**Y9 H/W Project: Science of Environmental Protection**

**Project handed out Thurs 28th/Fri 29th Sept Project week 2nd 8th Oct Project hand in Period 6 on Mon 9th Oct**

**What do we mean by Environmental Protection?**

**We mean areas of science which are trying to reduce the negative impacts of modern life on the planet. And we mean areas of science and technology which are trying to make the environment better for future generations**

* Your homework project next week is to research the sciences of environmental protection
* You must hand in three pieces of work, the last two of which will be assessed – (1) a planning sheet, (2) a list of resources you have used and (3) the final piece of work which is one side of A4, like a poster but the format is fixed. The “poster” will explain how examples biology, chemistry and physics are related to aspects of protecting the environment. It must be in **colour**, **electronically** produced and on **A4** paper.
* You can link all three subjects to the same type of environmental issue (e.g. the biology, chemistry and physics of an oil spill), or you can research three different areas.
* To help you direct your research, we advise you to cover research areas which are listed in the resources area on Firefly or from the Library display. Other options may be allowed but you must check with one of your science teachers first.

You need to present this in a word document, written in your own words. Nothing should be copied and pasted from the website (plagiarism). It is a little like a poster but you must follow the format shown below. We do not want you to spend a long time finding the images and presenting the information – we want you to take the time to write about the science you have found out.

Use the following example for your format:

**e.g. The Science of the Protecting the Ocean Name\_\_\_\_\_**

|  |  |
| --- | --- |
| The Biology of Oil Spills *Your text here. 150 – 250 words* | 1 or 2 good images |
| The Chemistry of Plastics in the Ocean *Your text here. 150 – 250 words* | 1 or 2 good images |
| The Physics of Tidal Energy *Your text here. 150 – 250 words* | 1 or 2 good images |

Each section should have

* A main paragraph which provides a summary of the key ideas you have found out about how science is important to or affecting developments in the environmental protection area you have chosen to research
* Include one or two good quality relevant images which help to support the text you include
* Enough words to explain the science you have found out about, but not too many that you lose the fact that this is only a summary. We think 150 – 250 for each paragraph should be about right.
* Use of appropriate scientific vocabulary (try to make sure that people in your year group would know what it means)
* You should proof read your work to check for errors

The whole poster should be neatly presented without formatting errors and should be suitable to go on a notice board.

**Y9 Science of Environmental Protection - PLANNING SHEET**

This sheet must be handed in with your completed poster on the due date given to you by your teacher.

Due date Mon 9th October Class \_\_\_\_\_\_\_\_\_\_\_\_ Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Planning your project**

First choose your areas of research. Do you already have an idea or a short list? List your preliminary ideas here.

I would like to research the topic(s) of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Ideas to look up**

Use the ideas sheet and your own knowledge of the environment to choose a couple of ideas to research relevant to each of your sciences. If you are still choosing between two areas at this stage give one idea for each instead.

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| --- | --- | --- |
| Ideas of biological area to research  | Ideas of chemical area to research | Ideas of physical area to research |
|  |  |  |
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**Finding sources**

Why not use some of these ideas to find good quality references for your project. Think carefully about which websites will give you the right content and images for this project.

* Are there professional websites which you could find things on?
* Is there a research or charity website which is promoting environmental protection?
* GCSE Science Textbooks
* Library books on all aspects of the environment from the display. *Tip – some good books also include suggested weblinks as well!*

**Resources**

Part of this homework project will be assessed for your quality use of sources. You are expected to fill in the table on the next page with all the sources you used. You will then be asked why you found them useful. Pick four different resources that you looked at. Explain why you found them useful:

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**Now answer the question on the References sheet over the page.**

**Y9 H/W Project: Science of Environmental Protection- *this sheet will be assessed***

**References: Books – you must choose two books or more**

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| --- | --- | --- | --- | --- |
| **Author/s or Editor** | **Year of Publication** | **Title** | **Place of publication** | **Publisher** |
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**References: Websites – you must choose three websites or more**

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| --- | --- | --- | --- | --- |
| **Author/Publishing Organisation** | **Year of publication/ last updated** | **Title** | **Website URL** | **Date information accessed** |
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***Five references, at least two books and three websites (or more of either), completely filled in above will score maximum marks of 12* [12]**

**Which one of these was the most useful? Explain what was good about it and explain why it was better than the others.**

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**Year 9 Science of Environmental Protection Mark scheme**

**The planning sheet must be handed in**

However it will not be assessed for credit.

**References Document [15]**

Table

* Two book sources with five boxes of information each give a possible 10 “ticks”.
* Three internet based sources with five boxes of information each give a possible 15 “ticks”.
* Each correct box scores ½ mark. {12}

Three marks for which was the most useful source and why:

* One mark for choosing the source
* Second mark for explaining what was good about it
	+ E.g. quality of diagrams, appropriateness of level of content, relevance to the topic in question, trustworthiness of source.
* Third mark for making a comparison why it was better or other sources were worse. {3]

**“Poster” or end product [10]**

Three marks for each subject information (bio/chem/phys)

Zero if work seems to have been plagiarised/ copied and pasted

* One mark for low quality or irrelevant use of science, or science of an inappropriate level suggesting the student does not understand what they have written
* Two marks for good quality scientific information, most students should be able to achieve this score
* Three marks for high quality scientific information which is interesting and/or contains appropriate relevant scientific vocabulary
* 3 marks x 3 subjects = {9}
* 1 mark for whether or not it is well presented enough to go onto the wall. {1}

**Total mark** **[25]**