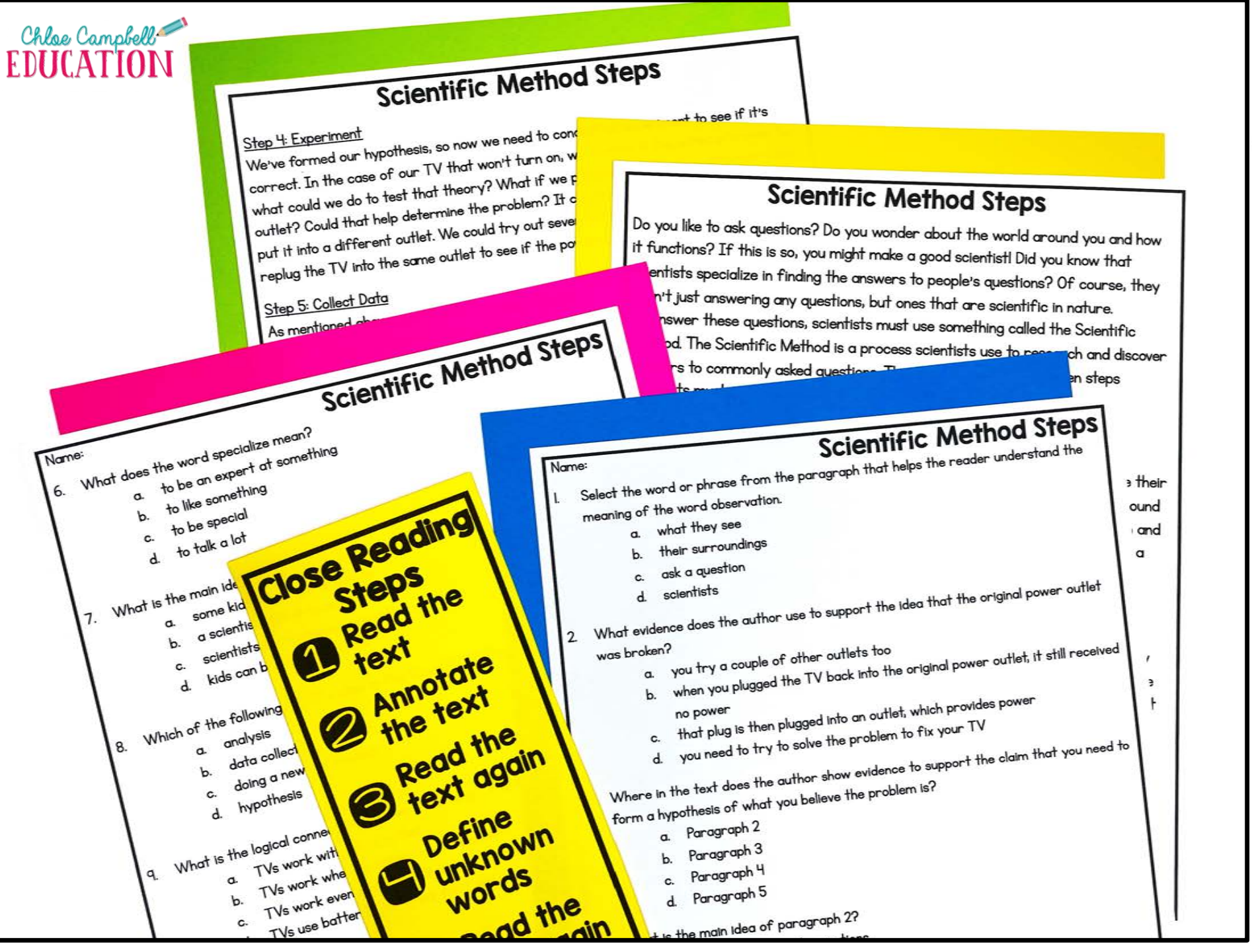
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Scientific Method Steps
Step 4: Experiment
Step 5: Collect Data
Scientific Method Steps
Do you like to ask questions? Do you wonder about the world around you and how it functions? If this is so, you might make a good scientist! Did you know that
Scientific Method Steps
Name:
