

# Homework

Subject: Design & Technology

# For Cycles: 1 - 4



**Year 9**

## 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 9 Product Design: USB Lamp Project

## Task 1

Research the task by gathering images of existing LED lamps. Choose lamps which are of interest to you.

- a. Interesting designs
- b. Interesting use of materials
- c. Innovative designs

Highlight and annotate the interesting features which you could potentially use in your own design.

**Date Due:**

## Task 2

Conduct product analysis research on an LED lamp of your choice. Use ACCESS FM to analyse the product to demonstrate your understanding of product analysis and the depth of your analysis skills.

**Date Due:**

## Task 3

Research how different plastics can be used to create interesting lighting effects and diffuse a white LED light.

**Date Due:**

# Yr 9 Product Design: USB Lamp Project

Plastic 1: \_\_\_\_\_

Explanation:

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Plastic 2: \_\_\_\_\_

Explanation:

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Plastic 3: \_\_\_\_\_

Explanation:

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Plastic 4: \_\_\_\_\_

Explanation:

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# Yr 9 Product Design: USB Lamp Project

## **Task 4 Record of Manufacture**

You will need to record the progress made during the lessons, reflecting on the things that have gone well and badly and the reasons for that. For each of the stage of manufacture you should include:

1. **Number of stage**
2. **Description of the stage** – What you did
3. **Photos, diagram or sketch** of stage
4. **Health and safety record** – How did you keep yourself and your classmates safe?
5. **Quality control record** – What test did you do to ensure you made a high quality product?
6. **Modifications** – Use sketches and notes to describe any modifications you made during the production process.

**Date Due:**

# Yr 9: Design & CAD

## Task 1

Get AutoCAD Inventor Professional 2019 for your PC at home—for free! Download and install software from the following site and practice the skills learnt so far.

<https://www.autodesk.com/education/free-software/inventor-professional>

In the space below, print out your work and show what you were able to create during your time practicing.

**Date Due:**

# Yr 9: Design & CAD

## Task 2

In which direction must the object be views to produce the views shown opposite, taking 'A' as the FRONT VIEW. Put the appropriate letter under the correct view.

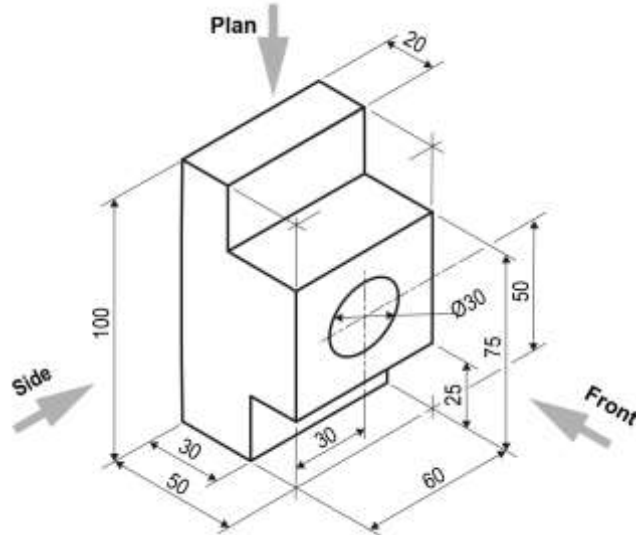
|                         |  |  |
|-------------------------|--|--|
| DRG.                    |  |  |
| ORTHOGRAPHIC PROJECTION |  |  |
| EXERCISE 1              |  |  |

