

Lesson 8: 150 Ways to Wonder — Rotations with the UNGLINGA Science Kit

Subject: General Science (Chemistry, Physics, Earth Science)

This lesson plan is designed for rotating hands-on experiments using the UNGLINGA 150 Experiments Science Kit. Students engage in short, high-impact investigations that encourage observation, variable control, and data recording across multiple science strands.

Learning Objectives

- 1 Run 2–3 short investigations during one session using rotation stations.
- 2 Differentiate between observations and inferences.
- 3 Record experimental data using structured lab logs.
- 4 Understand how changing one variable affects outcomes.
- 5 Use accurate scientific vocabulary and reasoning.

Materials Needed

- 1 UNGLINGA 150 Experiments Science Kit
- 2 Safety goggles, table cover, and paper towels
- 3 Notebook or printed data sheet (included in PDF)
- 4 Optional: timer, thermometer, ruler, or digital scale

Preparation & Setup

- 1 Select three activities from the kit booklet: one from chemistry, one from physics, and one from earth science.
- 2 Prepare three workstations—Reaction, Forces & Motion, and Crystals & Materials.
- 3 Place a simple instruction card and data sheet at each table.
- 4 Review safety procedures before starting experiments.

Lesson Steps

- 1 Warm-Up (5 min): Show a simple demo like color change or bubbling. Ask: 'What makes this a chemical reaction?'
- 2 Rotation 1 — Reaction Station (12–15 min): Mix safe materials like baking soda and vinegar or color indicators. Record visible evidence such as bubbles, color, or temperature change.
- 3 Rotation 2 — Forces/Motion (12–15 min): Build a small ramp or spinner. Measure time, speed, or distance and discuss how force and friction play a role.
- 4 Rotation 3 — Crystals/Materials (12–15 min): Begin a simple crystal growth or absorption test. Record initial measurements and sketch observations.
- 5 Wrap-Up Discussion (10 min): Compare results and discuss how controlling one variable changed outcomes.

Discussion & Reflection

- 1 Which experiment had the most dramatic result?
- 2 How did adjusting one variable affect the outcome?
- 3 What real-world examples relate to what you observed today?
- 4 What would you test next if given more time?

Assessment Ideas

- 1 Complete a short reflection in lab notebooks describing one experiment in detail.
- 2 Evaluate student data logs for accuracy and completeness.
- 3 Use a rubric for safety, participation, note-taking, and curiosity (scale of 1–4).

Extensions & Cross-Subject Links

- 1 Math: Graph reaction time or motion speed against variables (angle, amount, etc.).
- 2 ELA: Write a one-page lab report or creative story about one of the experiments.
- 3 Long-Term: Grow crystals over a week and measure size changes daily.

Parent & Teacher Tips

- 1 Store station supplies in labeled bins for easy weekly reuse.
- 2 Encourage children to speak in full science sentences: 'I observed...' or 'I think because...'.- 3 Model data recording and graphing techniques.
- 4 Celebrate creative thinking and curiosity as key learning outcomes.

Wrap-Up

The UNGLINGA 150 Experiments Kit is perfect for consistent, engaging science practice at home. By rotating through short labs and focusing on one variable at a time, learners build a strong foundation for future STEM studies.