Element investigation: lesson plan template

An editable planning template and a worked 45-minute sequence. Pair with the 16-point evidence rubric.

Plan your lesson

Teacher / date: _____

Suggested level / prior knowledge: _____

Learning goal (what learners will explain or do): _____

_____

Success evidence / exit ticket: _____

_____

Vocabulary: element, symbol, atomic number, property, evidence. Add: _____

Resources: Element Explore or printed tables; source reading; paper. Accommodations: enlarged print, partner roles, vocabulary support, read-aloud text, or alternative response format.

Worked goal and task

Goal: identify an element accurately and explain one connection between a reported property and a use. Choose carbon, iron, copper or oxygen. Record symbol, atomic number, one sourced property and one use. Cite the source for the use; numerical values alone do not prove an application. Write a claim, evidence and reasoning paragraph.

45-minute sequence

5 minutes - Launch: display an element tile. Ask what its letters and numbers mean; collect a prediction.

10 minutes - Guided lookup: model how to record a value with units and source. Distinguish the element from a compound that contains it.

15 minutes - Paired investigation: assign researcher and evidence-checker roles. Each pair completes the record and drafts its explanation.

10 minutes - Explanation: pairs exchange work, identify evidence, and ask one question about a limitation.

5 minutes - Reflection: each learner submits one corrected claim and an exit ticket explaining atomic number.

Adapt and assess

Support: restrict to the first 20 elements, preselect two sources, provide a sentence frame: "The property ... supports the use ... because ..."

Extend: compare two elements or show an exception to a trend. Require a condition such as temperature or a limitation of a model.

Use the matching rubric: accuracy /4, evidence /4, reasoning /4, communication /4; total /16. Provide one actionable next step, not only a score.

After teaching: What misconception remained? _____
What will I change next time? _____

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.