

Homework

Subject: Design & Technology

For Cycles 1 – 4



This cycle you are applying Numeracy & Literacy skills in Design

Year 7

Expectations

Complete 4 homework tasks per cycle (or the equivalent time if doing a longer project).

Complete 1 week of revision based homework per cycle ready for week 8.

Your homework will be marked by a mix of peer, self and teacher assessment.

Rationale for home work this term:

To consolidate in class learning

To secure your knowledge of key topics

To practice skills related to your assessment

Name _____

Teacher _____

Homework Due Dates

Fill in the dates at the beginning of each cycle, this way you can keep up to date with your homework.

Cycle 1

Topic		Page 1	Page 2	Page 3	Page 4
	Due Dates				

Cycle 2

Topic		Page 1	Page 2	Page 3	Page 4
	Due Dates				

Cycle 3

Topic		Page 1	Page 2	Page 3	Page 4
	Due Dates				

Cycle 4

Topic		Page 1	Page 2	Page 3	Page 4
	Due Dates				

Yr 7 Food: Numeracy Homework

Task

Below is an ingredients list for 12 fruit muffins. Your task is to work out the ingredients required for making MORE or LESS than 12 muffins. This is called scaling up and scaling down a recipe. Three have been done for you:

Ingredient	Amount for 12 muffins	X 2 24 muffins	X 10 120 muffins	X 30 360 muffins	½ 6 muffins
Self-raising flour	250g	500g			125g
Baking Powder	2 x 5ml spoons		20 X 5ml spoons OR 100ml		
caster sugar	100g				
Semi-skimmed milk	230ml				
Egg	1 Egg				
Oil	60ml				
Canned fruit, drained	150g				

Date due:

Yr 7 Food: Numeracy Homework

Task

What is the advantage of buying ingredients in large quantities?

Task

Identify 3 different maths skills used when baking muffins:

Skill 1:

Skill 2:

Skill 3:

Date due:

Yr 7 Food: Literacy Homework

Task

Many terms are used exclusively in cooking. You need to know what they mean in order to understand even basic recipes.

These are called Culinary Terms.

Can you explain the following Year 7 culinary terms?

Bridge Cut:

Claw Cut:

Which cut would you use to slice an apple in half and why?

Date due:

Yr 7 Food: Literacy Homework

Task

Using the knowledge you have learnt during lessons, explain the key terms below. Use the correct terminology and identify where you may use these terms when preparing food.

Rubbing in Method:

Kneading :

Sensory Analysis:

Date due:

Yr 7 Product Design: Numeracy Homework

Task

Sheets of manufactured boards have a standard size of 2440mm x 1220mm. To make a simple stand for a Fantastic Beast it requires a square plywood base of 120mm x 120mm.

How many squares can be cut from one sheet of plywood? Remember to show your working out for full marks.

Answer: _____

How much plywood is left over (waste) from the sheet?

Answer: _____

Yr 7 Product Design: Numeracy Homework

Task

Below is a basic list of parts, components and prices to make a basic Wooden Boat. Complete the table below by filling in the blanks.

Part	Price	Cost for 14	Cost for 120	Cost for 1798
Dowel	6p			
Pine Base	66p			
Stain	10p			
Pine Upright	33p			
Total Cost:				

Show your working out below:

If Pine comes in 0.9m lengths, how many 200mm sections can you create?

Date due:

Yr 7 Product Design: Literacy Homework

Task

Many terms are used exclusively in Product Design. Can you explain the following terms using the knowledge you have learnt during lessons?

Manufactured Boards:

Give an example of a manmade board:

Softwood Timber:

Give an example of a Softwood Timber:

Hardwood Timber:

Give an example of a Hardwood Timber:

Date due:

Yr 7 Product Design: Literacy Homework

Task

Identify the tools below, remember to use the keywords you have learn during lessons.



