

Name: _____
 Period: _____
 Date: _____

Comparing Properties of Elements and the Compounds They Make

Engage: In groups, analyze the elements for physical (and chemical) properties used to identify the element. Record these properties in your data table; these properties will then be compared to the compounds we will use later in the unit. Eventually, we will be able to answer, “Do properties change when elements make compounds?”

How are these elements different? How can we tell elements apart? Brainstorm in your group (remember lesson 1) properties we can use to tell things apart.

Properties used to identify elements: 1) _____ 4) _____
 2) _____ 5) _____
 3) _____ 6) _____

Now analyze and research each element’s individual properties and record them in the data table.

Elements to research: Carbon, Hydrogen, Oxygen, Calcium, Chlorine, Nitrogen, Sodium, Magnesium, Sulfur, Iron

Table 1: Element properties

Element Name and Symbol							

Extra: Which elements are in the same group? _____ and _____
 _____ and _____

Is there a trend or pattern in the properties of these elements that are in the same group? Are properties the same, similar, or completely different (not even close to each other)? _____

Explore: Now, in groups analyze and research the same properties of the compounds these elements form (these compounds will be used later in the self-warming clothing project. Remember our focus question: “Do properties change when elements make compounds?”

Compounds to research: H_2O , $C_2H_4O_2$, Fe_3C , $C_6H_8O_7$, $CaCl_2$, NH_4Cl , $NaHCO_3$, $MgSO_4$

Table 2: Compounds’ properties

Compound Name and chemical formula							

Compare and contrast three compounds’ properties (ones you might use in the final project) with the elements’ properties that compose the compounds. Are the properties the same? Are the properties similar? Are the properties completely different? Give evidence for your conclusion (use the specific properties of the elements and compounds to defend your answer).
