**Chemical Bonding Project**

**Due Date: Wednesday, Oct. 17** (each day late will result in a letter grade off up to 3 days)

This project is designed to let you demonstrate your knowledge of ionic and covalent bonding. All projects must include:

* Explanation/Demonstration of Ionic Bonding to Include - *how the ions (electrons) behave during bonding, the types of ions involved in bonding, a Lewis Dot Diagram demonstrating the bonding and 3 examples (formulas and names) of ionic compounds.*
* Explanation/Demonstration of Covalent Bonding to Include *– how the ions (electrons) behave during bonding, the types of ions involved in bonding, a Lewis Diagram demonstrating the bonding and 3 examples (formulas and names) of covalent molecules.*
* Explanation/Demonstration of polarity to include 3 examples of each polar and non-polar compounds.

Your choices for project are:

* Tri-Fold Brochure: Brochure must be on an 8 ½ x 11 piece of paper. It must be typed in size 11 Times New Roman font, 1.5 spacing. A minimum of 3 pictures should be used, but the number of pictures may not exceed 5. Brochure should be free of spelling and grammar errors.
* Storybook/Comic Book: Storybooks and comic books should tell a story, have characters, and a central theme. For the storybook, one picture is required per page. The comic strip will have more pictures. Both should be submitted on 8 ½ x 11 paper or digitally using a storybook or comic creator. The storybook should be a minimum of 8 pages; the comic book should be a minimum of 4 descriptive panels. Story and comic books should be free of spelling and grammar errors. (Resources for digital storybooks or comic strips: [www.comiclife.com](http://www.comiclife.com), [www.flipsnack.com](http://www.flipsnack.com), [www.labinitio.com](http://www.labinitio.com), [www.scratch.mit.edu](http://www.scratch.mit.edu), [www.showme.com](http://www.showme.com), [www.Toondoo.com](http://www.Toondoo.com), <https://www.storyboardthat.com/storyboard-creator>, <https://www.canva.com/create/comic-strips/>, <http://www.comicstripcreator.org/>, <http://anyflip.com/>.

There are many easy to use Web 2.0 tools that can be used to create great presentations.

* Other: If you have an idea for an alternative project, **not a PowerPoint**, you may ask the teacher to approve your project. Projects must be approved in advance.

Remember, if any portion of your project is copied, you will receive a zero on this project. Electronic projects should be emailed or shared through Google Drive. Paper copies should be brought in for other projects on due date.

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| Length  (pages, frames) | Project is within the appropriate length specifications  10 | Project was half a page of the specified page limit  7 | Project was more than half a page off of the specified length  3 |
| Ionic Bonding – behavior of electrons and types of ions involved. | Project fully explains or demonstrates ionic bonding  10 | Project partially explains or demonstrates ionic bonding  7 | Project loosely explains or demonstrates ionic bonding  3 |
| Lewis Dot Diagram demonstrating Ionic Bonding | Correct number of valence electrons used. Electron transfer or sharing demonstrated accurately. Anion and Cation properly identified.  10 | A Lewis Dot Diagram is included but is not accurate. Electron activity not accurately demonstrated. Cation and Anion not properly identified.  7 | Project loosely demonstrates a Lewis Dot Diagram, does not demonstrate electron behavior or cations and anions are not differentiated.  3 |
| Examples of Ionic Compounds | More than 3 examples of ionic compounds are included. Chemical Formulas and names are written correctly.  10 | 3 examples of ionic compounds are included. Chemical formulas and names are written correctly.  7 | Fewer than 3 examples of ionic compounds are included. Chemical formulas and/or names are written incorrectly.  3 |
| Covalent Bonding – behavior of electrons and types of ions involved. | Project fully explains or demonstrates covalent bonding  10 | Project partially explains or demonstrates covalent bonding  7 | Project loosely explains or demonstrates covalent bonding  3 |
| Covalent Bonding – Lewis Diagrams demonstrate covalent bonding. | Correct number of valence electrons used. Electron transfer or sharing demonstrated accurately.  10 | A Lewis Diagram is included but is not accurate. Electron activity not accurately demonstrated.  7 | Project loosely demonstrates a Lewis Diagram, does not demonstrate electron behavior accurately.  3 |
| Examples of Covalent Molecules | More than 3 examples of covalent molecules are included. Molecular formulas and names are written correctly.  10 | 3 examples covalent molecules are included. Molecular formulas and names are written correctly.  7 | Fewer than 3 examples of covalent molecules are included. Molecular formulas and/or names are written incorrectly.  3 |
| Polarity | Project fully explains or demonstrates the concept of polarity and differentiates between polar and non-polar molecules.  10 | Project partially explains or demonstrates the concept of polarity and differentiates between polar and non-polar molecules.  7 | Project loosely or inaccurately explains or demonstrates the concept of polarity and vaguely differentiates between polar and non-polar molecules  3 |
| Examples of polar and non-polar molecules | 3 or more accurate examples of polar and non-polar molecules are given  10 | 3 examples of polar and non-polar molecules are given.  7 | Fewer than 3 each of polar and non-polar molecules are provided.  3 |
| Neatness and Grammar | Project is visually pleasing and free of errors  10 | Project lacks some neatness and/or has errors  7 | Project lacks neatness and/or has many errors  3 |

Total\_\_\_\_\_\_\_\_\_\_\_/100