6. What does the word specialize mean?
a. to be an expert at something
b. to like something
c. to be special
d. to talk a lot
Close Reading Steps
1 Read the text
2 Annotate the text
3 Read the text again
4 Define unknown words
Scientific Method Steps
Name:
1. Select the word or phrase from the paragraph that helps the reader understand the meaning of the word observation.
a. what they see
b. their surroundings
c. ask a question
d. scientists
2. What evidence does the author use to support the idea that the original power outlet was broken?
a. you try a couple of other outlets too
b. when you plugged the TV back into the original power outlet, it still received no power
c. that plug is then plugged into an outlet, which provides power
d. you need to try to solve the problem to fix your TV
Where in the text does the author show evidence to support the claim that you need to form a hypothesis of what you believe the problem is?
a. Paragraph 2
b. Paragraph 3
c. Paragraph 4
d. Paragraph 5

This resource includes:

- Teacher Tips
- Questions to Ask Students
- Student Bookmarks:
  - Close Reading Steps
  - Annotate/Mark the Text
- 4 Informational Texts:
  - Steps in the Scientific Method
  - Experiments vs. Investigations
  - Experimental Trials
  - Control Groups
- 40 Multiple Choice Questions - 10 questions for each text
- 7 Graphic Organizers
- Answer Key

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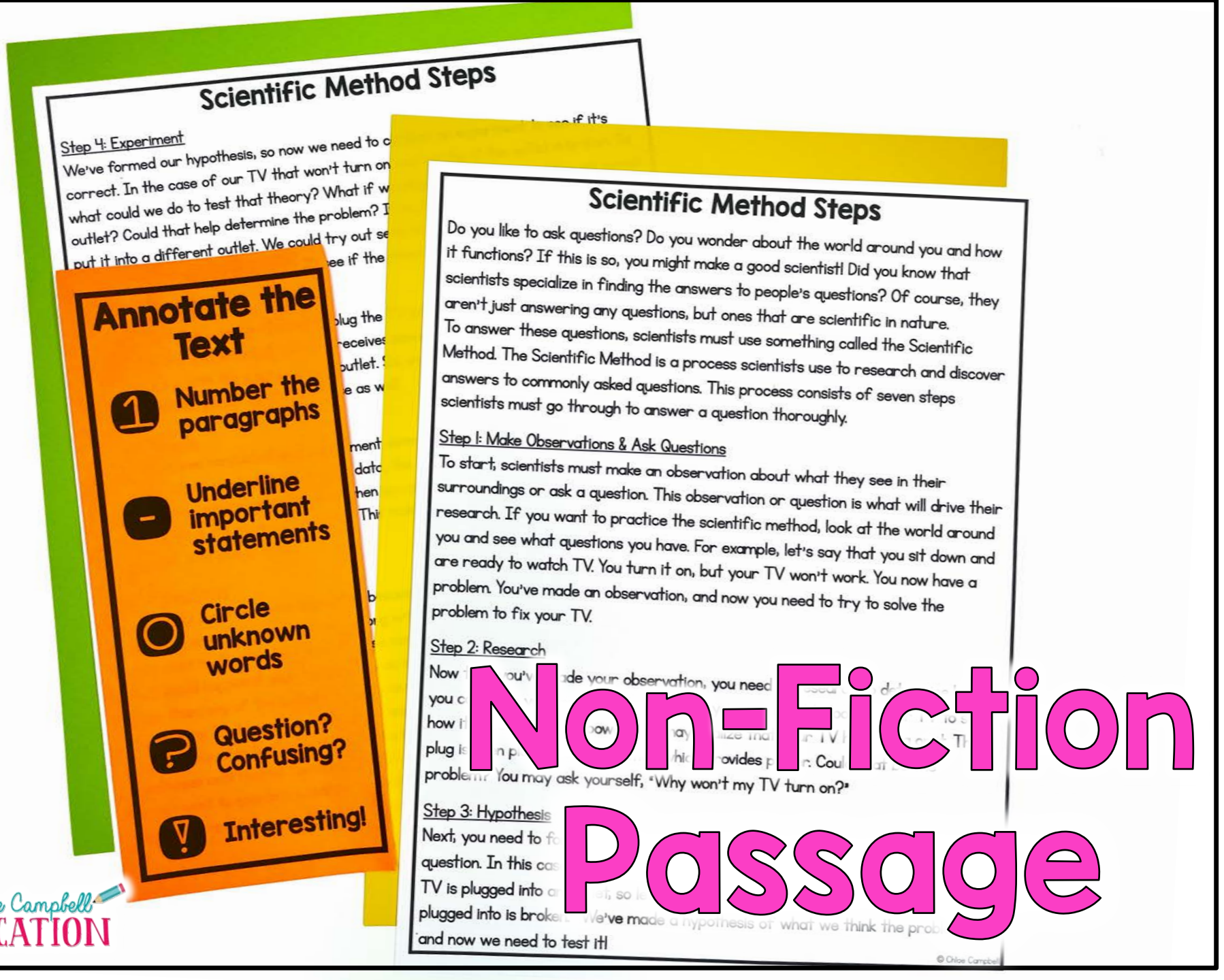
Scientific Method Steps
Step 4: Experiment
Scientific Method Steps
Do you like to ask questions? Do you wonder about the world around you and how it functions? If this is so, you might make a good scientist! Did you know that scientists specialize in finding the answers to people's questions? Of course, they aren't just answering any questions, but ones that are scientific in nature. To answer these questions, scientists must use something called the Scientific Method. The Scientific Method is a process scientists use to research and discover answers to commonly asked questions. This process consists of seven steps scientists must go through to answer a question thoroughly.
Step 1: Make Observations & Ask Questions
