

Disciplinary literacy is an emphasis on the shared ways of reading, writing, speaking, and thinking within a particular content area or academic field.

LEVEL OF DIFFICULTY:

- ☐ Emerging (PreK–K)
- ☒ Emerging (1–2)
- ☐ Expanding (3–6)
- ☐ Bridging (6–8)
- ☐ ELL

FOCUS AREA:

- ☐ Career and Technical Education
- ☐ College and Career Readiness
- ☐ ELA
- ☐ Health
- ☐ Math
- ☐ Science
- ☐ Social-Emotional Learning
- ☐ Social Studies
- ☒ STEM



**AVID's
WICOR®
Methodology**

This lesson uses the WICOR (Writing, Inquiry, Collaboration, Organization, Reading) methodology and strategies from AVID's curriculum library and is designed for a variety of learning environments.

AVID Elementary Weekly Resources

Visit the AVID Elementary Weekly matrix for links to lessons, articles, and additional resources.

CREATED IN
PARTNERSHIP
WITH



Simple Machines: Wedge It!

By Glen Phelan

Published September 1, 2018

AVID's Critical Reading Process

ACTIVATE



Planning for Reading

Establish a purpose for reading. Then, intentionally identify strategies that are needed to successfully read the text. Both content and skill development play a role in planning, as does identifying how a “content expert” would read the text.

Selecting the Text

Educators will select texts initially, with the goal being that students will eventually play a role in the selection process. To maximize the effectiveness of texts, use the suggested text-selection criteria to identify the ideal text.

Pre-Reading

Determine what work needs to be done prior to the successful reading of a text. Preview the text and connect to or build background knowledge by looking both inside and outside the text.

ENGAGE



Building Vocabulary

Understand and connect key academic and content-related vocabulary to aid in deeper comprehension of the text.

Interacting With the Text

Interact with the text to process information as it is read, including numbering paragraphs or chunking texts, marking texts to isolate key information, writing in the margins, questioning, and visualizing texts. Usually, a deeper processing of a text occurs over multiple reads with varying purposes for each read.

EXTEND



Extending Beyond the Text

Utilize the text to complete the assigned academic task. “Extend” strategies focus on the development of academic thinking skills such as apply, analyze, evaluate, and synthesize.

Educator Preparation

Academic Task:

Apply “Simple Machines: Wedge It!,” written by Glen Phelan, through a Double-Entry Journal to develop a KWLA chart.

Learning Objectives:

- Students will activate prior knowledge and apply concepts from the text to express what they have learned and how it connects to their life.
- Students will connect concepts in the text to their daily interactions.

Essential Question:

What do you know about wedges and how do they affect your daily life?

Focused Note-Taking:

A variety of note-taking formats may be utilized throughout the stages of the Critical Reading Process, including two-column notes and a KWLA chart. Consider using a fillable template available in the Teacher Resources section of the AVID Elementary Weekly website.

Getting Started:

Estimated Preparation Time: 30 minutes

Instructional Time: 60–75 minutes

Resources Needed:

- This lesson includes blended learning strategies with various tool options. Review the entire lesson to determine tools and materials for your learning environment; some phases may require advance setup. Visit the Blended Learning Toolkit on the AVID Elementary Weekly Teacher Resources webpage for ideas, tools, and tip sheets supporting learning and collaboration within your blended learning environment.
 - **Activate:**
 - Pre-reading: Chart paper to model for whole group and Google Docs/Microsoft Word or another tool for the KWLA
 - **Engage:**
 - Vocabulary: Jamboard, Google Slides/MS PowerPoint, Padlet, or an area in the classroom with large alphabetical anchors that is visible to the class
 - Interacting With the Text: [The “Simple Machines: Wedge It!” interactive text from National Geographic, linked here](#) and on the AVID Elementary Weekly matrix and analog or digital two-column notes for Double-Entry Journal
 - **Extend:**
 - Extend: Chart paper to model for whole group and Google Docs/Microsoft Word or another tool for the return to the KWLA
- Please see the AVID Elementary Weekly matrix for links to the Student and Educator Resources mentioned here in a variety of formats.

ACTIVATE

Establish a purpose for reading, build background knowledge, and set students up for success.

PLANNING FOR READING

Restate the academic task and identify the strategies that will be needed to successfully engage with the text. Recognize where students are in the gradual release of responsibility; decide whether this activity will be modeled with the entire class, in small groups, or with students working individually; and identify opportunities for blended learning. *See the Teacher Resources page for more information about AVID instructional methodologies and blended learning.*

Think through the following questions and identify how the chosen text fits within the broader context of your instructional unit so students are making connections to their prior knowledge.

- Do other texts need to be read to build background knowledge?
- What key content-related or general academic vocabulary do students need to know prior to reading the text?

