

Workshop 4: How do plants and animals adapt to changing seasons?

Anchor Text

- *Adaptation and Competition* by Ann Fullick, pages 26–30

Materials

For Workshop

- [Claims and Evidence T-Chart](#)
- Class functions/adaptations chart
- Chart paper and markers
- Students’ science notebooks
- Class KLEW chart
- Claim Maps
 - [Levels 1–2](#)
 - [Levels 3–4](#)
 - [Levels 5–6](#)

For Stations

- Butcher paper to make murals
- Nonfiction and fiction books on adaptation, animals, and endangered species
- Writing materials for independent writing station
- [Vocabulary information and worksheets](#)
- Large paper, markers, and other resources for projects
- Computers for student research
- [Project 2: Animal Adaptations for Habitats](#)

Content/Language Objective

Justify orally and in writing evidence of plant and animal adaptations using conjunctions (*because, therefore, in order to, since*) after completing leveled claim maps in pairs with:

- Labeled pictures of academic vocabulary (*scientific explanation, claims, evidence, structural adaptations, behavioral adaptations*),
- Conjunction statements from anchor poster, and/or
- Published claim statement exemplars.

Science Outcome for Workshops 4–8

- Students use claims, evidence, and reasoning to explain.

Common Core State Standards

- Reading Informational Texts 5.1: Quote accurately from texts when explaining what texts say explicitly and when drawing inferences from texts.
- Writing 5.1: Write opinion pieces on topics or texts, supporting points of view with reasons and information.
- Writing 5.1b: Provide logically ordered reasons supported by facts and details.

Whole Group

Notes

Connection

In this workshop, we learn about adaptations for animals that live in changing habitats. We will focus on both behavioral and structural adaptations that make it possible for animals to survive throughout the seasons.

Teaching/Active Engagement

Remind students of the unit guiding question: *Why are adaptations necessary for survival?* Tell them they have completed another step of the inquiry process by making predictions. Introduce the next step: Plan how to get information needed to respond to the guiding question. Ask how they think they can answer the question. Explain that scientists often do investigations and experiments to answer questions, but this guiding question doesn’t lend itself to investigations. Tell them they will answer the question using reading, writing, and research, and they will spend time in stations making claims and finding evidence around this question.

Read yellow “Did you know...?” box on bottom of page 27 of *Adaptation and Competition*. Make [Claims and Evidence T-Chart](#). For example:

| I know/claim... | I know/claim because (evidence)... |
|---|--|
| I claim tree shapes in nature have a purpose. | I claim that evergreen trees are shaped like a triangle so snow can slide off. |

Explain that you are making a *scientific explanation*. All scientific explanations include *claims* and *evidence* (refer to definitions in Notes).




Claims, Evidence, and Reasoning

- Claims—Deductions or findings from investigations
- Evidence—Data that supports claims
- Reasoning—Explanations of why evidence supports claims

Explain that more than one piece of evidence is needed to justify claims. Discuss other information that might be helpful and where to find it. Remind students to write sources they use to get evidence for claims.

Review class functions/adaptations chart. Ask students to think about how animals protect themselves from weather (e.g., birds have feathers and fat reserves for insulation, some migrate). Discuss the influence of habitats on how animals protect themselves from weather.

Read or paraphrase pages 26–30 of *Adaptation and Competition*. Read captions and pause frequently for student questions and discussion.

 After each section, have students determine important ideas and details and write them down. Then discuss what information to add to class functions/adaptations chart.

Discuss structural and behavioral adaptations. Explain that structural adaptations are physical features of organisms, such as bills on birds or fur on bears. Behavioral adaptations are things organisms do to survive, such as bird calls and migration. Add “Structural and Behavioral” above “Adaptations” on chart. Have students determine if adaptations on chart are structural or behavioral.

Continue list of vocabulary words for unit (e.g., *scientific explanation**, *claims**, *evidence**, *structural adaptations**, *behavioral adaptations**, *hibernate*).


Have students arrange themselves for Inside-Outside Circles (see Notes). Instruct students in outside circle to tell partners one structural adaptation and have partners say what function that adaptation serves. Then reverse roles and have students in inside circle tell partners one behavioral adaptation and have partners say what function that adaptation serves.

Launch


Ask students to make claims about why adaptations are necessary to survival and find evidence to support their claims on their claims and evidence charts.

Tell students that, in this workshop, they continue their reading, writing, and research and use either two-column notes or charts to organize information. Refer them to the class Taking Good Two-column Notes chart.

Inform students about new project, [Project 2: Animal Adaptations for Habitats](#). Have students work in pairs to create pictures or in teams to create murals using butcher paper.

