

Literacy T-Chart Cornell Notes

CIP 01.0601 Applied Horticulture/Horticultural Operations, General

Identify and summarize key ideas and support details of texts.

Program Task:	PA Core Standard: CC.3.5.11-12.B
301: Describe the process of photosynthesis, respiration, translocation, and transpiration.	Description: Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

Program Associated Vocabulary:	Reading Associated Vocabulary:
Native species Invasive species Photosynthesis Chloroplasts Glucose Oxygen Carbon dioxide Water Respiration Energy Aerobic respiration Anaerobic respiration Translocation Transport Solutes Transpiration Evaporation Xylem Phloem	Summary Paraphrase Key Ideas Details

Program Strategy:	Literacy Strategy:
Use the Cornell Notes strategy to ensure that students develop good notes that differentiate between central ideas and supporting details. This is especially important with plant processes as the terms overlap and can be confusing. Cornell Notes will be an especially effective strategy for the systematic plant processes in this lesson.	<i>Whole Group</i> Introduce the concept of Cornell Notes by sharing a short passage with students and modeling how to locate the main idea and supporting details. You can mark the passage by underlining, circling or highlighting the main ideas and details. Have students look for the topic or thesis statements to identify the points.

Program Strategy:

After introducing the Cornell Notes strategy and before starting the assignment, present the following prompt to the students:

During a scheduled field trip to the local botanical gardens, your team's assignment is to identify native plants and plan how to conserve existing native vegetation on your campus. For your team to be successful, understanding processes that plants use to produce energy is crucial.

Research plant processes and develop an electronic notebook of information that will be helpful for your assignment. Annotate each article using the Cornell Notes format by defining essential terms, asking thoughtful questions and writing a summary paragraph of the most important information from the text. Use the four key words: photosynthesis, respiration, translocation and transpiration as search terms.

Pair students to research and annotate related articles from a variety of sources. Make sure the students note which information comes from which source.

Students continue to take notes throughout the assigned project/module. They will have to determine how to best organize the information so that it will be useful to other readers.

Once students have completed their electronic notebooks, have them present to an authentic audience for feedback on the information they have collected and its usefulness for those interested in conserving native vegetation.

Literacy Strategy:

To further practice differentiating between levels of ideas, provide a list of statements and have students group them. Some statements should be key ideas and others support for the ideas. You can provide this on a sheet of paper or have slips for students to manipulate. One example is below (each cell would be a different slip), although you can choose different statements from your content area.

Healthy food choices provide energy for daily activities.	Four main food groups should be eaten at each meal.
	A full day's menu should be a balance of food types.
Snacks can be a part of healthy living.	Healthy snacks can reduce the possibility of tiredness.
	Fresh fruit and protein are good choices for snacks.
Healthy lifestyles require enough hydration.	Drink 64 ounces of fluid a day.
	Healthy liquids can include water and other drink that are not heavy in sugar or caffeine.

Have students share groups and explain choices.

Guided Practice

Provide student pairs with two different but related articles. Have each student read and mark one text. After reading, have students determine the "big ideas" to go in the left column. They then add information from both articles to the right column. Make sure the students note which information comes from which source.

Notes in the right column can use abbreviations, symbols, graphics or illustrations. Skip lines between ideas.

Program Strategy:	Literacy Strategy:
	<p>After completing their notes, have teams collaborate to write a brief summary statement at the bottom. You may limit the summary in some way (e.g., one sentence, 25 words or less).</p> <p><i>Application</i> Provide students with a foundational text on the topic or have them locate a relevant article. Have them complete a Cornell Notes sheet for what they learn from the passage. They will continue to take notes throughout a project or module. Notes will be essential for completing writing tasks or taking a summative assessment.</p> <p>In debriefing, use the following questions:</p> <ul style="list-style-type: none"> • How did you (your group) decide which were main ideas and which were supporting details? Think about your thinking – Why did you categorize them the way you did? • Why is it helpful to organize notes this way? • Why is it important to summarize the notes? <p>Listen for:</p> <ul style="list-style-type: none"> • Understanding why knowing the difference in key ideas and supporting details is important. • It is important to have these notes for writing and studying for tests. • This activity is teaching the skill of classification.

Instructor’s Script – Cornell Notes

Being able to correctly differentiate between key ideas and supporting details is an important skill. Cornell Notes allows students to record and categorize information for quick retrieval.

The Cornell Notes model provides a visual map for students to review content notes. It can easily be folded so that students focus on either “big ideas” or more detailed notes. The summary at the bottom is a quick reference resource.

It is critical that students record sufficient information that they can locate the original source from which the notes were taken. Students may use these notes as preparation for writing that would require documentation. They may also need to refer to the original source(s) for clarification.

As an additional step, assign partners and have students complete a peer review by sharing notes on the same article.

If students need additional practice with these topics, the four vocabulary terms, photosynthesis, transpiration, respiration and translocation, can be charted as category headings. The remainder of the terms can be grouped into one of the four groups and students will explain the thinking for placing terms in each category.

Common Mistakes Made by Students

Students sometimes miss the larger organizational structure of texts and therefore mix up whether statements are main ideas or supporting details. They then value all ideas equally, not understanding that some are more important than others to make points. Cornell Notes force students to make those distinctions.

Students also sometimes confuse summarizing and paraphrasing. A summary is always shorter than the original text and contains only the most important ideas. A paraphrase might be as long as or longer than the original, but it restates the ideas in a student's own words. Paraphrasing helps students avoid plagiarizing.

CTE Instructor's Extended Discussion

In this lesson, students are preparing a resource for future reference, potentially by themselves and others. For that reason, it is important that notes are as thorough as possible. While illustrations and abbreviations are helpful, they need to stand the test of time. That is, if the notes are references for weeks in the future, the reader would still be able to understand the information.

Cornell Notes can be used as the main method for students to develop their reading and writing skills through annotation of sources. This strategy can also be an effective means of formative assessment. While students are working, review their work; look for "trends" in misunderstandings (with either content or writing skills) and conduct a short mini-lesson with individuals, small groups, or the entire class.

Applied horticulture is a highly technical program area with specific tasks. For that reason, vocabulary will be critical. Ensure that students can define technical language, even if they have to access another resource for that information.

Sample Questions

Career and Technical Concepts

Question	Answer
<p>Your notes include each of the points below.</p> <ul style="list-style-type: none">✓ Moisture is carried through plants from roots to the undersides of leaves.✓ Rates are impacted by weather conditions.✓ Invisible process✓ Includes guttation <p>Which key term would reflect all of these notes?</p> <ul style="list-style-type: none">A. TranspirationB. PhotosynthesisC. RespirationD. Translocation	<p>A. Transpiration</p>

PA Core Reading Concepts

Question	Answer
<p>Which would be an accurate summary of the paragraph below?</p> <p>When sea otters aren't around, sea urchins often gobble up all the kelp in an area. That leaves animals like seals, fish, and crabs without a source of food or shelter. Kelp forests are also important in another way. They help absorb (take in) a gas called carbon dioxide. When people burn fuels to power cars and factories, large amounts of this gas are released into the air. It even gets into ocean water. There, it can cause problems for marine animals. For example, it can make it harder for some sea creatures to form shells. ScienceWorld Biology News</p> <p>A. Cars and factories pollute the air by producing carbon dioxide. B. Sea urchins have dangerous spines. C. Carbon dioxide is used by plants. D. Sea otters help other animals survive by maintaining kelp forests.</p>	<p>D. Sea otters help other animals survive by maintaining kelp forests.</p>