What Personal Protective Equipment (PPE) should you wear when this piece of equipment:

PPE: _____

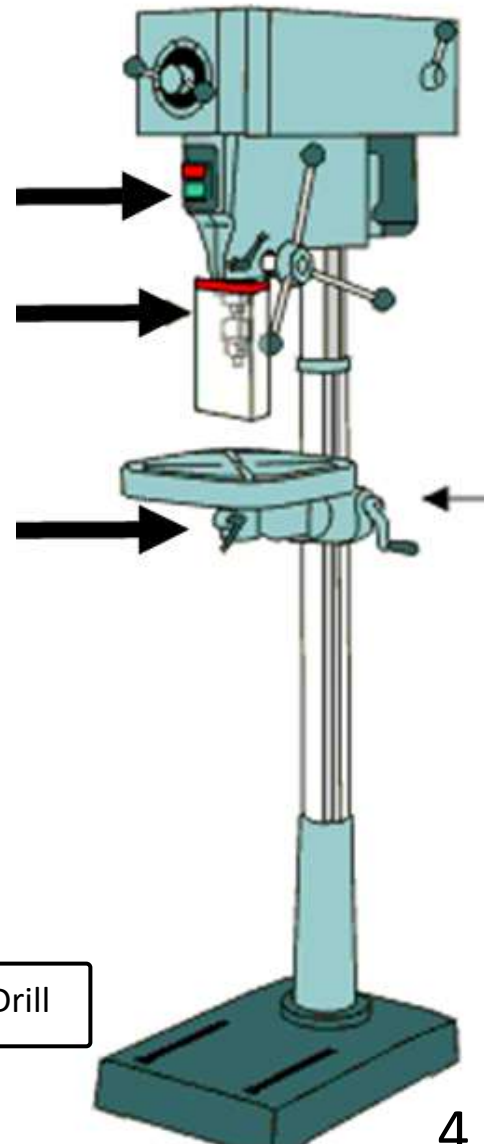
Reason: _____

PPE: _____

Reason: _____

PPE: _____

Reason: _____



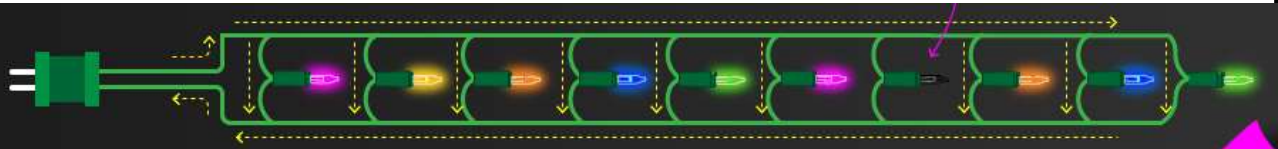
Label the parts of the Pillar Drill

Date due:

Yr7 Engineering: Numeracy Homework

Task

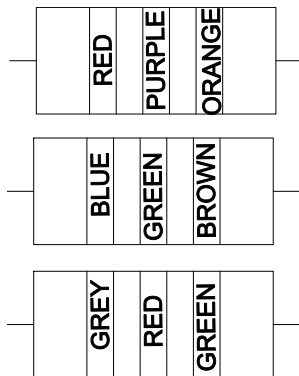
Parallel Circuits are used in most product these days to improve the longevity of a circuit. Identify how many branches there are in the circuit below:



Answer: _____

Task

Below are three resistors, work out the value of each one:



BAND 1	BAND 2	BAND 3	TOTAL



Colour	Band 1 First digit	Band 2 Second digit	Band 3 Multiplier	Band 4 Tolerance
Black	0	0	x 1 (x 1)	-
Brown	1	1	x 10 (x 10)	1%
Red	2	2	x 100 (x 100)	2%
Orange	3	3	x 1 000 (x 1k)	not used
Yellow	4	4	x 10 000 (x 10k)	not used
Green	5	5	x 100 000 (x 100k)	not used
Blue	6	6	x 1 000 000 (x 1M)	not used
Violet	7	7	-	not used
Grey	8	8	-	not used
White	9	9	-	not used
Gold	-	-	-	5%
Silver	-	-	-	10%

Date due:

Yr7 Engineering: Numeracy Homework

Task

Below is a list of components, parts and prices for your electronic circuit.
Complete the table to work out the total cost.

Part	Price	Cost for 143	Cost for 19	Cost for 179
Resistors	75p			
Capacitors	92p			
LED's	£1.05			
Switch	44p			
Total Cost:				

Show your working out below:

To create the product it needs 200mm of wire. A reel of wire comes in 15m lengths. How many products can be made out of this?

