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| Describe how you would test foods for glucose, starch, proteins and fats.  **10 POINTS** | Describe what an ore is and explain the advantages and disadvantages of mining.  **10 POINTS** | Draw and name each of the four parts of the blood. Describe the function of each part.  **10 POINTS** | Choose three packets of food and evaluate how healthy they are.  **10 POINTS** | Compare a permanent magnet and an electromagnet. Describe how they are used differently and the advantages and disadvantages of each.  **10 POINTS** | Describe the movements in the thorax that allow breathing to occur.  **10 POINTS** | Place energy, power and time in a formula triangle. Give the units of each.  **10 POINTS** | Describe the effects of smoking and asthma on the lungs.  **10 POINTS** | Write a short story to describe what happens when a sperm meets an egg and fertilisation occurs.  **10 POINTS** | Choose an element from the periodic table. Draw a labelled diagram of an atom. Describe the atom in as much detail as possible. **10 POINTS** |
| Make a crossword using scientific key words for a physics topic.  **10 POINTS** | Choose any topic. Make a set of cards of key words and a second set of definitions. Mix them up and find the matching pairs. **10 POINTS** | Write a step by step method describing how make an onion cell slide and how to view it under a microscope. Include an equipment list.  **10 POINTS** | Draw particle diagrams of a solid, liquid and a gas. Add arrows and labels to show evaporating, condensing, melting and freezing.  **10 POINTS** | Make a model of a plant cell, labelling all the parts. Describe the function of each part.  **10 POINTS** | Write a step by step method describing how to test materials to determine if they conduct electricity.  **10 POINTS** | Describe how metals can be extracted from their ores using electricity.  **10 POINTS** | Draw a Venn diagram describing changes during puberty: those that happen to males only, females only and those that happen to both sexes.  **10 POINTS** | List the structures that make up the circulatory system. State the function of each structure.  **10 POINTS** | Explain how a blast furnace is used to extract iron.  **10 POINTS** |
| Write a step by step method describing to a Year 6 pupil how to safely light a Bunsen burner.  **10 POINTS** | Describe the disadvantages of industrial-scale electrolysis.  **10 POINTS** | Chose five appliances in your home and work out how much it costs to run them for 1 hour.  **10 POINTS** | Name the components of a balanced diet. Describe what each is used for by our bodies.  **10 POINTS** | Chose any topic in science and make a spider diagram summarising your knowledge.  **10 POINTS** | Describe and explain 4 ways in which the lungs are adapted for gas exchange.  **10 POINTS** | Draw a Venn diagram comparing series and parallel circuits.  **10 POINTS** | Choose a predator and its prey. Explain how each is adapted to their environment.  **10 POINTS** | Write a method for an experiment to investigate the pH of some household chemicals. Include an equipment list. **10 POINTS** | Write 10 multiple choice questions about electricity, including the answers.  **10 POINTS** |
| Write a method for an experiment to investigate the speed of sound. Include an equipment list.  **10 POINTS** | Compare the solar system with an atom. How are they similar and different?  **10 POINTS** | Make a poster to explain how the particles behave in the reaction between iron and sulphur.  **10 POINTS** | Design a poster that explains how plants are adapted to scatter their seed.  **10 POINTS** | State the equation linking mass, weight and gravitational field strength. Explain why a 10 kg machine has a mass of 11.6 N on the moon but 90N on Venus.  **10 POINTS** | Describe how the different blood vessels are adapted to their function.  **10 POINTS** | Describe the structure of the heart, naming all the chambers and blood vessels.  **10 POINTS** | Explain the importance of bacteria in the digestive system.  **10 POINTS** | Draw a flow diagram to show what happens when the skin is damaged. Describe how the parts of the blood protect from infection and form a clot.  **10 POINTS** | Draw a Venn diagram comparing plant and animal cells.  **10 POINTS** |
| Write 10 multiple choice questions about forces, including the answers.  **10 POINTS** | Explain which properties allow metals to be used for saucepans, bells, electrical wires and jewellery.  **10 POINTS** | Make a crossword using scientific key words for a biology topic.  **10 POINTS** | Draw a labelled cross-section of each type of blood vessel. Write a summary of the difference between them.  **10 POINTS** | Explain why it’s important to balance symbol equation for a chemical reaction.  **10 POINTS** | Design a pair of ear defenders. Explain your choices of material.  **10 POINTS** | For each of the following answers, write down the question: friction, weight, contact, magnetism and Newtonmeter. **10 POINTS** | Describe how sound waves are formed by wind chimes. Explain what affects the intensity and pitch of sound.  **10 POINTS** | Draw a poster to explain, in as much as possible, about electrical circuits. Include series and parallel circuits.  **10 POINTS** | List the structures of the male reproductive system. State the function of each structure.  **10 POINTS** |
