

HEREDITY AND LIFE CYCLES Unit Advance Preparations

The Heredity and Life Cycles unit connects English language arts (ELA) teaching and learning, particularly related to the use of expository text and research, to science inquiry.

THE DAILY SEQUENCE OF INSTRUCTION

- Reading Mini-lesson
- Inquiry Circle Groups
- Science Whole Group Lesson

The following should be accessed/organized before beginning the unit:

- “Animal Care of Larvae and Butterflies” (See Day 2 for ordering information and complete care instructions.)
- Daily list of literature, portal text/reading resources, anchor charts (See project website.)
- Science Team Roles pages (See Day 1 for templates and how to make badges and a classroom poster.)
- Prepare gameboard, cards and pieces for a Migration game (See Day 11.)

LESSON MATERIALS AT A GLANCE

Full preparation instructions are embedded in each activity.

Day/Activity	Reading Mini-lesson	Inquiry Circle Groups	Science Whole Group
1. Introduction to Being a Scientist	<ul style="list-style-type: none"> • Chart Paper • Markers • Butterfly Inquiry chart • Non-fiction butterfly text 	<ul style="list-style-type: none"> • Butterfly Inquiry chart • Pencils • Variety of non-fiction text • Science Team Roles chart 	<ul style="list-style-type: none"> • Memory Pictures PowerPoint® file • Projector/screen • Notebook/lined paper • Student job card badges and poster
2. Preparing for Research	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Non-fiction butterfly text 	<ul style="list-style-type: none"> • Butterfly Inquiry charts • Pencils • Variety of non-fiction texts • Daily anchor chart 	<ul style="list-style-type: none"> • Butane lighter and icepick (See “Setup” for special teacher instruction) • “Make a Habitat Stand” page • 12-oz Styrofoam™ cup • 2 plastic portion cups • Clear plastic salad box • Plastic micropipette • Scissors • Sponge square • Tape • White school glue

3. Tools That Help Us	<ul style="list-style-type: none"> • Chart group • Markers • Butterfly Inquiry chart • Butterfly webpage • List of suggested lesson websites • Computer and projector/screen 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Hand Lens Exploration Card Template” page • Pencils • Plastic hand lens with embedded magnifier • Science notebooks
4. Recording Information	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly webpage • Suggested websites 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Measuring Caterpillars with Yarn” page • “Team Graph: Caterpillar Growth Measurements” page • Growth habitats with larva inside • Glue, hand lens, scissors • Yarn
5. What Conclusions Can You Draw?	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts, • Pencils, • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Team Graph: Caterpillar Growth Measurements”page • Growth habitats with larva inside • Glue, hand lens, scissors • Yarn
6. Drawing Conclusions from Observations	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • Caterpillar Maps • Glue or tape • Marker pens • Scissors
7. Identifying Important Information	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Caterpillar Maps” page • “Team Growth Chart” page • Glue stick or tape • Marker pens • Scissors • Yarn

8. Examining Details	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “A Butterfly Picture” PowerPoint® slide set • Projector/screen • Blank paper • Drawing pencils • Example(s) of scientific illustrations
9. Connecting as Scientists	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Butterflies are Colorful” and “Twelve Butterflies” PowerPoint® files • Projector/screen • “My Favorite Butterfly” page • Glue or tape • Scissors
10. Be a Citizen Scientist	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group inquiry charts • Pencils • Variety of non-fiction texts for each group • Access to websites and online books 	<ul style="list-style-type: none"> • “Be A Citizen Scientist” PowerPoint® file • Projector/screen • Chart paper or whiteboard • Glue • Pencils • “I Am Citizen Scientist” student page (one per student) • Science notebooks
11. Should I Stay or Should I Go? Part 1	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencil • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • Prepared Migration Map gameboard. Cards and pieces (Should be constructed before Day 11; see detailed instructions in lesson.) • White envelopes to hold playing each set of playing cards and pieces
12. Should I Stay or Should I Go? Part 2	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Butterfly Gliders” page • Black marker pens • Small paper clips (size #1) • Poster board in different colors (several sheets)

13. Look Closely	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Non-fiction butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts for each group • Access to websites and online books 	<ul style="list-style-type: none"> • “My Chrysalis” page • Butterfly habitat • Colored markers, pencils or crayons • Glue, hand lens, scissors • Science notebook • Yarn
14. Inherited Butterfly Wing Characteristics Part 1	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Butterfly text to model strategy 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Butterfly Offspring” and “Student Observations” pages (cut the latter in half) • Glue, hand lens, scissors • Science notebook • Yarn
15. Inherited Butterfly Wing Characteristics Part 2	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart yesterday’s anchor chart 	<ul style="list-style-type: none"> • Group inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • Chart paper to record class results • Student pages (from Day 14) • Sentence strip • Slideshow
16. What Patterns Do You See?	<ul style="list-style-type: none"> • Chart paper • Markers • Butterfly Inquiry chart • Each group’s synthesis statement 	<ul style="list-style-type: none"> • Group Inquiry charts • Pencils • Variety of non-fiction texts • Access to websites and online books 	<ul style="list-style-type: none"> • “Team Caterpillar Growth Measurements Graph” (one from each team) • Science notebooks
17. Butterfly Offspring Part 1		<ul style="list-style-type: none"> • Inquiry Circle Group Menu of Choices • Materials to support group projects 	<ul style="list-style-type: none"> • “Model Dogs” PowerPoint® file • Projector/screen • Copies of “Butterfly Offspring Physical Traits” and “Butterfly Parents” pages • Art supplies • Construction paper • White paper
18. Butterfly Offspring Part 2		<ul style="list-style-type: none"> • Inquiry Circle Group Menu of Choices • Materials to support group projects 	<ul style="list-style-type: none"> • “Dominant and Recessive Traits” PowerPoint® file • Projector/screen • Student work from the day before

19. Culminating Activity		<ul style="list-style-type: none"> • Inquiry Circle Group Menu of Choices • Materials to support group projects (will vary based on choice) 	<ul style="list-style-type: none"> • Pencils • Science notebooks
20. Presentation Day		<ul style="list-style-type: none"> • Inquiry Circle Group Menu of Choices • Materials to support group projects (will vary based on choice) 	<ul style="list-style-type: none"> • “Complete Painted Lady Life Cycle” page (see lesson for instructions) • Copies of “Life Cycle Descriptions” and “Painted Lady Life Cycle blank” student pages • Colored markers, pencils, or crayons • Glue stick, hand lens, scissors • Petri dishes (optional)