**Homework Menu Grid: Energy 2**

Complete some of the tasks from the grid below to reach a total of points over this unit of work. Try and cover a variety of tasks over the unit so that you’re practising different skills. Once you’ve completed a task, colour that box on the grid to keep a record of your points. Can you get the highest point score this unit?

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| **Topic** | **1 Point** | **2 Points** | **4 Points** | **6 Points** | **10 Points FGF** |
| **Energy resources** | Give the definition of:* Renewable energy resources
* Non-renewable energy resources
 | Name 3 fossil fuels | Name 3:* Non-renewable energy resources
* Renewable energy resources.
 | Explain how hydroelectric power stations generate electricity.  | Suggest why hybrid and electric cars may not be as good for the environment as we first thought.  |
| **Wind turbine project part 1** | Identify the 3 different variables. | Write down the definition for the 3 variables. | Describe how wind turbines generate electricity. | Explain why we would classify wind turbines as an unreliable energy resource.  | Draw a labelled diagram of a wind turbine, and explain on the diagram on how it generates electricity.  |
| **Wind turbine project part 2** | Write down the equation that links power, potential difference (voltage) and current.  | Calculate the power of an appliance that has a potential difference of 230v and a current of 3A. | Describe what the perfect graph looks like. Include 4 features that would make your graph good.  | Give 2 advantages and 2 disadvantages of using wind turbines to produce our electricity in the UK compared to coal.  | Suggest why a wind turbine’s perfect number of blades is 3, and having more and less would mean less electricity is produced.  |
| **Power** | Write down the equation that links power, energy and time.  | Calculate the power of an Xbox that has used 54,000J of energy in 3600 seconds | Calculate how long a 30W fridge has been turned on for if it has already used 24,000J of energy.  | Explain why a hairdryer would need to be more powerful than a TV.  | Suggest why homeowners are more likely to buy less powerful lightbulbs for their homes. Suggest other appliances that homeowners can buy that are less powerful.  |

**Homework Menu Grid**

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| **The kettle practical** | Give the definition of specific heat capacity.  | Write out the equation that links thermal energy, mass, specific heat capacity, and temperature change.  | Calculate how much energy you need to heat up 2kg of water by 800C. The specific heat capacity of water is 4200J/0C/kg | Explain how we can use the specific heat capacity equation to calculate the power of appliances.  | Write out a method for how to calculate how long it would take to boil 300g of water in a 3000W kettle.  |