

# Components of Activity

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## Chemistry 16 & Chemistry 17

**WHAT THIS ACTIVITY IS ABOUT:** This activity is about cross-cutting concepts in science.

*Crosscutting Concepts represent common themes that span across science disciplines. These concepts identify universal properties and processes found in all the science disciplines.*

### **INSTRUCTIONS:**

**1. Briefly scan through each paragraph before starting.**

**2. Carefully read the 1<sup>st</sup> paragraph. Underline and/or circle key ideas and words.**

*Circle either YES or NO for each of the cross-cutting concepts on that page that apply.*

**3. Carefully read the 2<sup>nd</sup> paragraph. Underline and/or circle key ideas and words.**

*Circle either YES or NO for each of the cross-cutting concepts on that page that apply*

**4. Return to the 1<sup>st</sup> paragraph. Write a brief response for each cross cutting concept marked YES.**

*At bottom of page, circle the number of the cross-cutting concept which BEST fits the paragraph.*

**5. Return to the 2<sup>nd</sup> paragraph. Write a brief response for each cross cutting concept marked YES.**

*At bottom of page, circle the number of the cross-cutting concept which BEST fits the paragraph.*

**6. At the bottom of each page, describe WHY you selected that cross-cutting concept as the BEST fit.**

**7. Complete a VENN diagram on the back page for the two topic paragraphs.**

**8. Write a 50 word essay. Summarizing your discoveries, ideas, and conclusions about the paragraphs.**

## Chemistry 16 Naming Binary Compounds

While there are 118 chemical elements, there many combinations of the elements which make a compound. For our purposes here, a compound is made up of two or more elements. A binary compound is made up of exactly two different elements. This topic introduces the rules in naming a binary compound - that is, naming a compound with exactly two elements. Does this paragraph mention, describe, imply, refer to, or convey:

1. (YES) (NO) any **patterns**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
  2. (YES) (NO) any **cause and effect**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
  3. (YES) (NO) a **quantity, numeric scale, or proportion**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
  4. (YES) (NO) a **system, or organized structure**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
  5. (YES) (NO) about **energy or matter**? (*Especially flows, cycles, and conservation*)?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
  6. (YES) (NO) the **structure or function** of something?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
  7. (YES) (NO) concepts of **stability and/or change**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
- Circle the number which BEST represents the paragraph? (1) (2) (3) (4) (5) (6) (7).  
Why did you choose this number? >> \_\_\_\_\_  
\_\_\_\_\_

## Chemistry 17 Naming and Writing Formulas

Students become further acquainted with rules and conventions associated with saying the names and writing the names of various compounds. In particular, naming conventions are introduced for several of the most frequently encountered polyatomic ions. Alas, in this instance the names of common polyatomic ions must be memorized. Common names for polyatomic ions are used in much the same way as a single element. As an example, sodium sulfate ( $\text{Na}_2\text{SO}_4$ ) combines the names of sodium (Na, an element) with sulfate ( $\text{SO}_4$ , an ion). Polyatomic ions are charged entities composed of several atoms bound together. Common polyatomic ions (such as sulfate) have special names which students must memorize. Does this paragraph mention, describe, imply, refer to, or convey:

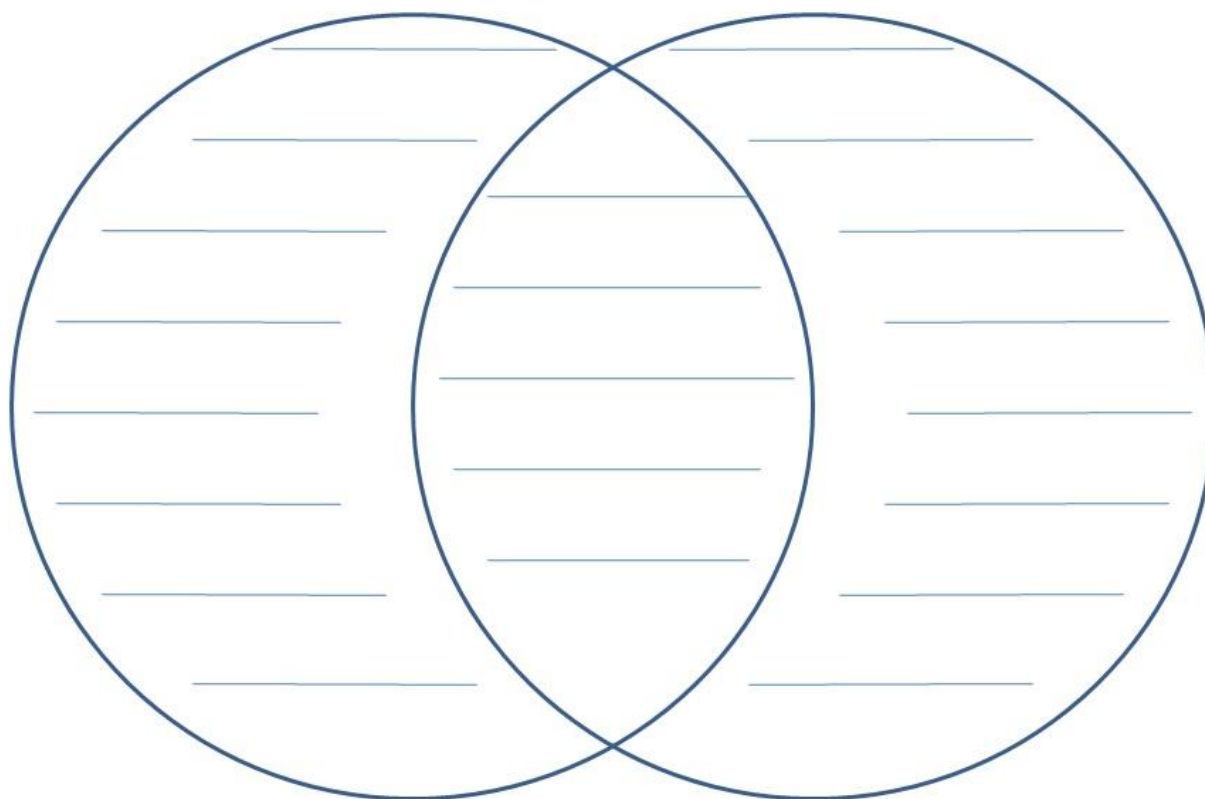
1. (YES) (NO) any **patterns**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
2. (YES) (NO) any **cause and effect**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
3. (YES) (NO) a **quantity, numeric scale, or proportion**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
4. (YES) (NO) a **system, or organized structure**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
5. (YES) (NO) about **energy or matter**? (*Especially flows, cycles, and conservation*)?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
6. (YES) (NO) the **structure or function** of something?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_
7. (YES) (NO) concepts of **stability and/or change**?  
in what way >> \_\_\_\_\_  
\_\_\_\_\_

Circle the number which BEST represents the paragraph? (1) (2) (3) (4) (5) (6) (7).

Why did you choose this number? >> \_\_\_\_\_  
\_\_\_\_\_

**Naming Binary Compounds**

**Naming and Writing Formulas**



**Write a 50 Word Essay about the topic paragraphs here ...**

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