The Elements, Up Close: NYSSLS Alignment

Teacher guide for the one-page student worksheet at mrsajdak.com/elements. Chemistry, or Anatomy & Physiology (elements of the body), grades 9 to 12. The worksheet is low-write: tick boxes, short blanks and one or two written lines. The answer key is kept off the website; write to rsajdak@buffaloschools.org for it. © 2026 Ryan Sajdak. Free to use, share and change under CC BY-NC-SA 4.0 (creativecommons.org/licenses/by-nc-sa/4.0): give credit, do not sell it, share your version the same way.

What it is

An interactive periodic table. Clicking an element shows a photograph of a real sample, its facts, and its atom drawn eight ways, from the Bohr model to the electron cloud. Each model tab says what it shows and what it leaves out.

Objectives

Printed on the worksheet, each with a box to tick.

I can	Questions
I can look up an element's symbol, atomic number and type.	1 and 3
I can find a pattern in where metals and nonmetals sit on the periodic table.	2

Standards

Performance expectation, building toward: 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.

DCI PS1.A: The periodic table orders elements horizontally by the number of protons in the atom's nucleus and places those with similar chemical properties in columns. This sheet only reaches the first step, finding that metals and nonmetals sit on opposite sides of the table.

The science and engineering practices and crosscutting concepts below are named in New York State P-12 Science Learning Standards language, and each one is printed on the worksheet at the part where students use it.

Part by part

Part	Practice (SEP)	Concept (CCC)	What students do
1. Look it up	SEP 8 Obtaining, evaluating, and communicating information		Look up four elements of the human body, plus one of their own, and record symbol, atomic number and metal or nonmetal.
2. Find a pattern		Patterns	Say which side of the table the metals and the nonmetals are on.
3. Tell someone	SEP 8 Obtaining, evaluating, and communicating information		Read the Learn It box, then write two facts about one element: its protons, and how it acts as a metal or nonmetal.

Running it

Explore, then explain, then apply. Questions 1 and 2 are data only. The Learn It box under the table opens after a student opens O, C, Ca, Na and one more element. It teaches protons, rows and groups, metals and nonmetals, and the metalloid staircase, but not which side the metals are on. Question 3 applies it. About 10 to 15 minutes. The page labels calcium "Alkaline earth metal" and sodium "Alkali metal": both count as metals on the sheet. For a longer lesson, have students compare the "what it leaves out" notes on two atom models (SEP 2).