Ninth-grade element worksheet

Suggested introductory chemistry level | 35-45 minutes | Student assignment. Adapt to prior knowledge.

A. Build an evidence record

Name: _____ Date: _____

Choose carbon, iron, copper or oxygen. Record name, symbol, atomic number, period and group (or f series if applicable).

Element: _____ Symbol: ____ Z: ____ Period: ____ Group: ____

Record two reported properties with units and reference conditions where supplied.
Property 1: _____
Property 2: _____

Find one documented use and its source. Is the material a pure element, alloy or compound?

_____

B. Explain a connection

Write a claim connecting one property to the use. Include evidence and explain why it supports the claim. State one limitation or missing detail.

_____
_____
_____
_____

C. Compare structure

Compare sodium, magnesium and chlorine. Record their periods, groups and neutral shell populations.
Na: _____
Mg: _____
Cl: _____

What pattern do you notice? Explain why being in one period does not mean having identical chemistry.

_____

D. Isotopes and reflection

For carbon-12, carbon-13 and carbon-14, give Z, N and A. Explain why all three remain carbon.

_____

Identify one statement you revised after checking a source.

_____

Sources / access date: _____

Assessment: accuracy /4, evidence /4, reasoning /4, communication /4. See the matching rubric.

Suggested levels are starting points, not formal curriculum alignment. Use the site or printed data; no physical element samples are needed. Source data and limitations: elementexplore.com/sources.html. These original Element Explore materials may be copied and adapted for classroom use.