**Summative Assessment**

**Criteria D**

**House Lighting**

Name of student:

Grade:

**Survey- Section A**

**Answer the following questions-**

What are CFLs & LED light bulbs?

Why do we need to use CFLs & LED light bulbs? List some benefits of using them?

How you can save electricity in your home by using CFLs & LED light bulbs?

How does more efficient lighting reduce pollution?

How are CFLs and LED light bulbs better than incandescent bulbs?

**Saving energy prevents pollution-** Explain this statement in 200 words.

You can use the below mentioned websites for your research-

<http://cflbulbs.com/>

<http://www.greenfeet.net/newsletter/compactfluorescent.shtml>

<http://www.reuk.co.uk/Benefits-of-CFL-Lighting.htm>

<http://www.reuk.co.uk/Ways-to-Save-Electricity.htm>

<http://www.reuk.co.uk/Australia-to-Ban-Incandescent-Bulbs-in-2010.htm>

<http://www.fastcompany.com/magazine/108/open_lightbulbs.html>

<http://fcgov.com/utilities/powertosave/cfl-benefit-faq.php#replace>

<http://www.penlight.org/pages/faq_pgs/cfl_faqs.html>

<http://eartheasy.com/live_energyeff_lighting.htm>

**Section B**

Using the above data **design an infographic on ‘Get energy smart’.** You will then **conduct a House lighting Survey** [10 families] using the questionnaire given on the next sheet. After your survey is done you will **hand one copy of the ‘Get energy smart’ awareness infographic to each family** you interviewed.

**House Lighting Survey**

**Section A**

Conduct a survey on lighting in houses.

Visit 10 families and use the questionnaire given below to conduct your survey-

* How many lamps are there in each room? List the types of lamps used.
* Do you think that you use a lot of light energy?
* Are you aware about CFLs and LED light bulbs?
* Do you feel that using light energy hurts the environment?

* What environmentally-friendly light energy resources do you know of?

After the above questions are answered the student should orally present their poster/pamphlet/webpage to the family.

Then get answers for the following questions-

* How would you change your attitude towards conserving energy?

* What are some methods you know of for saving energy? How can you reduce the amount of energy that you use?

Name, signature and Phone no. of a family member-

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Use the template below to make a plan

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| **State the central problem or issue that you are looking at:** |
|  |
| **Explain the scientific background that are involved in the problem or issue and identify the main concepts that are involved.** (This should include calculation) |
|  |

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| **Identify implications of the problem. State the type of factor. Discuss each to show why they are relevant. (Add rows as needed)***Factors: Cultural, Economic, Environmental, Ethical, Moral, Political, Social* |
| **Implication** | **Factor** | **Evaluation** | **Source:** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Review the list of factors below and ensure your discussion addresses at least two of these.

### **Factors**

Cultural Patterns of knowledge, behaviour, beliefs, shared attitudes, values, goals, and practices that characterize groups of people

Economical Production, distribution, and use of income, wealth, and commodities

Environmental The circumstances, objects, or conditions by which one is surrounded

Ethical The process of rational inquiry to decide on issues as right or wrong, as applied to the people and their actions

Moral Principles of right or wrong behaviour derived from a particular society

Political Relates to government or the public affairs of a country

Social Interactions between groups of people involving issues such as welfare, safety, rights, justice or class.

|  |
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| **Suggest an action that could lead to a solution to the problem or issue. Evaluate the suggestion to explain why it might help and possible problems.** |
| **Action** | **Why it might help** | **Possible problems** |
|  |  |  |
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| **Review the central problem or issue and state your overall judgement for a solution** |
|  |

**Identify all the sources you have used:**

You are now ready to make your poster.

Decide how you are going to arrange the information you have found and which parts are most important.

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| **Criterion D: Reflecting on the impacts of science** |

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| --- | --- | --- |
| **Level** | **MYP descriptor - Year 3** | **Demonstrated When** |
| **0** | The student does not reach a standard described by any of the descriptors below. | The student does not reach a standard described by any of the descriptors below. |
| **1-2** | The student is able to:i. state the ways in which science is used to address a specific problem or issue ii. state the implications of the use of science to solve a specific problem or issue, interacting with a factor iii. apply scientific language to communicate understanding but does so with limited success iv. document sources, with limited success | 1. You identify calculations to **outline** the issue
2. You **outline** the implications of different light bulb designs and how understanding can help make suitable choices
3. You **apply** key basic scientific terms some of the time
4. You have attempted to **document** sources using MLA format
 |
| **3-4** | The student is able to: i. outline the ways in which science is used to address a specific problem or issue ii. outline the implications of using science to solve a specific problem or issue, interacting with a factor iii. sometimes apply scientific language to communicate understanding iv. sometimes document sources correctly | 1. You use calculations to **summarize** the issue
2. You **describe** the implications of different light bulb designs and how understanding can help make suitable choices
3. You **apply** relevant key scientific terms correctly on most occasions
4. You have **documented** most sources correctly, but not all are in MLA format
 |
| **5-6** | The student is able to: i. summarize the ways in which science is applied and used to address a specific problem or issue ii. describe the implications of using science and its application to solve a specific problem or issue, interacting with a factor iii. usually apply scientific language to communicate understanding clearly and precisely iv. usually document sources correctly | 1. You use relevant calculations to **describe** the issue
2. You **discuss** the implications of different light bulb designs and how scientific understanding can help make suitable choices
3. You **apply** key scientific terms (words) in clear sentences on most occasions
4. You have **documented** all sources in MLA format with few formatting errors
 |
| **7-8** | The student is able to: i. describe the ways in which science is applied and used to address a specific problem or issue ii. discuss and analyze the implications of using science and its application to solve a specific problem or issue, interacting with a factor iii. consistently apply scientific language to communicate understanding clearly and precisely iv. document sources completely | 1. You use relevant calculations accurately to **explain** the issue
2. You **discuss** and **evaluate** the implications of different light bulb designs and how scientific understanding can help make suitable choices.
3. You **consistently apply** key terms in clear sentences consistently.
4. You have documentedall sources **completely** in MLA format.
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### **Command terms**

Analyse Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions

Apply Use knowledge and understanding in response to a given situation or real circumstances

Describe Give a detailed account or picture of a situation, event, pattern or process

Document Credit sources of information used by referencing (or citing) following one recognized referencing system. References should be included in the text and also at the end of the piece of work in a reference list or bibliography

Identify Provide an answer from a number of possibilities. Recognize and state briefly a distinguishing fact or feature

Outline Give a brief account

State Give a specific name, value or other brief answer without explanation or calculation

**MARKING & REFLECTION**

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| --- | --- |
|  | **Reflecting on the Impacts of Science** |
| **Student** |  |
| **Peer** |  |
| **Teacher** |  |

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| **Teacher comment**:infographic |
| **Student comment**: |

http://www.themypteacher.com/uploads/9/8/9/0/9890564/one\_world\_essay\_writing\_guide\_master.pdf