SELECTING THE TEXT

This text meets the following features of an ideal text:

- ☒ Rigorous
 - ☐ Develops key content or academic thinking skills
 - ☐ Length is appropriate for the purpose
 - ☐ Format allows for interaction
 - ☐ Balanced perspective or multiple viewpoints
 - ☒ Culturally relevant
- Academic thinking skills are necessary for comprehension of this text.
 - This text contains content that is of high interest to students.

Instructional Steps

PRE-READING

Focused Note-Taking

Allow students an opportunity to set up their notes and record the Essential Question before engaging in the learning.

KWLA: Part 1

1. Ask students to create four-column notes and label the columns as follows: K: Know, W: Want to Know, L: Learned, and A: Apply. For scaffolding, this can be completed in partners or small groups or as a whole-class activity with teacher modeling. For additional scaffolding, the students may draw their responses and label them with letters or words. You may also use teacher modeling with the whole group.
2. Ask students to use the K: Know column to write what they know about wedges.
3. Ask students to use the W: Want to Know column to write what they wonder about wedges.
4. Instruct students to set their KWLA aside until the end of the lesson.

ENGAGE

Build vocabulary and engage in purposeful rereads.

BUILDING VOCABULARY

Vocabulary development can happen at any stage in the reading process.

Academic Words:

- jobs (p. 11)
- goal (p. 14)

Content-Area Words:

- simple machine (p. 11)
- wedge (p. 11)
- force (p. 11)

Word Walls

1. In advance, set up a Jamboard, PowerPoint slides, Padlet, or area in the classroom that is visible to the class with either large alphabetical anchors or a subject-specific display for each topic. In groups, have students write the vocabulary words listed above on the selected tool. For additional scaffolding, use teacher modeling with the whole group.
2. Students may add picture cues, either from media resources or drawn onto the cards.
3. After discussing word meanings, have students write the definition of the word on another space.
4. Display the words within the designated area.
5. Point out the words and definitions as a resource during the lesson.
6. Revisit the word wall after reading the text, and have students revise their definitions as needed, adding their new learning to their notes.
7. Encourage and celebrate students who use the vocabulary words when speaking in class discussions.

INTERACTING WITH THE TEXT

Students process information during this stage. Purposeful rereads are essential for learning.

First Read: Read for the Gist

Have students read the text “Simple Machines: Wedge It!” on pages 10–14 one time through to identify the main idea, or for scaffolding teachers may conduct a read aloud or have students use the audio function in the interactive text. This is a “pencil-down, digital-ink-free” read.

1. Pair students up with elbow partners or small groups to discuss what they got from the first reading and viewing.
2. Ask students to capture the main idea that sums up the gist of the text in their notes.
3. If students are struggling to identify the main idea, ask that they identify the 5 W’s (who, what, where, when, why) and the H (how). This can be modeled, done with a partner, or done individually.

Purposeful Reread: Get Organized

Review pages 10–15 in the interactive text. As you review each page, ask students to identify key information by adding thoughts, questions, drawings, or new learning to their notes, identifying the page it came from. This can be completed individually or as a whole class with teacher modeling.

Additional Scaffold

For the embedded video, identify moments where the video will be paused so students can add thoughts, questions, or new learning to their notes. This can be done individually or as a whole class with teacher modeling.

Recommended pause points: 0:16 and 0:21

Double-Entry Journal

1. Have students set up their notes in the two-column notes format. The left side should be labeled “Text Evidence” and the right column “My Thinking.” For scaffolding, gradually release students to write with a partner and then independently.
2. Have students record visuals, quotations, words, phrases, or sentences that are important points or that connect to the Essential Question in the left column.
3. In the “My Thinking” column, have students write down words or phrases they don’t understand or have questions about.
4. Have students share their notes with a partner or small group and work together to clarify what they are not understanding. They should add their new learning to their notes.

EXTEND

Reading tasks should be directly connected to what students will do with the text after they have read and understand it.

EXTENDING BEYOND THE TEXT

This stage uses the text to develop academic thinking skills.

ACADEMIC THINKING SKILLS:

- ☐ Analyze
- ☐ Evaluate
- ☐ Synthesize
- ☒ Apply

KWLA: Part 2

1. Ask students to retrieve the KWLA they set aside at the outset of the lesson.
2. Instruct students to use the L: Learned column and reflect what they learned about wedges.
3. For scaffolding, this may be completed in partners, small groups, or as a whole-class activity with teacher modeling. For additional scaffolding, the students may draw the ideas and label them with letters or words. Encourage students to revisit their notes as a resource for learning.
4. Ask students to use the A: Applied column and think about what they can apply from the research, especially as it relates to wedges. Provide a sentence frame to support students’ writing such as the following: “I learned wedges can_____.” and “Wedges are used in our daily lives to _____.”