Answer: _____

Date due:

Yr 7 Engineering: Literacy Homework

Task

Explain what each component does:

Resistor:

Capacitor:

LED:

PCB:

Decode the mixed up words below:

losedr	=	_____
Ggglose	=	_____
troelctenic	=	_____
ilcruitc	=	_____

Yr 7 Engineering: Literacy Homework



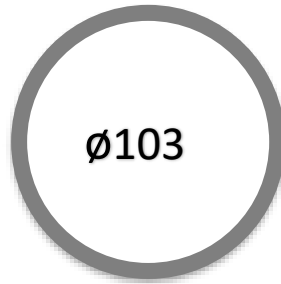
Yr 7 CAD: Numeracy Homework

Task

Convert the measurements of the circles below:



Radius:



Radius:



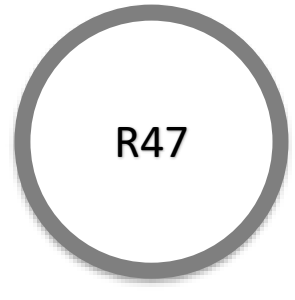
Radius:



Diameter:



Diameter:



Diameter:

Explain how you would work out the circumference of a circle:

Date due:

Yr 7 CAD: Numeracy Homework

Task

In DT conversion is used on a regular basis, this is where we convert measurements into other units of measurements.

Convert the measurements below:

$$1. 33\text{mm} = \underline{\hspace{2cm}} \text{cm} \quad 1. 33\text{cm} = \underline{\hspace{2cm}} \text{mm}$$

$$2. 280\text{mm} = \underline{\hspace{2cm}} \text{cm} \quad 2.668\text{cm} = \underline{\hspace{2cm}} \text{mm}$$

$$3. 1091\text{mm} = \underline{\hspace{2cm}} \text{cm} \quad 3.109.5\text{cm} = \underline{\hspace{2cm}} \text{mm}$$

$$4. 238\text{mm} = \underline{\hspace{2cm}} \text{cm} \quad 4.389.2\text{cm} = \underline{\hspace{2cm}} \text{mm}$$

$$5. 789.5\text{mm} = \underline{\hspace{2cm}} \text{cm} \quad 5.90.89\text{cm} = \underline{\hspace{2cm}} \text{mm}$$

$$1. 142\text{cm} = \underline{\hspace{2cm}} \text{m} \quad 1.600\text{mm in} = \underline{\hspace{2cm}} \text{m}$$

$$2. 289\text{cm} = \underline{\hspace{2cm}} \text{m} \quad 2.150\text{mm in} = \underline{\hspace{2cm}} \text{m}$$

$$3. 2308\text{cm} = \underline{\hspace{2cm}} \text{m} \quad 3.930\text{mm in} = \underline{\hspace{2cm}} \text{m}$$

$$4. 499 \text{ cm} = \underline{\hspace{2cm}} \text{m} \quad 4.25\text{mm in} = \underline{\hspace{2cm}} \text{cm}$$

$$5. 1098\text{mm} = \underline{\hspace{2cm}} \text{m} \quad 5.1272\text{mm} = \underline{\hspace{2cm}} \text{m}$$

Martin has bought a length of metal which is 2.2m long, he needs to make as many 350mm lengths out of it, how many can he make?

Answer:

Yr 7 CAD: Literacy Homework

Task

Write a short description explaining what the following CAD / CAM terms mean and what each colour line means when you are using the laser cutter.

Bitmap Image

Vector

Red

Blue

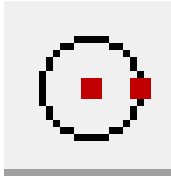
Black

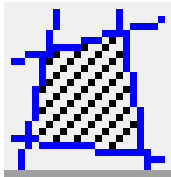


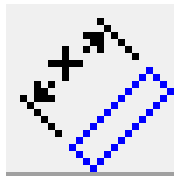
Due Date:

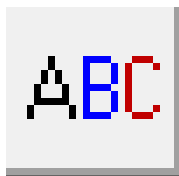
Yr 7 CAD: Literacy Homework

Identify these common drawing tools used in 2D Design and explain what they are used for when using CAD:









Due Date: