

Science Department  
Year 7 – Spring Term 1  
Independent Learning Project

# Energy

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Task	Topic	Possible marks	My marks	RAG
1	Video	5		
2	Revision Booklet	5		
3	Poster	5		
4	Diary (calculating energy)	5		
5	Presentation	5		
	Total	15		

### **Task One**

Create a video to demonstrate an energy change.

Marks	Success Criteria
1	Pick at least three items which can change energy when you use them.
2	State the types of energy these objects start with.
3	Describe the type of energy that it is converted into when used.
4	Explain the energy changes in an object that has multiple energy changes when used.
5	Apply what you know about energy changes to find some everyday examples (e.g. a crane or a car).

### **Task Two**

Create a revision booklet which pupils can use to teach them about energy in food and how it is used.

Marks	Success Criteria
1	List types of food which contain lots of energy.
2	State the equipment you would need to test how much energy is in food.
3	Describe how you would test how much energy is in different types of food.
4	Explain how to find out how much energy is in food from its label.
5	Explain why we need a healthy diet with does not contain just high energy foods.

### **Task Three**

Create a poster to show the different resources of energy.

Marks	Success Criteria
1	State at least 5 energy resources (e.g. solar).
2	Describe which of these are renewable and which are non-renewable.
3	For each energy resource, state what store of energy it uses (e.g. solar uses light energy).
4	Evaluate the advantages and disadvantages of each of your energy resources.
5	Which energy resource do you think is best and why?

Mark out of 5	Success Criteria
1	Draw a diagram of each type of cell.
2	Label at least 5 parts of each cell on your diagram.
3	Describe in detail the jobs of 3 parts of the cell.
4	Compare plant and animal cells.
5	Evaluate what would happen if each of the cells were missing 2 parts. You can choose which parts they are missing.

#### **Task Four**

Write a diary for your day. Explain when you use energy throughout the day and calculate how much energy you use.

Mark out of 5	Task
1	Write a diary for one day (Include activities such as walking, eating, sitting, etc...)
2	Research the amount of energy required for 1 minute of each activity (e.g. sitting, walking, swimming, etc...).
3	List you activities in order of the amount of energy used starting with the activity that uses least amount of energy.
4	Work out how many minutes you spend on each activity.
5	Calculate the amount of energy used in one day.

#### **Task Five**

You need to make a presentation to show the rest of your class what you have been working on.

It can be on PowerPoint, but doesn't have to be.

If you have made a poster and written an essay, you can show/talk about those.

Whether you use PowerPoint or not, you need to practice your presentation, so you know exactly what you are going to say.

It should last between 1 and 2 minutes.

Mark out of 5	Success Criteria
0	No presentation.
1	A very short presentation with a short description of the tasks.
2	A short presentation with a description of the tasks and 1 fact.
3	A short presentation with a description of each task carried out and 2 facts.
4	A presentation that lasts 1 minute with a description of each task carried out and a few facts that have been learnt.
5	A presentation that lasts between 1 and 2 minutes with a detailed description and facts learnt from each task carried out.