Activity: How the Periodic Table Organizes the Elements Video Questions

FOR THE TEACHER

Summary
In this lesson, students will watch a video and answer questions about the organization of the periodic table. They will learn about how the elements on the periodic table are organized and what their location on the table can tell us about them.

Grade Level
Middle School, High School

NGSS Alignment
This activity will help prepare your students to meet the performance expectations in the following standards:

- **HS-PS1-1**: Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

Objectives
By the end of this lesson, students should be able to:

- Describe how the periodic table is organized and what information an element’s location can provide about its chemical behavior.

Chemistry Topics
This lesson supports students’ understanding of:

- History of Chemistry
- Periodic table
- Valence electrons

Time
Teacher Preparation: minimal
Lesson: 10 minutes

Materials
- How the Periodic Table Organizes the Elements Video
- Student handout
- Computer and projector with sound and internet access

Safety
- No specific safety precautions need to be observed for this activity.

Teacher Notes
- The “How the Periodic Table Organizes the Elements” video is part of the ACS video series Chemistry Basics. The entire series can be found [here](#).
- The running time of this video is about four minutes. It goes through information pretty quickly, so you may want to pause the video at certain points or play the video through twice.
- This video is intended for students to watch, and for teachers to integrate into their curriculum.
- The student questions/answers are presented in sequential order in the video.
- An answer key has also been provided for teacher reference.
FOR THE STUDENT
Lesson

How the Periodic Table Organizes the Elements Video Questions

Instructions
While watching the ACS Chemistry Basics video about the organization of the periodic table, answer the following questions:

1. How many elements are currently located on the periodic table?
2. Who first developed the modern periodic table?
3. What are vertical columns on the periodic table called? How many are there?
4. What are the elements in group 17 called?
5. What part of the atom determines what kinds of reactions an element will have?
6. What are the horizontal rows on the periodic table called? How many are there?
7. The nuclei of elements on which side of the periodic table pull more strongly on their electrons?
8. Mendeleev predicted the existence of several elements and their properties before they were discovered. He called one of them “Eka-aluminum.” What do we call that element now?