| List the structures that make up the respiratory system. State the function of each structure.  **10 POINTS** | Think of a science keyword beginning with every letter of the alphabet.  **10 POINTS** | Using your knowledge of plants, design a plant capable of surviving in the desert. Explain how it is adapted.  **10 POINTS** | Describe how the air we breathe in differs from the air we breathe out.  **10 POINTS** | Describe a sink full of washing up. State whether each item is a solid, liquid or gas and an element mixture or compound. **10 POINTS** | Write two lists of the properties of metals and non-metals.  **10 POINTS** | Write a step by step method describing how to test the strength of an electromagnet. Include an equipment list. **10 POINTS** | Think of a mnemonic to remember the order of metals in the reactivity series.  **10 POINTS** | Make a crossword using scientific key words for a chemistry topic.  **10 POINTS** | Draw a transverse wave and label the amplitude, wavelength and frequency.  **10 POINTS** |
| Design a circuit diagram to allow the lights in a room to be switched on and off by two independent switches.  **10 POINTS** | Choose a food web. Write as many food chains as you can find. Describe how some of the organisms are adapted to their environment.**10 POINTS** | Describe how enzymes work, using the lock and key hypothesis.  **10 POINTS** | Describe how lung volume can be measured.  **10 POINTS** | Write the equation involving energy, power and time into a formula triangle. Give the units of each.  **10 POINTS** | List the structures that make up the digestive system. State the function of each structure.  **10 POINTS** | Describe the digestion of a ham sandwich, naming the organs and enzymes involved.  **10 POINTS** | Use your knowledge of forces to explain how a lighter person can balance a heavier person on a seesaw.  **10 POINTS** | Describe how to calculate power using current and voltage. Give the units of each.  **10 POINTS** | Describe why we burn fuels. Explain what happens when fuels are burned and why these are useful reactions.  **10 POINTS** |
| Write a step by step description of how electricity is generated using coal and wind power.  **10 POINTS** | Draw a particle diagram and explain what is happening in the displacement reaction between iron and copper sulphate. **10 POINTS** | Explain why sound travels faster through a rock than air.  **10 POINTS** | Explain why eating undercooked meat can cause food poisoning. Explain how your body tries to prevent food poisoning. **10 POINTS** | List the sources of renewable energy and describe the advantages and disadvantages of each.  **10 POINTS** | Draw three different transverse waves and compare their amplitude, frequency and wavelength.  **10 POINTS** | Write a method for an experiment to investigate the speed of sound. Include an equipment list.  **10 POINTS** | Write a step by step method describing how to investigate which surfaces bacteria grow on. Include an equipment list.  **10 POINTS** | Draw a particle diagram to model the chemical reaction between oxygen and magnesium to produce magnesium oxide. **10 POINTS** | Design a poster to explain how the greenhouse effect causes global warming.  **10 POINTS** |
| Use your knowledge of heat transfer to explain why it’s better to use a wooden spoon than a metal spoon when cooking pasta.  **10 POINTS** | Describe how to make an electromagnet. Include an equipment list.  **10 POINTS** | Describe what happens to a ray of light as it passes through a cuboidal prism and a triangular prism. Use ray diagrams to help. **10 POINTS** | Design an investigation to discover which antacid tablets are best to treat heartburn. Include an equipment list. **10 POINTS** | Explain how selective breeding has been used to breed dairy cows with a high milk yield.  **10 POINTS** | Draw a poster to explain why an ice cube melts when put in a drink.  **10 POINTS** | Design a questionnaire that could be used to assess how healthy a person’s lifestyle is. Explain why each question is important. **10 POINTS** | Choose three specialised cells in the human body. Draw diagrams and explain how they are specialised to their function. **10 POINTS** | Using your knowledge of photosynthesis, draw a poster to explain how a plant grows from a seed.  **10 POINTS** | Use your knowledge of food webs to explain why farmers use pesticides and explain the problems they cause.  **10 POINTS** |
| Draw a diagram of the Earth’s crust and use it to explain the stages in the rock cycle in as much detail as possible. **10 POINTS** | Draw an outline of the human body and label all the ways in which it resists infection.  **10 POINTS** | List the structures of the female reproductive system. State the function of each structure.  **10 POINTS** | Write the word equations for aerobic and anaerobic respiration. Explain why the equations are different.  **10 POINTS** | Draw a diagram of a Van der Graaf generator and explain how it works.  **10 POINTS** | Describe and explain the changes in the breathing and circulatory systems during exercise.  **10 POINTS** | Draw force diagrams to show the journey of a car from stationary to accelerating, to travelling at a constant speed then slowing down.  **10 POINTS** | Draw a circuit diagram for a torch. Use the diagram to describe and explain the flow of electricity.  **10 POINTS** | Draw a poster to explain what happens when sugar dissolves in a cup of tea.  **10 POINTS** | Write a letter to your local MP outlining your concerns about global warming.  **10 POINTS** |