**Survey of Chemistry**

**Project 1**

**Chemical Children’s Book**

**The Task:**

You are working as an author and have been given the task to create a children’s book about an element or a chemical. Your target audience is third and fourth grade students.

Parts of your book:

* Cover – including name of element and your name.
* Table of Contents – listing of the interesting ideas about your element.
* Basic Information –Examples include for an element atomic number, atomic mass, simplified drawing of the nucleus (color coded), symbol etc. Your description of the element should include a short history of the element, where and how it was discovered, what it looks like in its pure form, its physical state at room temperature (solid, liquid or gas), how common the element is in nature, where it is found, how you make pure samples of the element, common uses for the element. (6 or more pages)
* You need to include compounds the element can make – include at least 3 compounds the element can make, its uses, properties and formula. (1 page per compound)
* Glossary - your glossary should include at least ten (10) words included in your book with appropriate definitions and pronunciation key. Color code the words of the glossary where they appear in the book. This is where descriptions of words like proton, nucleus, etc. will take place. Don't waste space on the book pages with wordy explanations of terms you can fit here. (2-4 pages)
* Sources – List all sources researched in making the book. (1 page)
* Size of book – finished size is 8 ½” by 5 1/2” this is the size of a standard piece of paper folded in half.
* When your book is complete, you will present it to the class as part of an oral presentation.
* Students as audience members will evaluate each presentation and offer constructive criticism.

Project advice:

* Be chemically accurate – don’t make up chemical facts. Creativity is appreciated but your facts must be accurate.
* Complete the project on time – you will lose a letter grade for every day it is late.
* Neatly done – it doesn’t need to be done on a computer but handwriting must be neat. Don’t use white-out, if you make a mistake do that page over.
* Correct spelling – one point will be lost for every misspelled word. Use a dictionary or spell checker.
* Colorful – use color and pictures to break up white space but not to distraction.

Grading check list – use the grading checklist to ensure all requirements are met.

**Scoring Guide**

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| --- | --- | --- | --- | --- |
| CATEGORY | **excellent (4)** | **very good (3)** | **not very good (2)** | **unacceptable (1)** |
| **Effectiveness** | Presentation includes all material needed to gain a comfortable understanding of the topic. | Presentation includes most material needed to gain a comfortable understanding of the material but is lacking one or two key elements. | Presentation is missing more than two key elements. | Presentation is lacking numerous key elements. |
| **Content - Accuracy** | All content throughout the presentation is accurate. There are no factual errors. | Most of the content is accurate but there is one piece of information that might be inaccurate or misconception. | The content is generally accurate, but one piece of information is clearly flawed or inaccurate. | Content is typically confusing or contains more than one factual error. |
| **Originality** | Presentation shows considerable originality and inventiveness. The content and ideas are presented in a unique and interesting way. | Presentation shows some originality and inventiveness. The content and ideas are presented in an interesting way. | Presentation shows an attempt at originality and inventiveness on 1-2 slides. | Presentation is a rehash of other people's ideas and/or graphics and shows very little attempt at original thought. |
| **Sequencing of Information** | Information is organized in a clear, logical way. It is easy to anticipate the type of material that might be on the next slide | Most information is organized in a clear, logical way. One slide or item of information seems out of place. | Some information is logically sequenced. More than one slide or item of information seems out of place. | There is no clear plan for the organization of information. |
| **Text - Font Choice & Formatting** | Font formats (e.g., color, bold, italic) have been carefully planned to enhance readability and content. (Wow!) | Font formats have been carefully planned to enhance readability. (Okay!) | Font formatting has been planned to complement the content. It may be a little hard to read. (What does that word say?) | Font formatting makes it very difficult to read the material. (Can you resize that or change the color?) |
| **Spelling and Grammar** | Presentation has no misspellings or grammatical errors. | Presentation has 1-2 misspellings/ grammatical errors. | Presentation has 3-4 misspellings/ grammatical errors. | Presentation is riddled with misspellings/ grammatical errors. |

SEE OTHER SIDE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Research** | Used a variety of internet sites and/or sources took meaningful notes. Made effective use of time and stayed on task at all times. Successfully uses internet links to find information and navigates within these sites easily without assistance. | Used at least 2 varied internet sites and/or sources and took notes as needed. Occasionally lost focus doing research and needed direction  Usually able to use internet links to find information and navigates within these sites easily without assistance. | Needed help finding and using adequate internet sites and/or sources. Generally unable to work independently Occasionally able to use internet links to find information and navigated within these sites easily without assistance. | Did not find enough sources of information even though they were available. Very little research done.  Constantly needed assistance or supervision to use internet links and/or to navigate within these sites. |
| **Presentation** | Student is completely prepared and has obviously rehearsed. Visual aid adds to the presentation and is well done. All questions are answered correctly and the explanations are well done. | Student seems pretty prepared but might have needed a couple more rehearsals. Visual aid is generally well done. Most questions are answered correctly and the explanations are generally well done. | The student is somewhat prepared, but it is clear that rehearsal was lacking. Visual aid is adequate for the task. Some questions are answered correctly but the explanations were poor. | Student does not seem at all prepared to present. Visual aid is missing or very poorly done. Most questions are answered incorrectly and the explanations are flawed. |

**Attachments/Resources**

Grading Check List:

|  |  |  |
| --- | --- | --- |
| Got it? | Point Value | Topic in your Book |
|  | 5 | The name of your element/chemical is on the cover of your book. |
|  | 5 | Your name on the cover of your book. |
|  | 10 | Table of contents. |
|  | 5 | Atomic number of your element somewhere in the book. |
|  | 5 | Atomic mass of your element somewhere in the book. |
|  | 5 | The symbol for your element somewhere in the book. |
|  | 10 | A color coded diagram of your element's nucleus showing the particles in the nucleus. |
|  | 5 | The number of protons in the nucleus of your element. |
|  | 5 | The number of neutrons in the nucleus of your element. |
|  | 10 | The electron cloud surrounding the nucleus of your element. |
|  | 10 | A short history of your element. Who found it, when was it discovered, etc. |
|  | 5 | The appearance of your element in its pure form at room temperature. Is it shiny? yellow? dull? etc. |
|  | 5 | The physical state of your element at room temperature. Is it a solid, liquid or gas? |
|  | 5 | How common is your element in nature? |
|  | 5 | How do you make a pure sample of your element? |
|  | 5 | What are the common uses for your element? |
|  | 5 | What are some health effects of your element? |
|  | 5 | What are some environmental effects of your element? |
|  | 20 | What are the name, formula and uses for one compound containing your element? |
|  | 20 | What is the name, formula and uses for second compound containing your element? |
|  | 20 | What is the name, formula and uses for third compound containing your element? |
|  | 50 | Glossary of a minimum of ten words in your book. |
|  | 10 | Bibliography of sources used. |
|  | 10 | Colorful. |
|  | 10 | Made to size. |
| X | 250 | Total Points |