inquisitive

GRADE 3 · LIFE SCIENCES · FAST PATH

Unit: Inheritance and Variation of Traits

Lessons in unit: 6 · 23 teaching days · sessions up to 30 min · ↳ Time-saving teaching move · ★ Individual checkpoint

1. Plant Life—From Seed to Seed	DAY 1 · 30 MIN	DAY 2 · 30 MIN	DAY 3 · 30 MIN	DAY 4 · 30 MIN
PHENOMENON QUESTION **Why do apple trees grow apples?** **OUTCOME** **I can use my model to explain the life cycle of a plant.** **TIME** **4 days · 30 min per day** **120 min total**	**PREP** Prepare varied seed trays and large drawing paper.	10 MIN **Activity 4: Reading a Life Cycle Model**	**PREP** Set out drawing/model-making materials for the dandelion model.	13 MIN **Activity 8: Model a Dandelion Life Cycle · Part 2** Finish and share the individual model.
	10 MIN **Activity 1: Seeds and Plant Beginnings** ↳ Use prepared seed trays; discuss observations as a class.	10 MIN **Activity 5: Dandelion Development** ↳ Explore the interactive/video as a class; partners describe changes.	20 MIN **Activity 8: Model a Dandelion Life Cycle · Part 1** Plan and begin the individual model.	15 MIN **Activity 9 · ★ Checkpoint: Life Cycle What-Ifs**
	10 MIN **Activity 2: Predict an Apple Tree Life Cycle** ↳ Use one labeled group model; share with a nearby group.	10 MIN **Activity 6: Dandelion Life Cycle Facts**	10 MIN **Activity 7: Dandelion Life Cycle Stages**	2 MIN **Activity 12: Vocabulary**
	10 MIN **Activity 3: Explore and match apple life cycle stages** ↳ Complete as a class.			

2. Animal Life Cycles

PHENOMENON QUESTION
What happens after an animal is born?

OUTCOME
I can use my model to explain the life cycle of an animal.

TIME
4 days · 25–30 min sessions
115 min total

DAY 5 · 30 MIN	DAY 6 · 30 MIN	DAY 7 · 30 MIN	DAY 8 · 25 MIN
PREP Set out large paper and preselected animal reference sources.	5 MIN **Activity 2: Predict and Research a Life Cycle · Part 2** Complete and revise the group model.	**PREP** Set out drawing and model-making materials.	5 MIN **Activity 6: Compare and share animal models (continued)**
10 MIN **Activity 1: Newborn Animals**	10 MIN **Activity 4: Comparing Life Cycle Models**	25 MIN **Activity 5: Create an Animal Life Cycle Model**	15 MIN **Activity 7 · ★ Checkpoint: Why Reproduction Matters**
20 MIN **Activity 2: Predict and Research a Life Cycle · Part 1** Begin the group model and research.	15 MIN **Activity 3: Patterns in Animal Life Cycles**	5 MIN **Activity 6: Compare Animal Life Cycles**	5 MIN **Activity 10: Vocabulary**

3. Variation of Traits

PHENOMENON QUESTION
How are dogs the same and different?

OUTCOME
I can use data to explain that a group of living things have similar and different traits.

TIME
4 days · 25–30 min sessions
110 min total

DAY 9 · 25 MIN	DAY 10 · 25 MIN	DAY 11 · 30 MIN	DAY 12 · 30 MIN
10 MIN **Activity 1: Dogs—Same and Different**	**PREP** Prepare Dog Data materials and student recording sheets.	**PREP** Prepare three apple varieties, rulers and toothpicks; teacher cuts apples after skin observations.	15 MIN **Activity 5 · ★ Checkpoint: Analyze Apple Variations**
10 MIN **Activity 2: Traits and Variations**	25 MIN **Activity 3: Dog Trait Data**	30 MIN **Activity 4: Apple Trait Investigation**	15 MIN **Activity 6: Is a Gray Wolf a Dog?**
5 MIN **Activity 8: Vocabulary**			

4. Inherited Traits

PHENOMENON QUESTION
In what ways are offspring like their parents?