**Date Due:**

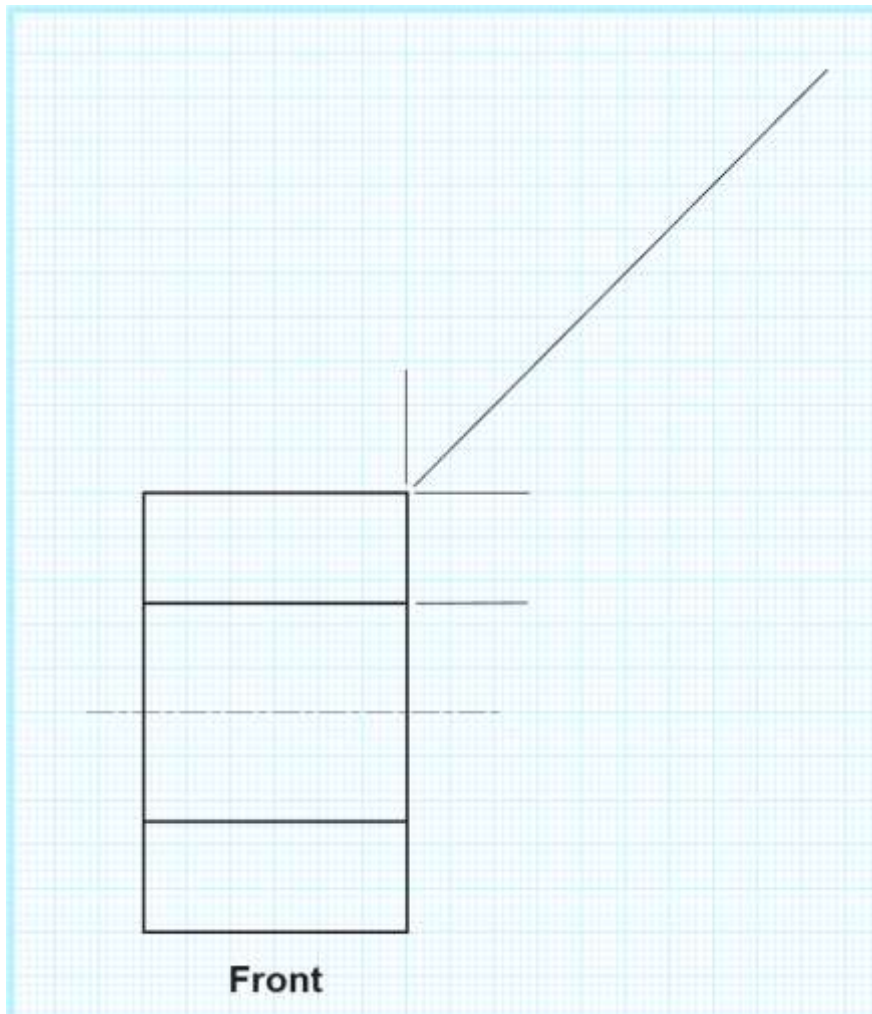
# Yr 9: Design & CAD

## Task 3

The object shown below is drawn to scale in isometric projection.



Redraw the object using 3<sup>rd</sup> angle orthographic projection.



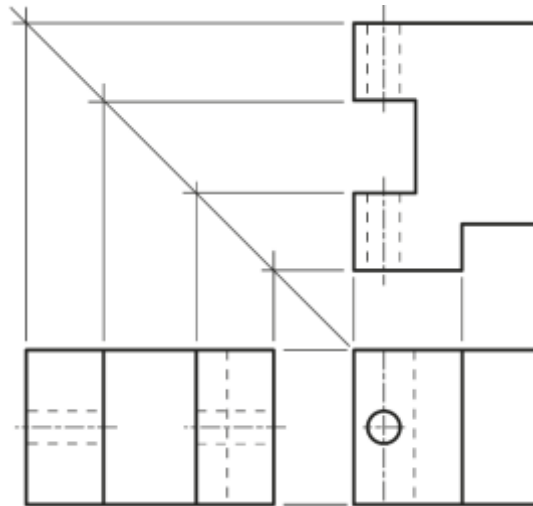
Date Due:



# Yr 9: Design & CAD

## Task 4

The working drawing shown below is drawn using 3<sup>rd</sup> angle orthographic projection.



Redraw the object using isometric projection.



Date Due:

# Yr 9 Food: & Nutrition



## Task 1

Are these sentences True or False? (*Tick the boxes*)

- a) Bread Dough must be kneaded well
- b) Kneaded bread dough makes it more stiff
- c) The water added to bread dough should be boiling hot
- d) The yeast in dough makes carbon dioxide, which helps the bread rise

| True | False |
|------|-------|
|      |       |
|      |       |
|      |       |
|      |       |

How should cereals be stored? (*circle the correct answer*)

**In the fridge    In a Freezer    In airtight containers    In an open bag**

Which type of rice would be best for making risotto? (*circle the correct answer*)

**Long Grain Rice    Short Grain Rice    Brown Rice    Boil in a Bag Rice**

Circle the correct words to complete the sentences below:

- a) Vegetables are mostly used in **savoury/ sweet** dishes
- b) Fresh fruit and vegetables should feel **soft/ firm** and plump
- c) Most fruit and vegetables need to be stored somewhere **cool/ warm** and dark
- d) Fruit **can/ cannot** be served in lots of different ways.

Complete the sentences below about eggs. (*using the words below*)

- a) Eggs should be stored in a ..... place.
- b) They should be stored away from ..... smelling foods.
- c) A fresh egg will have a round fat yolk and a ..... white.
- d) Raw eggs shouldn't be served to pregnant women, ..... or the elderly.

**Thick**

**Cool**

**Children**

**Strong**

**Date Due:**

# Yr 9 Food & Nutrition

## Task 2

Draw lines to match each culinary term to its description. *(one has been done for you)*

- |               |  |
|---------------|--|
| Al Dente      | An edible decoration served as part of a dish                    |
| Entrée        | A main Course  |
| Julienne      | A bunch of mixed fresh herbs- often used in stews                |
| Mise en place | Cooked, but still firm   |
| Garnish       | Small, thin strips of vegetables                                 |
| Bouquet garni | Preparing your ingredients and equipment before starting a cook. |

Are the sentences below true or false? *(Tick the boxes)*

- a) Scones are made using the creaming method
- b) Putting all the cake ingredients in and bowl and beating them together is known as the 'all in one' method.
- c) The whisking method starts with melting fat and sugar
- d) The whisking method is used to make Swiss Rolls

| True                     | False                    |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |

