**Objective:** You will be comparing and contrasting chemical bonds (ionic and covalent)

**Grading**: 100 points

**Due Date: March 4, 2021 by MIDNIGHT!!**

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

* Explanation/Demonstration of Ionic Bonding
* Explanation/Demonstration of Covalent Bonding
* Explanation/Demonstration of valence electrons and how they are related to each type of bond
* Explanation/Demonstration of how periodic trends affect bonding (i.e. electronegativity/polarity)

**Format:**

1. You will be creating a Flipgrid video to demonstrate your knowledge of chemical bonding.
2. Be sure to include all 4 items you need to demonstrate (see above)
3. You need to think of a creative way to demonstrate your knowledge of bonding. DO NOT just stand in front of the camera and state definitions and explanations.
4. Video must be a minimum 2 minutes in length. All required information should be covered in the video.
5. You must appear in the video.

**Part A: Scavenger Hunt for Household Compounds Requirements**

1. You must search your house and find compounds to add to the table below.
   * Please note any safety warnings on labels and follow all safety instructions from the start of the semester of how to handle chemicals.
2. You must find 3 ionic compounds and 2 covalent compounds.
3. Read the label on the product and find the name of a compound that is listed. Write the name in the first column.
4. Complete the other information required in the table by using internet resources or notes.
5. You must also use the products in your Flip-Grid presentation.

**TABLE: Household Compound Scavenger Hunt Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **COMPOUND**  **NAME** | **CLASSIFY AS IONIC OR**  **COVALENT** | **IF IONIC**  **SHOW IONS OR IF COVALENT**  **SHOW  PREFIXES** | **WRITE THE**  **FORMULA FOR THE COMPOUND** |
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**Part B: Create a Flipgrid**

**Compare and Contrast Ionic Bonding and Covalent Bonding Requirements**

1. You must explain and demonstrate ionic bonding for the compound you are assigned.
   1. You must include the given ionic compound from your teacher.
      1. My compound is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the formula is \_\_\_\_\_\_\_\_
   2. You must include the role played by valence electrons
   3. You must include explanation of how the position on the periodic table affects bonding. (ie: electronegativity, ion formation, valence electrons, octet rule)
   4. You must include 3 household products (from Part A) that contain ionic compound. You will use the information you posted to the table below to help you in your presentation.
2. You must explain and demonstrate covalent bonding for the compound you are assigned.
   1. You must include the given covalent compound from your teacher.
      1. My compound is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the formula is \_\_\_\_\_\_\_\_
   2. You must include the role played by valence electrons
   3. You must include explanation of how the position on the periodic table affects bonding. (ie: electronegativity, valence electrons, octet rule etc.)
   4. You must include 2 household products (from Part A) that contain covalent compound. You will use the information you posted to the table below to help you in your presentation.

**Suggested scaffolded plan:**

1. **Brainstorm and write out the needed information you will need to include in your project**
   1. What compounds was I given by Mrs. Meeks?
   2. Which compound is ionic, and which is covalent?
   3. **Ionic (Type I, II and Polyatomic) and Covalent**
      1. What makes up this bond (metal? nonmetal?)
      2. What role do the valence electrons play in bonding (transferred? shared?)
      3. How does the position of the elements in the bond affect/determine bonding (include: electronegativity (see polar bear activity), valence electrons and octet rule)?
      4. Include your given example from Ms. Day
      5. Include 3 ionic and 2 covalent household items
2. **Draw/create any visuals, models, etc needed for Flipgrid video**
   1. What materials do you already have that you can use?
   2. What do you need to create?
   3. How will you use these items?
3. **Write out and plan your storyboard/script and include your visuals and info above**
4. **Scavenger Hunt – Find the needed items (3 ionic/2 covalent)**
   1. See attached examples for suggestions
   2. Then decide if the example you found are ionic or covalent
   3. Find the formula for the compounds you are using
5. **Practice your Flipgrid (use storyboard/script and props) – double check you included ALL needed information**
6. **Record your Flipgrid**
7. **Edit your Flipgrid and enhancements**

**Scavenger Hunt Examples (item compound is found in – name of compound)**

* Crest 3D White Mouthwash – Hydrogen Peroxide
* Mary Kay Moisturizer – Ammonium Hydroxide
* Opti-Free Contact Solution – Sodium Chloride
* Secret Antiperspirant – Calcium Chloride
* Mentos – Carbon Dioxide
* Alka Seltzer – Sodium Bicarbonate
* Bleach, laundry – Sodium Hypochlorite
* Dasani Water – Dihydrogen Monoxide
* Sand – Silicon Dioxide
* Corn – Calcium oxide
* Chef Boyardee Ravioli – Calcium Carbonate
* Liquid Plumer Gel. – Sodium Hydroxide
* Matches – Potassium Nitrate
* Baking Powder – Sodium Bicarbonate
* Goldfish Crackers – Disodium Phosphate

**Table to use for scavenger hunt compounds (for your organizational purpose)**

|  |  |  |  |
| --- | --- | --- | --- |
| **HOUSEHOLD ITEM** | **COMPOUND NAME** | **IONIC OR**  **COVALENT?** | **FORMULA OF**  **THE COMPOUND** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**FLIPGRID LINK:**

2nd Block: <https://flipgrid.com/f40dc49c>

**Grading Rubric** Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| Length  (time) | Project is within the appropriate length specifications  10 | Project was with 30 seconds time limit  7 | Project was more than 30 seconds or more of specified time length  3 |
| Ionic Bonding | Project fully explains or demonstrates ionic bonding  15 | Project partially explains or demonstrates ionic bonding  10 | Project loosely explains or demonstrates ionic bonding  7 |
| Covalent Bonding | Project fully explains or demonstrates covalent bonding  15 | Project partially explains or demonstrates covalent bonding  10 | Project loosely explains or demonstrates covalent bonding  7 |
| Valence Electrons | Project fully explains or demonstrates the role of valence electrons in bonding  15 | Project partially explains or demonstrates the role of valence electrons in bonding  10 | Project loosely explains or demonstrates the role of valence electrons in bonding  7 |
| Periodic Trends | Project fully explains or demonstrates how periodic trends affect bonding  15 | Project partially explains or demonstrates how periodic trends affect bonding  10 | Project loosely explains or demonstrates how periodic trends affect bonding  7 |
| Speech and Grammar | Speech is clear and free of grammatical errors  10 | Speech lacks some clarity and/or has grammatical errors  7 | Speech lacks clarity and/or has many grammatical errors  3 |
| Specific Project Type | Specific project requirements were all met  10 | Most project requirements were met  7 | Few, if any, project requirements were met  3 |
| Creativity | Demonstrated creative method of explaining Bonding Types  10 | Demonstrated somewhat creative method of explaining Bonding Types  7 | Did not demonstrate creative method of explaining Bonding Types  3 |

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