OUTCOME
I can collect data, and explain that plants and animals have traits inherited from parents.

TIME
4 days · 20–30 min sessions
105 min total

DAY 13 · 30 MIN

- 10 MIN — Activity 1: Offspring and Parents
- 20 MIN — Activity 2: Who Are Luna's Parents? · Part 1
  Compare Luna with most possible parent dogs.

DAY 14 · 30 MIN

- 5 MIN — Activity 2: Who Are Luna's Parents? · Part 2
  Finish the comparison table.
- 15 MIN — Activity 3: Analyze Luna's Traits
- 10 MIN — Activity 4 · ★ Checkpoint: Evidence of Inheritance · Part 1

DAY 15 · 25 MIN

- 5 MIN — Activity 4 · ★ Checkpoint: Evidence of Inheritance · Part 2
- 10 MIN — Activity 5: Variation Among Siblings
- 10 MIN — Activity 6: Kitten Traits

DAY 16 · 20 MIN

- 15 MIN — Activity 7: Infer a Foal's Father
- 5 MIN — Activity 9: Vocabulary

5. Can the Environment Affect Traits?

PHENOMENON QUESTION
Why are flamingos pink?

OUTCOME
I can use evidence to explain that traits can be influenced by the environment.

TIME
4 days · 25–30 min sessions
115 min total

DAY 17 · 30 MIN

PREP Prepare two cups, water, two food colors and two cabbage or lettuce leaves. SCHEDULE Start the leaf model today; later teaching days do not need to be consecutive.

- 15 MIN — Activity 1: Explain flamingo color and food pigments
- 10 MIN — Activity 2: Diet, Activity, and Traits
- 5 MIN — Activity 3: Learned Animal Behaviors · Part 1
  Begin the examples.

DAY 18 · 30 MIN

SCHEDULE Teach after the leaf model has had time to change.

- 10 MIN — Activity 3: Learned Animal Behaviors · Part 2
  Finish and explain the examples.
- 5 MIN — Activity 5: Colored-Water Leaf Model · Part 1
  Set up the class model and predict.
- 15 MIN — Activity 4: Monkeys in a Changed Environment

DAY 19 · 30 MIN

SCHEDULE Observe the leaf changes before continuing.

- 15 MIN — Activity 5: Colored-Water Leaf Model · Part 2
  Observe and explain the changes.
- 5 MIN — Activity 11: Vocabulary
- 10 MIN — Activity 6: Soil and Hydrangea Color

DAY 20 · 25 MIN

- 10 MIN — Activity 7: Draw both weather What if? outcomes
- 15 MIN — Activity 8: ★ Checkpoint · Support the environment claim with three examples

6. What's My Advantage?

PHENOMENON QUESTION
How can an animal's color help it survive?

OUTCOME
I can explain that some living things within a species have advantages that help them survive and reproduce.

TIME
3 days · 30 min per day
90 min total
Assessment: Anchor Maps and Autogradable Summative Assessments are not included within this pacing guide.

DAY 21 · 30 MIN

PREP Precut and bag 20 white and 20 dark squares per pair. Set out backgrounds, timers and recording tables.

10 MIN — Activity 1: A Hidden Peppered Moth

20 MIN — Activity 2: Camouflage Simulation
↳ Use prepared moth squares; pairs run both trials and compare results.

DAY 22 · 30 MIN

20 MIN — Activity 3: Peppered Moth Evidence
↳ Read the eBook as a class; partners complete both simulation forests.

10 MIN — Activity 4 · ★ Checkpoint: Color as an Advantage · Part 1

DAY 23 · 30 MIN

10 MIN — Activity 4 · ★ Checkpoint: Color as an Advantage · Part 2

15 MIN — Activity 5: Changing Environments, Changing Advantage

5 MIN — Activity 8: Vocabulary