To start, scientists must make an observation about what they see in their surroundings or ask a question. This observation or question is what will drive their research. If you want to practice the scientific method, look at the world around you and see what questions you have. For example, let's say that you sit down and are ready to watch TV. You turn it on, but your TV won't work. You now have a problem. You've made an observation, and now you need to try to solve the problem to fix your TV.
Step 2: Research
Step 3: Hypothesis
Next, you need to
and now we need to test it!
Annotate the Text
1 Number the paragraphs
Underline important statements
Circle unknown words
? Question? Confusing?
! Interesting!
Non-Fiction
Passage
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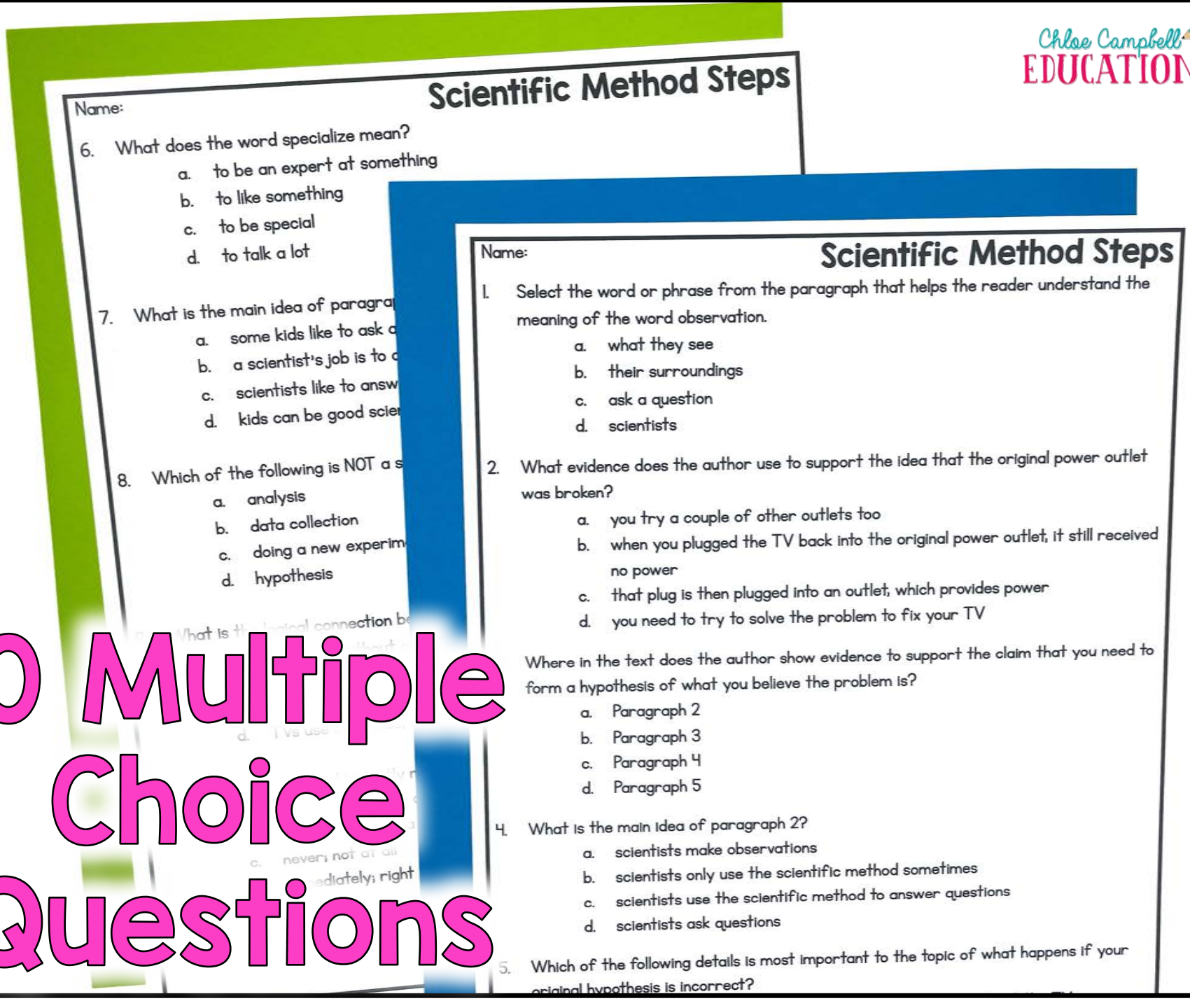

10 Multiple Choice Questions

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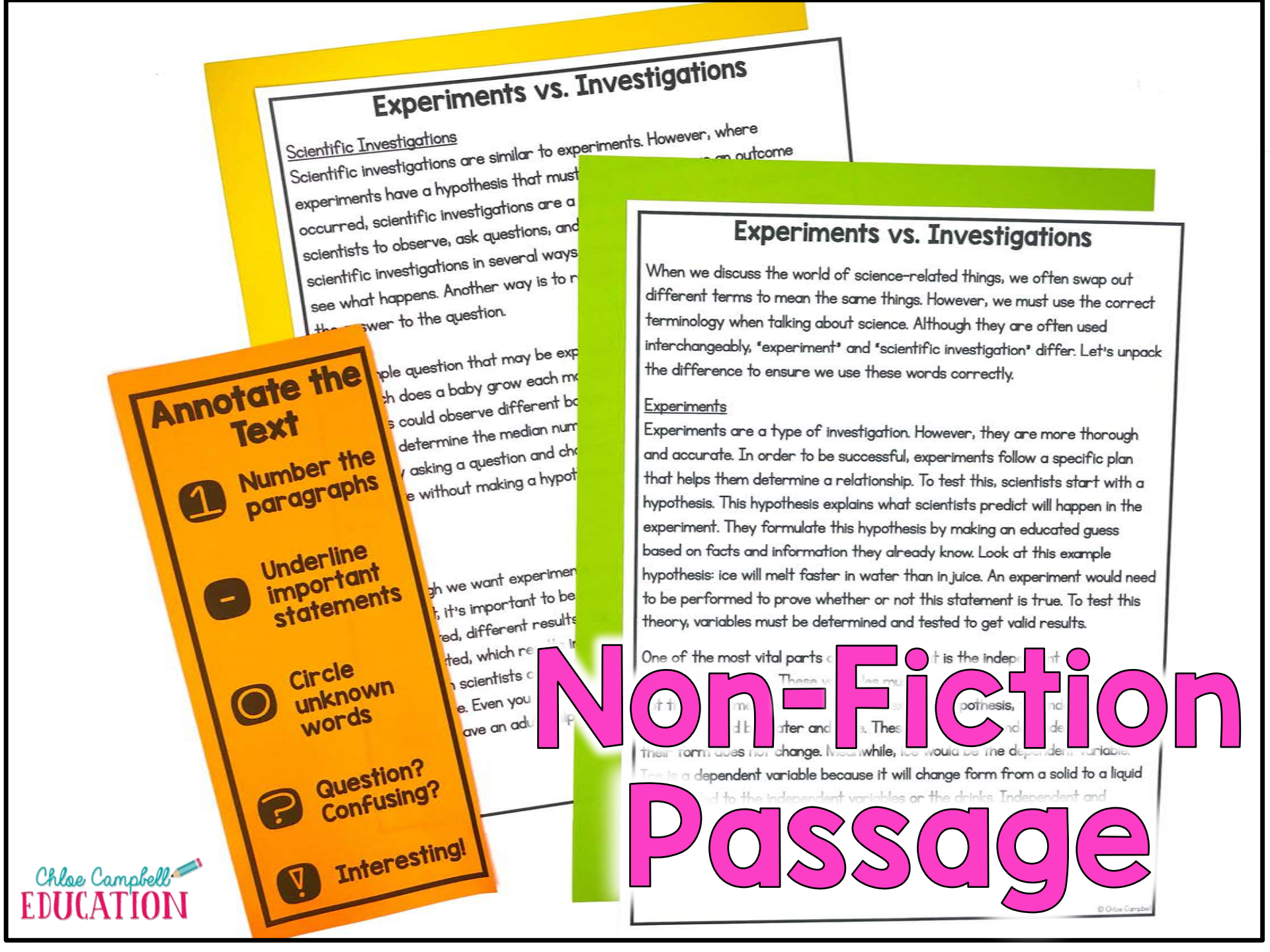
Experiments vs. Investigations
Scientific Investigations
Experiments vs. Investigations
When we discuss the world of science-related things, we often swap out different terms to mean the same things. However, we must use the correct terminology when talking about science. Although they are often used interchangeably, "experiment" and "scientific investigation" differ. Let's unpack the difference to ensure we use these words correctly.
Experiments
Experiments are a type of investigation. However, they are more thorough and accurate. In order to be successful, experiments follow a specific plan that helps them determine a relationship. To test this, scientists start with a hypothesis. This hypothesis explains what scientists predict will happen in the experiment. They formulate this hypothesis by making an educated guess based on facts and information they already know. Look at this example hypothesis: ice will melt faster in water than in juice. An experiment would need to be performed to prove whether or not this statement is true. To test this theory, variables must be determined and tested to get valid results.
dependent variable because it will change form from a solid to a liquid
Annotate the Text
1 Number the paragraphs
Underline important statements
Circle unknown words
? Question? Confusing?
! Interesting!
