

Choose your homework each week from the menu below.

The Peri-ometer indicates the level of challenge the homework may offer.

You must attempt **at least one Extra Hot** task this half term.

Year 7 Science

One task due every week



Explain why energy efficient light bulbs are cheaper to use than filament light bulbs. Use sankey diagrams to illustrate this.

Find out how much electricity is generated using coal, wind and solar energy in the UK. Evaluate the advantages and disadvantages of each resource.

Explain why electric cars are being introduced in the UK and why petrol cars are being phased out.

Draw a sankey diagram to show the energy transfers for a light bulb, a TV and a car. Estimate the percentages of each type of energy.

Describe why using renewable energy resources such as solar panels and wind turbines to generate electricity is better for the environment than using coal.

Compare the advantages and disadvantages of petrol and electric cars. Decide which one you think is best and why.

Look at 3 electrical appliances in your home and compare their energy efficiency ratings.

Look at 3 electrical appliances in your home and find the energy efficiency rating for them.

Describe how an electric car works and how often you need to charge them up.

Look at 3 electrical appliances in your home and find the energy efficiency rating for them.

Find out how much your family spends on electricity and gas in one month.

Find out about 3 different types of electric car and how much they cost to buy in the UK.

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Year 8 Science

One task due every week



Explain (with diagrams) how frogs and fish get the oxygen that they need into their bloodstream.

Explain the difference between aerobic and anaerobic respiration using equations. Describe what lactic acid is and what problems it can cause.

Explain how the alveoli are adapted for effective gas exchange using a diagram to illustrate.

Explain how animals get the glucose and oxygen that they need for respiration into their blood stream.

Explain how the respiratory system and the cardiovascular system work together to deliver oxygen to the muscles during exercise.

Find out what emphysema is and how it affects how the alveoli work.

Sketch a graph to show how the rate of photosynthesis changes from 6am to

Describe how breathing rate changes during exercise and why this happens.

Produce a labelled diagram of an alveolus. Explain what happens at the surface.

6pm
Describe how plants make their own food (glucose).

Find out how asthma affects breathing and how inhalers work.

Find and draw a diagram of an alveolus. Describe what it does.

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Year 9 Science

One task due every week



Define the words plasmolysed, flaccid and turgid in relation to plant cells and use diagrams to illustrate.

Find out what coeliac disease is and how it affects the functioning of the villi. Explain what the symptoms of this disease are.

Draw diagrams to show how the particles move when diffusing from a tea bag into hot and cold water. Compare the rates of diffusion in hot and cold water and relate this to the kinetic energy of the particles.

Explain why plants wilt when they do not get enough water. Draw what the cells look like in a wilted plant.

Draw a picture of a villus and label it. Explain how it is adapted to carry out its function

Draw diagrams to show how the particles move when diffusing from a tea bag into hot and cold water. Compare the rates of diffusion in hot and cold water.

Draw 3 specialised animal and plant cells. Describe how they are adapted to their function.

Draw a picture of a villus and describe what it's function is and where it is found.

Describe how tea in a tea bag gets into the water when you make a cup of tea. Compare the differences between making a cup of tea with hot water and cold water.

Draw and label an animal cell and a plant cell.

Describe how fish get oxygen into their bodies. Draw a diagram to show this.

Describe why hot water is better for making a cup of tea than cold water