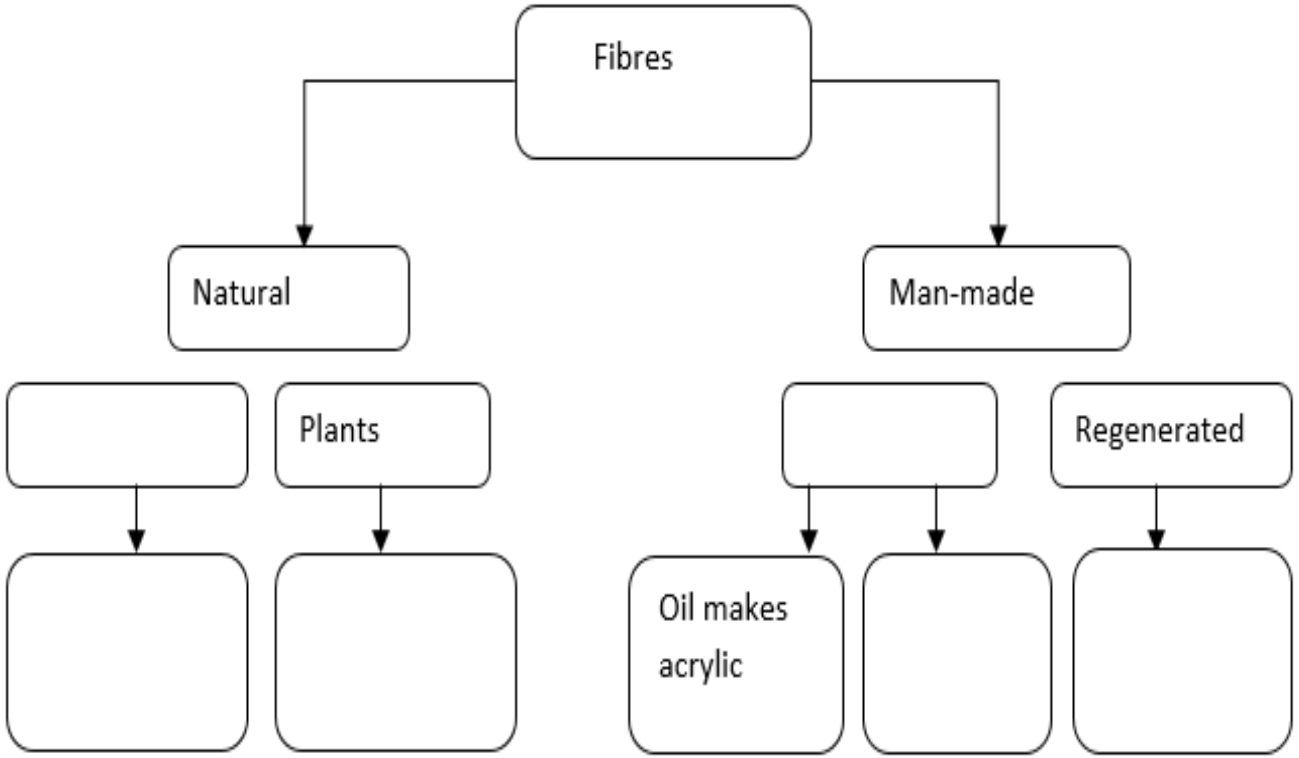
Unit	Symbol	Meaning	Approximate size	Diagram	Use
millimetre					
centimetre	*cm*	One hundredth of a metre 1 *cm* = 0.01 *m*	The length of a finger nail (recently trimmed).		To measure a hand span
metre	*m*	*Standard metric unit*	The average height of 3 year old child.		To measure the dimensions of a room
Kilometre					

10 marks

Homework 4

FIBRES AND THEIR SOURCES

Independently research and complete the diagram below, filling the empty boxes



……. Marks/6

Homework 5

FIBRES AND THEIR SOURCES

Fill in the chart below from the textile products you researched at home,
The first one has been filled in as an example.