Non-Fiction
Passage
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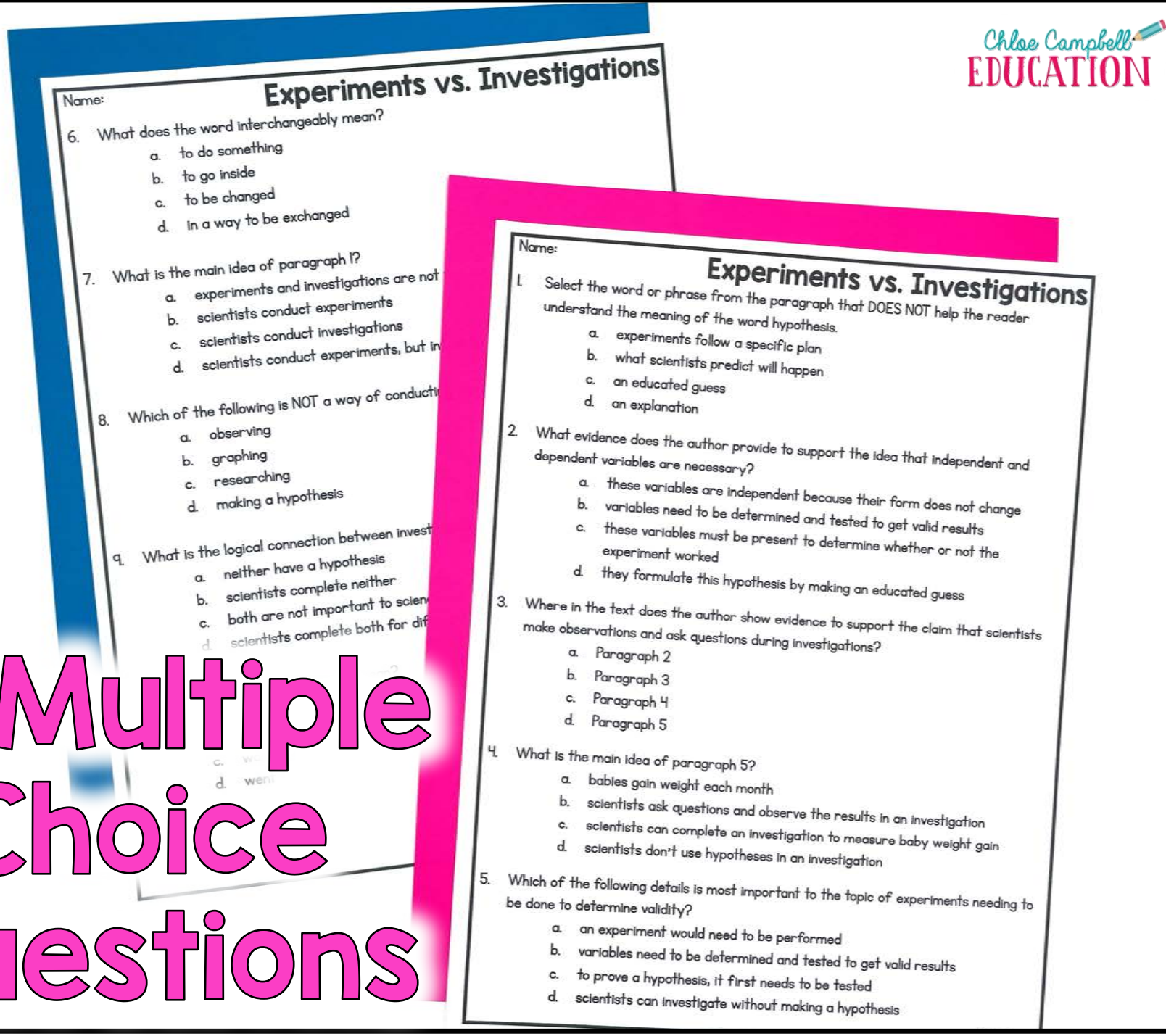

10 Multiple Choice Questions

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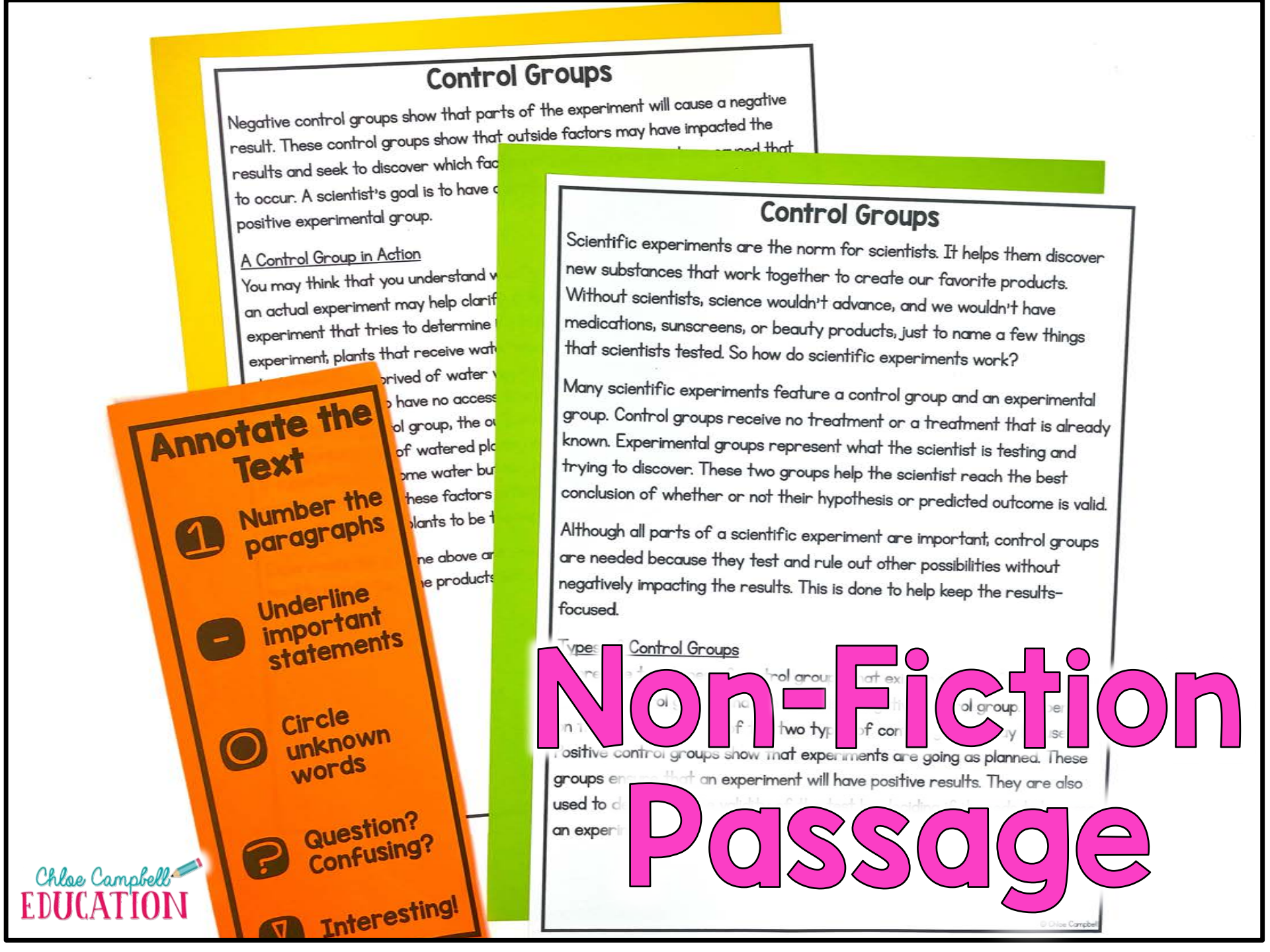
Control Groups
Negative control groups show that parts of the experiment will cause a negative result. These control groups show that outside factors may have impacted the
A Control Group in Action
Control Groups
Scientific experiments are the norm for scientists. It helps them discover new substances that work together to create our favorite products. Without scientists, science wouldn't advance, and we wouldn't have medications, sunscreens, or beauty products, just to name a few things that scientists tested. So how do scientific experiments work?
Many scientific experiments feature a control group and an experimental group. Control groups receive no treatment or a treatment that is already known. Experimental groups represent what the scientist is testing and trying to discover. These two groups help the scientist reach the best conclusion of whether or not their hypothesis or predicted outcome is valid.
Although all parts of a scientific experiment are important, control groups are needed because they test and rule out other possibilities without negatively impacting the results. This is done to help keep the results-focused.
Types of Control Groups
Annotate the Text
1 Number the paragraphs
Underline important statements
Circle unknown words
Question? Confusing?
