

Exploring Elements

4-People Max per group

Purpose: To classify a group of elements

Materials: encyclopedia or other reference materials
index cards

Procedure

1. Use the table below to record information.

@ 25 °C

Element	Atomic number	Atomic mass	State (solid, liquid, or gas)	Color	Density (g/cm ³)

2. Work in a group with four other students. Each student should choose five elements to research. Make sure no two group members choose the same element.
3. Research your five elements. Write in the data table the information you find about your elements.
4. Make an index card for each of your elements. Write the information from the data table on the card. Include any other information you think is important or interesting.
5. Gather all 25 cards from your group. See how many different ways you can classify the elements.
6. Choose one classification system that your group thinks is best.

Exploring Elements, continued

Questions

1. How many ways did you find to classify the elements?

2. Did some ways work better than others? Why?

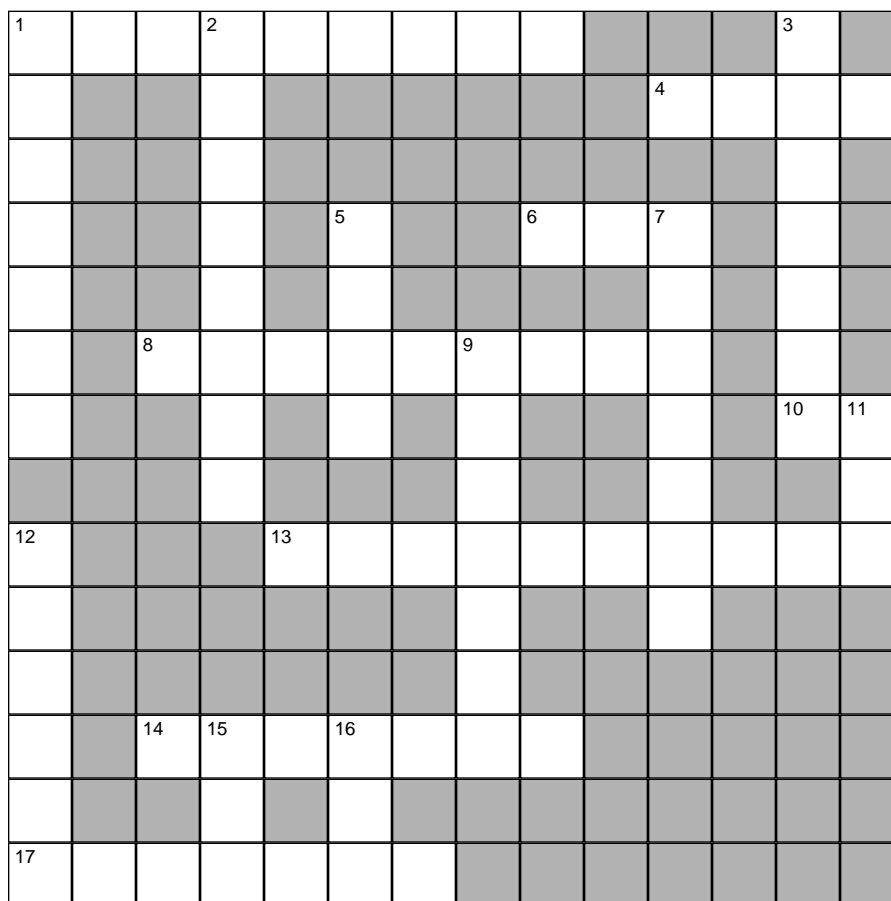
3. Which classification system did your group think best? According to which properties were the cards in this classification system grouped?

4. How could you make your classification system better?

Explore Further

Work with three other groups of five students to research the first 100 elements. Can you classify them the way you classified your 25 elements? Can you classify them the way any of the other groups classified their 25 elements? Are there any other ways you can classify elements?

Individual Assihment

Crossword: Compounds**Across**

- _____ are contained in energy levels
- Reacts with a metal to form hydrogen
- An atom that has a charge
- Small number written below a symbol in a chemical formula
- Symbol for magnesium
- They identify acids and bases.
- A kind of chemical recipe
- Particle with no charge

Down

- Hydrogen is a natural _____, one of 92.
- Chemical combination of two or more elements
- Li
- Has a bitter taste
- NO_3
- OH is an example of one.
- State of matter
- C
- Opposite of *in*
- A cow's sound

Words: acid, base, subscript, indicator, Nitrate, Nitrite, Carbon, formula, compound, electron, element