 This activity contributes to the BOE and serves as a formative assessment for literacy.

Inside-Outside Circles

- Students stand in two concentric circles, facing each other.
 - Students in outside circle tell their partners, “A structural adaptation for ____ (animal) is ____ (adaptation).”
 - Then, students in inside circle tell their partners, “____ is an adaptation to help ____ (animal) to ____ (function).”
 - Switch roles so inside students say behavioral adaptations and outside students respond with functions.
 - Have students in outside circle rotate one place to create new partnerships. Continue with another example.
-  Language stem: “My evidence supports my claim because ____.”

Independent and Small Group Work Time

Connections to Guided Reading and Writing


Teacher


Lead guided reading with small group with content-specific texts, if possible. Confer with individual students and keep ongoing records of their performance and goals in reading assessment notebooks.



Students

As some students meet for guided reading, the rest rotate with partners between the following stations.

- Independent reading (with content-specific texts)—Read independently or with partners and take notes, ask questions, locate information, or write responses in science notebooks.
Today, choose books to read independently or with partners and take two-column notes or create graphic organizers in your science notebooks. Turn something you learned about why adaptation is important to survival into a

 Guided reading supports: group/partner reading, picture books

 Have students take two-column notes to explain why adaptation is important to survival.

| | |
|--|--|
| <p><i>scientific explanation using claims/evidence format to add to class KLEW chart.</i></p> <ul style="list-style-type: none"> • Independent writing—Write notes and drafts for writing projects. Write what is being learned in various genres (e.g., poems, stories, question-and-answer books). <i>Use your two-column notes or create graphic organizers from the read-aloud to write about animal adaptations in any genre. Turn something you learned about why adaptation is important to survival into a scientific explanation using claims/evidence format to add to class KLEW chart.</i> • Vocabulary—Create games, charts, webs, and maps to help learn word meanings and demonstrate understanding. <i>Recreate one chart or web template in your science notebooks and define, use, and illustrate structural adaptation, behavioral adaptation, function, and several other science words.</i> • Project/Investigation—Engage in projects or investigations. Start Project 2: Animal Adaptations for Habitats. Have students work in pairs to create pictures or in teams to create murals using butcher paper. • Internet search—Research online to locate specific information, make claims, find evidence, and/or take notes and write responses for independent projects or inquiry studies. <i>Research different habitats or structural and behavioral adaptations and take two-column notes or create graphic organizers. Turn something you learned about why adaptation is important to survival into a scientific explanation using claims/evidence format to add to class KLEW chart.</i> | <ul style="list-style-type: none"> ★ Students add to class KLEW chart after writing scientific explanations and completing leveled claim maps. |
| <p>Whole Group</p> | <p>Notes</p> |
| <p>Anchor</p> <p> Invite students to share claims and evidence. As students share, ask them how their evidence supports their claims (reasoning) using language stem, “My evidence supports my claim because ____.” To help students learn to make evidence-based explanations, support them by asking clarifying questions.</p> <p>Have students share science notebooks with partners, discussing what is and what could be in notebooks. As a class, determine expectations for science notebooks and independent work time. <i>What should be included? How much? How should science notebooks be organized? Chart expectations for science notebooks.</i></p> | <p> This activity contributes to the BOE and serves as a formative assessment for content and CCSS Writing 1 (W1).</p> <ul style="list-style-type: none"> ★ Language stem: “My evidence supports my claim because ____.” ★ Have students communicate expectations for science notebooks, using language stems. <ul style="list-style-type: none"> ▪ “____ should be included in our science notebooks because ____.” ▪ “Our science notebooks should be organized by ____ because ____.” |
| <p>Independent and Small Group Work Time</p> | <p>Connections to Guided Reading and Writing</p> |
| <p>Teacher</p> <p>Lead guided reading with small group with content-specific texts, if possible. Confer with individual students and keep ongoing records of their performance and goals in reading assessment notebooks.</p> <p>Students</p> <p>Students rotate between stations as in first Independent and Small Group Work Time.</p> | <ul style="list-style-type: none"> ★ Guided reading supports: group/partner reading, picture books ★ With partners, have students justify how their science notebooks stand up against criteria in science notebook chart using language stem: “My science notebook fulfills the |


criteria because it _____ and _____.”

Closure

Notes

Have students share science notebooks with partners. *How do you think your science notebooks stand up against criteria on our science notebook chart?*

Have students discuss the process of making claims and evidence. Have students use sticky notes to add their claims and evidence from independent work time to class KLEW chart.

 Have students write in science notebooks one thing they learned using claims/evidence format.



This activity contributes to the BOE and serves as a formative assessment for content and CCSS Writing 1 (W1).