

40 Nature Walks: Science Labs-On-the-Go Learning Record

Volume 2

Outdoor Science Labs Supporting Cross-Curricular Learning

Grade Range: 1st–8th

Subject Focus: Science (Life Science, Earth Science, Physical Science), with Math, Writing, and Art Integration

Content Description

This curriculum offers a second set of 40 nature-based science walks that serve as independent, field-based science lessons. Each walk includes guided prompts to encourage observation, measurement, documentation, and scientific analysis. Volume 2 builds on foundational nature study skills with new topics and deeper inquiry.

Students will study topics such as erosion, bird behavior, shadows and light, plant structure, wind observation, fungi, rock types, animal shelters, and signs of seasonal change. Activities involve tools such as thermometers, measuring tapes, and journals to help students gather evidence, classify information, describe natural processes, and reflect on their findings. This set complements Volume 1 or can be used on its own.

Learning Objectives

Students will:

- Conduct comparative investigations of physical features in natural environments.
- Observe and describe behavior and movement of animals and insects in their natural habitats.
- Classify plants, rocks, or fungi using observable characteristics.
- Measure light, shadow, and weather-related changes and explain results.
- Identify signs of plant growth, reproduction, or decay in various seasons.
- Analyze environmental changes due to erosion, water flow, or wind patterns.
- Use scientific vocabulary to describe and compare findings.
- Create diagrams or written explanations to represent observations and conclusions.

- Collect data that can be organized into basic charts or models.
- Explore the role of physical forces in shaping the natural world.

Standards Alignment

NGSS (Next Generation Science Standards)

- K-ESS2-1: Use and share observations of local weather conditions.
- K-ESS2-2: Construct an argument supported by evidence for how plants and animals change their environment to meet their needs.
- 1-ESS1-2: Make observations at different times of the year to relate the amount of daylight to the season.
- 2-ESS2-1: Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- 2-LS2-2: Develop a simple model that mimics plant seed dispersal or pollination.
- 2-LS4-1: Make observations of plants and animals to compare patterns of diversity.
- 3-LS2-1: Construct an argument that some animals form groups that help individuals survive.
- 3-LS4-3: Construct arguments about how organisms survive well in particular habitats.
- 4-ESS1-1: Identify evidence from patterns in rock formations and fossils.
- 4-ESS2-1: Make observations and/or measurements to provide evidence of the effects of weathering or erosion.
- 4-ESS3-2: Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
- 5-PS1-3: Make observations and measurements to identify materials based on properties.
- 5-PS2-1: Support an argument that the gravitational force exerted by Earth on objects is directed toward the planet's center.
- 5-LS2-1: Develop a model to describe movement of matter among plants, animals, and the environment.

- MS-ESS2-1: Develop a model to describe cycling of Earth's materials and flow of energy.
- MS-ESS2-4: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-LS1-5: Use argument from evidence to support an explanation for how environmental and genetic factors influence the growth of organisms.
- MS-LS2-1: Analyze data to describe effects of resource availability on organisms.

Math Integration (Common Core Math Standards)

- CCSS.MATH.CONTENT.3.MD.A.1: Tell and write time to the nearest minute and measure time intervals.
- CCSS.MATH.CONTENT.4.MD.A.2: Use the four operations to solve word problems involving measurement.

ELA Integration (Common Core ELA Standards)

- CCSS.ELA-LITERACY.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas.
- CCSS.ELA-LITERACY.SL.5.5: Include multimedia components and visual displays in presentations.

Arts Integration (NCAS – Visual Arts)

- VA:Cr2.1.4a: Explore uses of materials and tools to express ideas visually.
- VA:Re7.1.3a: Identify messages in images based on subject matter and details.

Scope and Sequence

Volume 2 of 40 Nature Walks provides continued practice with field-based science inquiry and complements core science topics related to earth surface processes, organism structures and behaviors, physical forces, and the effects of seasonal change. The walks reinforce core NGSS science and engineering practices such as planning investigations, constructing explanations, developing models, and interpreting data.

Used flexibly alongside formal science instruction, these lessons enhance understanding of core topics like erosion, light, adaptation, and natural cycles. Activities are adaptable to

location and season, and offer meaningful reinforcement of scientific practices, observational journaling, and real-world applications of classroom concepts.

Educational Benefits

- **Multi-Age Utility:** Designed for students in grades 1–8, supporting a variety of learning levels.
- **Scientific Journaling Practice:** Builds skills in observation, reflection, and scientific recording.
- **Cross-Curricular Learning:** Bridges science with math, writing, and art through hands-on lessons.
- **Minimal Preparation:** Each walk is ready to use and adaptable to season and environment.
- **Skill Reinforcement:** Encourages scientific reasoning, classification, and interpretation.
- **Portfolio-Friendly:** Completed walks contribute to a documented science learning record.
- **Practical Nature Study:** Provides real-world experiences in data collection and field observation.

For more information or to view additional resources:

<https://ourjourneywestward.com>