

How to Read the Periodic Table

Grades: 2-5

Subject: Chemistry

Materials: periodic table, How to Read the Periodic Table worksheet, *Mole and Tell*

NGSS: HS-PS1-1 Matter and Its Interactions

Skills: understanding and applying rules

Background: While it may not appear organized at first glance, the periodic table has a very specific order—and specific symbols and numbers for each element. In *Mole and Tell*, the students are taught what a mole is and then have to learn new things about this number and present them to the class (pages 32-35 show how two of the students learned about the periodic table). Understanding the molar mass of the elements is a great way to introduce your students to advanced chemistry topics like stoichiometry (the relationship between quantities of reactants and products before, during, and after a reaction) and converting molar mass into grams.

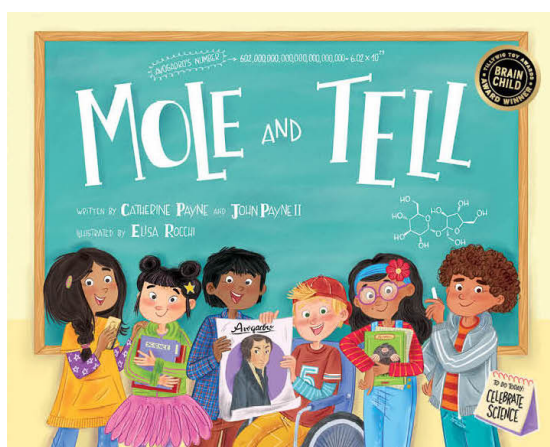
Activity:

1. Read *Mole and Tell* to your class. Point out pages 32-35 where the characters discuss the periodic table.
2. Display the periodic table or use a separate handout. Explain what each part of the element's square represents (symbol, atomic number, atomic weight).
3. Then discuss how the periodic table is also organized by periods (the rows) and groups (columns). A period signifies the number of electron shells an element has. A group notes how many valence electrons are in an element. Teach them how to find a group and a period on the periodic table.
4. Hand out the Periodic Table Worksheet, which will send them on a scavenger hunt throughout the periodic table.
5. Once the students have completed their assignment, regroup as a class and discuss the correct answer.

Discussion: What did you notice about the groupings of the elements? Which elements did you find the most interesting? Does the organization of elements make sense to you? Was it difficult to answer these questions once you knew where to find the right information?

Activity Answers

1. 39.948 amu
2. 244 amu
3. Fe
4. Zr
5. 27
6. 19
7. group 2 (alkaline earth metal), 2 electrons
8. group 15/5A (post-transition metal), 5 electrons
9. period 2, 2 shells
10. period 4, 4 shells



This activity was excerpted from the Teacher's Guide to
Mole and Tell

English:

Hardback: 978-1-958629-11-6

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How to Read a Periodic Table Worksheet

Use the periodic table to answer these questions.

1. What is the atomic weight of Argon?
2. What is the atomic weight of Plutonium?
3. What is the symbol for Iron?
4. What is the symbol for Zirconium?
5. What is the atomic number for Cobalt?
6. What is the atomic number for Potassium?
7. What group does Radium belong to? How many electrons does it have?
8. What group does Bismuth belong to? How many electrons does it have?
9. What period does Carbon belong to? How many electron shells does it have?
10. What period does Arsenic belong to? How many electron shells does it have?