……. Marks/18

Product: 1 mark each	Classification	Sources: 2 marks each	2 Properties: 2 marks each	Use: I mark each
Jumper	Natural –Wool	Sheep - animal	Warm, Itchy	Jumper
	Natural - cotton			
	Synthetic – polyester			
	Regenerated - viscose			

Homework 6

Key technical words: spelling, meaning & use

Learn the terms

Technical term	Meaning	Use
Fibre	A fibre is a thin thread of a natural or artificial substance.	It is used in mass to make cloth or rope
Natural fibre	Substances produced by plants and animals, examples are cotton, wool & silk	It is used in mass to make cloth or rope. These are bio-degradable. Their properties are: Cotton – absorbent, cool Wool – Absorbent , warm Silk – Strongest natural fibre, warm when cool, cool when hot
Synthetic fibre Polymer	Synthetic fibres are man – made from chemicals. They are generally based on polymers. A polymer is a substance which has a molecular structure built up chiefly of a large number of similar units bonded together.	It is used in mass to make cloth or rope. These are not biodegradable Their properties are: Strong, non- absorbent
Regenerated fibre	Created by dissolving the cellulose area of plant fibre in chemicals and making it into fibre again, examples are Lyocel and viscose	It is used in mass to make cloth or rope. These are bio-degradable.
Needle	For hand-sewing, is a long slender tool with a pointed tip at one end and a hole (or eye) at the other.	A needle is used in sewing to pull thread through cloth
Thread	A filament, a group of filaments twisted together, or a filamentous length formed by spinning and twisting short textile fibres into a continuous strand	To join material together or used to create material.
Scissors	A pair of scissors consists of a pair of metal blades pivoted so that the sharpened edges slide against each other when the handles (bows) opposite to the pivot are closed.	Scissors are used for cutting various thin materials, such as material

Homework 6

……. Marks/8

Key technical words: spelling, meaning & use
Fill in the gaps

Technical term	Meaning	Use
Fibre		It is used in mass to make cloth or rope
	Substances produced by plants and animals, examples are cotton, wool & silk	It is used in mass to make cloth or rope. These are bio-degradable. Their properties are: Cotton – absorbent, cool Wool – Absorbent , warm Silk – Strongest natural fibre, warm when cool, cool when hot
Synthetic fibre Polymer	Synthetic fibres are man – made from chemicals. They are generally based on polymers. A polymer is a substance which has a molecular structure built up chiefly of a large number of similar units bonded together.	It is used in mass to make cloth or rope. These are not biodegradable Their properties are: Strong, non- absorbent
Regenerated fibre	Created by dissolving the cellulose area of plant fibre in chemicals and making it into fibre again, examples are Lyocel and viscose	It is used in mass to make cloth or rope. These are bio-degradable.
		A needle is used in sewing to pull thread through cloth
	A filament, a group of filaments twisted together, or a filamentous length formed by spinning and twisting short textile fibres into a continuous strand	To join material together or used to create material.
Scissors	A pair of scissors consists of a pair of metal blades pivoted so that the sharpened edges slide against each other when the handles (bows) opposite to the pivot are closed.	

Homework 7

Independent research of a:

- Plain weave
- Twill weave
- Satin weave

Fill in the squares for each weave.

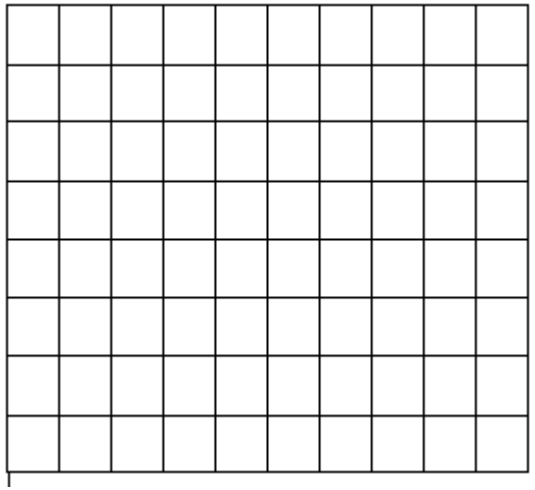
You must indicate the warp and weft

You must say what type of product would use this weave and why.

