Electricity Homework Grid

Complete some of the tasks below to reach a total of ___ points over this unit of work.

Topic	1 Point	2 Points	4 Points	6 Points	10 Points
Lesson 1 Introduction to Circuits	Draw and label a simple circuit. Include a bulb, cell or battery, open switch and wires in your diagram.	Find a device that is powered by batteries such as a mobile phone. Draw a picture of it and explain using keywords how the batteries power it.	Design a leaflet for a classroom that could be used to teach KS2 students about circuit symbols.	Research the history of the light bulb and produce a timeline to show the events in history.	How does electricity get to our homes? Create a flow diagram. You should include keywords such as generator, transformer and power lines.
Lesson 2 Modelling Circuits	Write a tweet that describes what current is (140 characters).	What would we do without electricity? Write a paragraph about how life might be different without electricity.	Design a poster for a classroom that could be used to teach KS2 students about circuits.	Create your own model to represent a circuit and describe it.	Make a model of a circuit using whatever resources you have. Find a way to label each part of the circuit and describe what it does.
Lesson 3 Measuring Voltage	Write a tweet that describes what voltage is (140 characters).	Write definitions for the keywords **cell** and **battery**. Give examples.	Write a poem to explain how batteries work. Use keywords such as voltage, push and current.	Create a cartoon strip describing how a potato battery is able to power an electrical circuit.	Write a letter to a scientific journal that describes the work of Alessandro Volta.
Lesson 4 Series Circuits	What are the two rules on drawing circuits?	Survey each room in your house. Write a list of all the appliances that use electricity. Which room uses the most electricity?	Produce flashcards for each of the circuit symbols you have learnt so far. Find a friend and test each other. See if you can find extra ones we haven't learnt about to really challenge them.	Research uses of series circuits in the real world and describe how they work.	Become an inventor - how could you set up an alarm on your bedroom door to alert you to intruders? Draw and label your design.

Lesson 5 Parallel Circuits	Name the three variables that we have used in our practical investigations. For example, what is the name of the variable that we keep the same?	Draw and label two parallel circuits. Include a bulb, cell or battery, open switch, motor, ammeter and voltmeter and wires in your diagram. You do not need to use all of the components in one circuit.	Write a poem or rap that compares series and parallel circuits.	Write a letter to a scientific journal that explains the differences between series and parallel circuit.	Explain why the lights in your house are in a parallel circuit. Draw a diagram of one floor of your house and suggest how the lights might be connected to complete a parallel circuit.
Lesson 6 Resistance	Write the definition for resistance. How is resistance calculated? What are the units for resistance?	Draw the formula triangle that relates voltage, current and resistance.	Draw a comic strip to describe resistance in a wire. Use keywords such as current, charge and voltage to explain your comic strip.	Write two exam questions based on the resistance in a wire. At least one question should be worth three or more marks. Produce a mark scheme for your questions.	Write a story about the journey of a charge from a battery as it moves around a simple circuit. Remember to include keywords.
Lesson 7 Magnets	Draw a diagram of the field lines around a magnet	Write a list of all of the keywords you have used in this topic so far, along with their definitions. Make sure you learn them!	Produce a report on how magnets are used in our everyday lives.	Explain how magnets could be used to sort through recycling. You could present this as a storyboard or you could write a story.	Produce a video that demonstrates how magnets work and include and an explanation.
Lesson 8 Making Electromagnets	What is significant about Japan's Maglev train? Apply your knowledge of magnets to the answer.	What is an electromagnet? Provide some examples.	Draw a labelled diagram of an electromagnet.	Produce an information leaflet that explains how electromagnets in speakers work.	Make up an answer to a six mark exam question on electromagnets, include mistakes in it, get a friend to find the mistakes.

Lesson 9 Static Electricity	Explain in one paragraph what static electricity is.	Design a poster to teach young chidren about the dangers of electricity.	Draw a labelled diagram of an atom. What are the charges on each of the subatomic particles?	Give three different examples of nuisance static electricity and explain what is happening in terms of the movement of charges.	What is a defibrilator? Can you apply your knowledge of static electricity to explain how they work?