Which of the foods below are dairy products? *(circle 3 answers)*

**Skimmed Milk**

**Tomato Ketchup**

**Blue Cheese**

**Ham**

**Unsalted Butter**

Which type of cream contains fat? *(circle the correct answer)*

**Single Cream**

**Double Cream**

**Date Due:**

# Yr 9: Food & Nutrition

## Task 3

Fill in the gaps in the sentences below. *(using the words below)*

**Cornflour**

**Roux**

**Custard**

- a) A ..... helps a white sauce to thicken.
- b) A Paste of ..... and cold water can also be used to thicken sauces.
- c) Hollandaise sauce and ..... are both thickened with egg yolks,

Which of these statements below explains why convenience products are popular?  
*(circle the answer)*

**They save on preparation time**

**You need to be skilled to prepare them**

Hannah is making chicken soup. She used tinned sweetcorn in the recipe.  
Give one benefit of using tinned sweetcorn instead of fresh sweetcorn.

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Fill in the gaps in this recipe for shortcrust pastry. *(using the words in the below)*

**Water**

**Breadcrumbs**

**Hot**

**Flour**

**Butter**

- a) Put 200g of plain ..... into a bowl. Add a pinch of salt.
- b) Weigh out 100g of cold ..... . Cut into cubes and add to the bowl.
- c) Rub the ingredients together until the mixture has a texture like .....
- d) Add 2 tablespoons of cold ..... . Use a blunt knife to mix it in.
- e) Roll the pastry out and bake it in a ..... oven.

What type of pastry would you use to make the following items?

- a) A Profiterole \_\_\_\_\_
- b) A Turnover \_\_\_\_\_

**Date Due:**

## Yr 9: Food & Nutrition

### Task 4

Fill in the gaps in these sentences. (*using the correct word from below the gap*)

a) Examples of poultry include ..... duck and turkey.

**Lamb    Chicken**

b) ..... pieces of meat can be gilled.

**Tender    Tough**

c) Meat and poultry are ..... risk foods.

**High    Low**

d) Raw meats and cooked meats should be stored .....

**Together    Separately**

What are the three different types of fish? (*Write your answers below*)

Shellfish          \_\_\_\_\_

A caterer should serve fresh fish. How could they tell if the fish is fresh?  
(*circle the correct answers in the sentences below*)

- a) Fresh whole fish should have **clear / cloudy** eyes.
- b) Fresh fish will feel **soft/ firm**.
- c) Fish should smell **strongly/ salty**, like the sea.
- d) Shellfish should have **open/ closed** shells.

Amir is making a cake. He starts by beating sugar and butter together until they're pale.

Which method is Amir using? (*circle the answer*)

**Creaming method    Rubbing in Method    Whisking Method    Melting Method**

Amir has finished beating the sugar and butter. What is the next step in this method?

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**Date Due:**

# Yr 9 Engineering: Trowel Project

## Task 1

Identify these 4 engineering tools and equipment explain what they are and how they are used when working with materials in the workshop.



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**Date Due:**

# Yr 9 Engineering: Trowel Project

## Task 2

Why is it important to normalise metals and how is this achieved?

- Use the space below to explain these two questions.

**Date Due:**

# Yr 9 Engineering: Trowel Project

## Task 3 Risk Assessment

Think about the processes used during this engineering module. Describe how it could be dangerous if not done following correct health and safety procedures and then explain is done to ensure you and others in the area are safe.

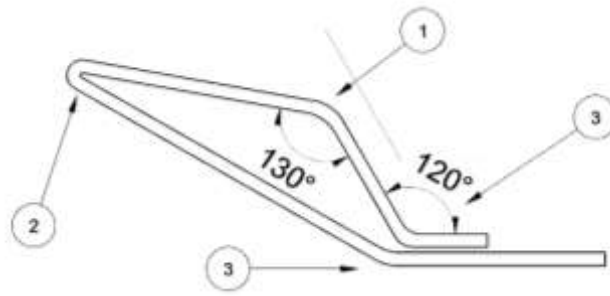
| Process                       | Risk/Hazard                       | Prevention/Control Method                                     |
|-------------------------------|-----------------------------------|---|
| Chopping a carrot             | <i>Cutting fingers with knife</i> | <i>Be sure to use correct grip (claw) when cutting carrot</i> |
| Cutting sheet metal           |                                   |   |
| Using a pillar drill          |                                   |   |
| Using the Box Folding Machine |                                   |   |
| Heating metal                 |                                   |   |
| Using a hacksaw               |                                   |   |
| Dip-coating metal             |                                   |   |

**Date Due:**



# Yr 9 Engineering: Trowel Project

## Task 4



Produce a step by step production plan of how to help others produce the trowel handle.

*(Step 1 have been done for you)*

|               |   |
|---------------|---|
| <b>Step 1</b> | <i>Using Engineering Blue, paint the metal until the surface is covered. Then use the marking tools to mark out all of your measurements.</i> |
| <b>Step 2</b> |   |
| <b>Step 3</b> |   |
| <b>Step 4</b> |   |
| <b>Step 5</b> |   |
| <b>Step 6</b> |   |
| <b>Step 7</b> |   |
| <b>Step 8</b> |   |

**Date Due:**