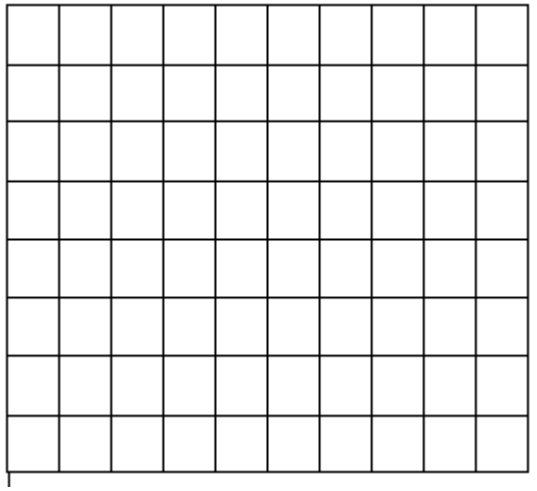
You must produce a paper sample of one of the weaves fully labelled – warp & weft

……. Marks/6

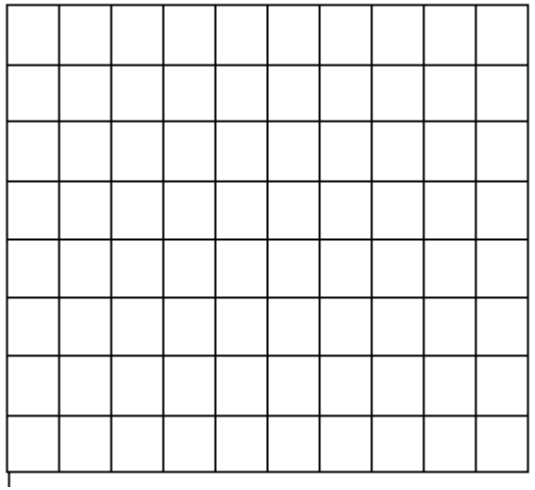
Plain Weave



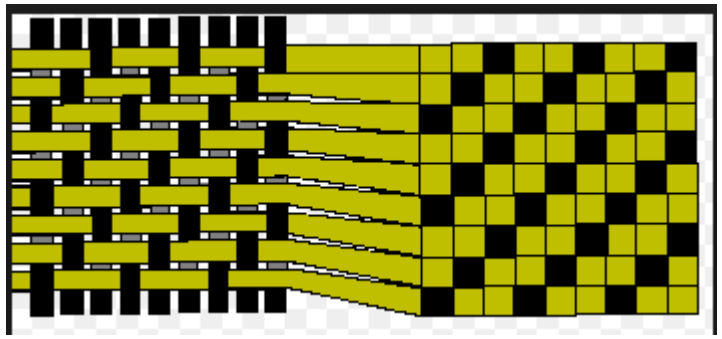
Twill Weave



Satin Weave



Homework 8



- Name and label the warp and weft of this weave - 3 marks

  warp -

  Weft

- What type of product would it be mainly use it? – 2 marks

- What would be the fibre/yarn? – 1 mark

- Name two properties of this weave – 2 marks

……. Marks/8

Homework 9

List the 6R’s

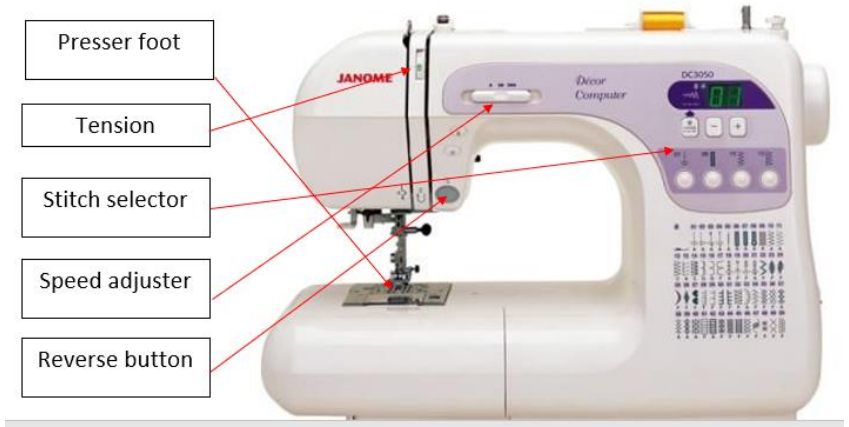
1.
2.
3.
4.
5.
6.

