

Teacher's Guide

Essential Question: How does **natural selection** in weeds create a problem for Washington wheat farmers?

You may also consider printing the modified article packet for students who benefit from common accommodations.

[Before class] Make copies (each student will need their own **student packet**) and post **Learning Target (LT) and Success Criteria (SC)**. Consider how you will arrange the room for a group discussion in the second half of class.

LT: I can evaluate a claim about how natural selection leads to resistance to herbicides for certain weeds, and identify why that is a problem. I can share my own analysis and connections and listen for counterclaims in a group discussion. I will reflect on my participation in a reflection.

SC: **Read** the article critically to evaluate the claim and make connections
 Speak in the discussion to help the group critique the claim and connect other information to answer the essential question
 Reflect on my participation and answer the essential question

[5 min - Entry Task] Have **students read the *Background* section** of their article packet. Tell students that these are their own copies of the packets, and they should make any notes or annotations that help them as they read.

Introduce the Essential Question and LTs and SC for the lesson.

[5 min - Directions and pre-teach Vocab] **Model the directions for annotating and summarizing the text** on the *Background* section.

Be sure to emphasize that students need to read the article twice: first (1) to find and understand the claims the article makes and then (2) to analyze the claims and make connections. Students should only summarize after they have read the article twice.

Point out the vocab box and give further vocabulary instruction as necessary for your group.

Show students the **annotation directions and marks** on the bottom half of their *Background* page.

[15 min - Students read, annotate, and summarize]

[5 min - Prepare for discussion] Explain **how to use the *Discussion* section of the article packet**. In this discussion, students will be using the article, and their analysis and connections to answer the essential question. Point out the **discussion stems** and **pointers** and the **checklist** students will use to evaluate their participation.

Emphasize that students should be sharing the claims and evidence from the article, and then asking questions to help each other evaluate and critique the claims and counterclaims, and to elicit the connections that others made.

Have students move or rearrange their seats if necessary.

It can also be effective to have students pair-share at certain points to re-start the group discussion.

[25 min - Student discussion] The discussion should be **primarily student-to-student**.

- Listen for:
- Claims from the article
 - Student's connections to prior learning or personal experience
 - Matching of claims to counterclaims
 - Student analysis of claim validity
 - Students asking for clarification
 - Students asking for evidence
 - Combining information to answer the essential question

If students struggle in the discussion, direct students to the sentence stems and tips on the *Discussion* section of their article packet. If the discussion continues to stall, prompt with these questions:

How would the author of your article start to answer the essential question?

What details from your article support its claim?

Are there any counterclaims?

Does anyone have life experience with this?

What other information do we need or wonder about?

Do you think your source is credible? How could you find out?

Can you summarize what we have said so far?

How would you answer the essential question?

[5 min - Reflection] Have **students turn to the *Reflection* section** of their article packet and answer the questions.