Write a paragraph on the impact of the 6R’s to the environment.

……. Marks/10

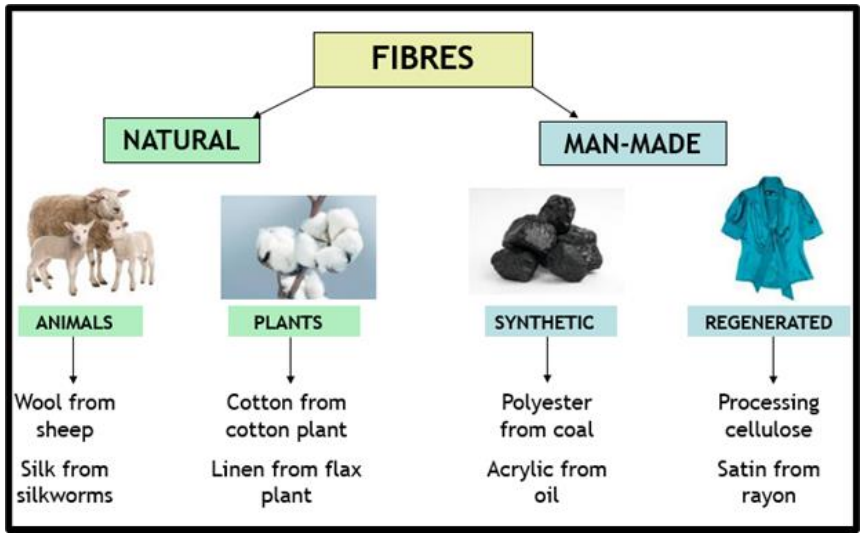
Homework 10 - Revision

Year 7 Textiles Test

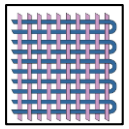


Fair trade

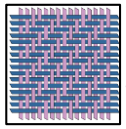
The fair trade symbol on goods means, Fairtrade for workers, good working conditions and no child labour. Goods found on: bananas, coffee, sugar, tea.



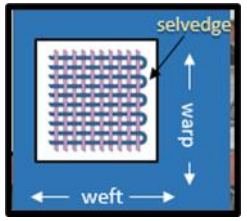
WEAVE PATTERNS



PLAIN
-Equal amounts of warp and weft.
-Used for fashion & furnishing fabrics

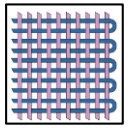


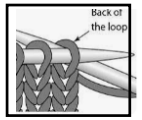
TWILL
-Diagonal effect
-Hardwearing, used for jeans, jackets etc.



Fabric construction

Fabrics are created by weaving, knitted and non-woven.
Weaving: The yarns are inter-leavened/ woven together to create fabric.
Knitted: the yarns are knitted together by creating loops.





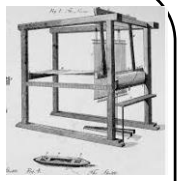
Industrial Revolution

A period of great change after about 1770 when people began to make goods in factories using machines

Dramatic changes were also taking place in Industry where people began to make goods in factories rather than by hand at home.

The Cottage System: A period of time in which goods for sale were produced on a very small scale, usually in a home.

Inventors



The Flying Shuttle-John Kay
1733- Speeded up weaving and produced more cloth

The Spinning Jenny-James Hargreaves- 1767
Used in homes to produce eight times more yarn than on a spinning wheel, by spinners

Yarns

Yarns are fibres that have been **twisted/ spun** into long lengths. They are twisted anticlockwise (S) or clockwise (Z) to create strength and hold the fibres together

Environmental Considerations

Recycle- Return the product to raw materials and make something new with it
Rethink- When solving a problem try to think of a solution that does not harm the environment
Reduce -Cut down on the amount of material or energy you use
Refuse- Don't use or buy products and materials that are unnecessary or bad for the environment
Repair- Try to fix a product when it breaks or doesn't work properly
Reuse- Reprocess a material or product to make something else with all or parts of