Interesting!
Non-Fiction Passage
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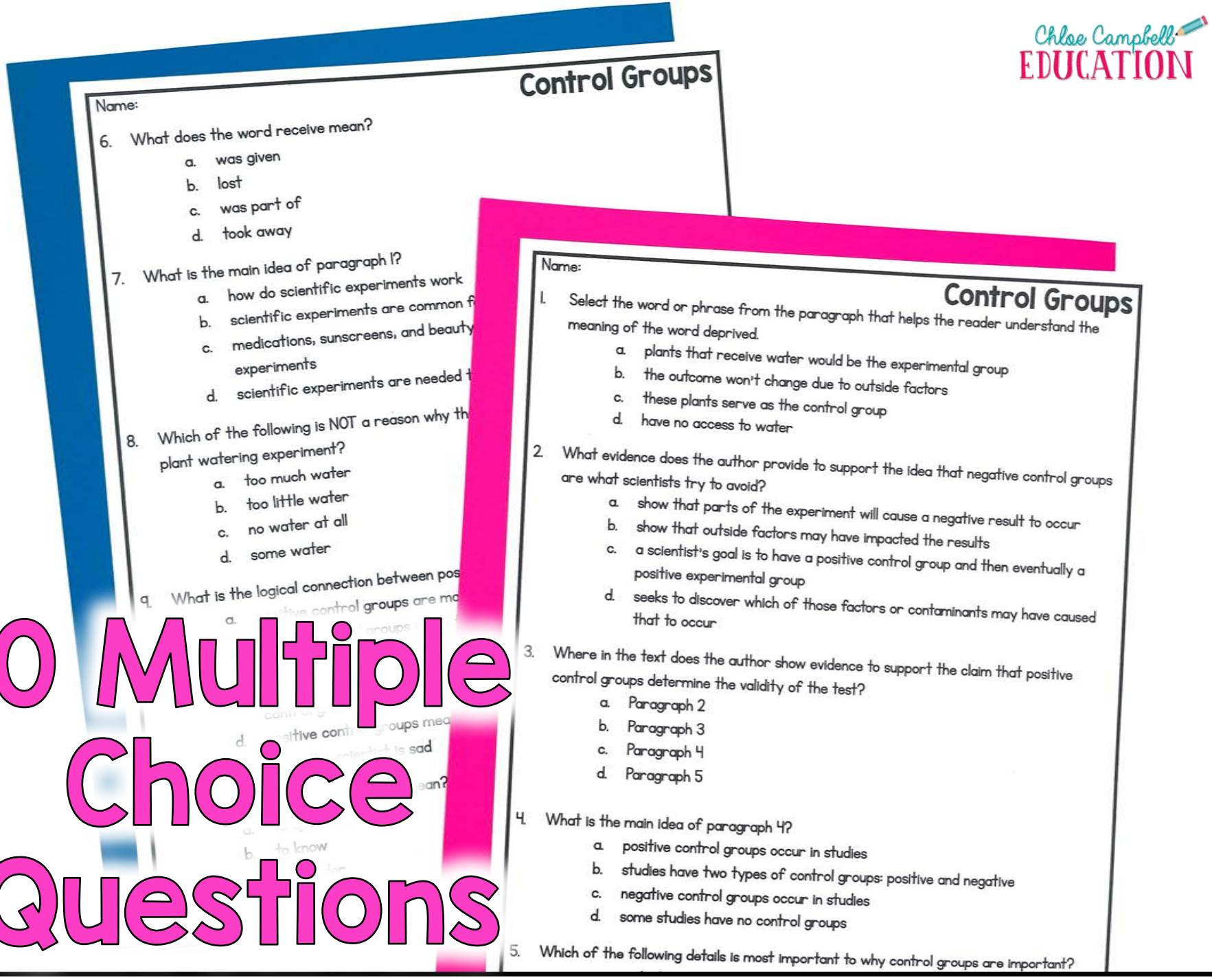

10 Multiple Choice Questions

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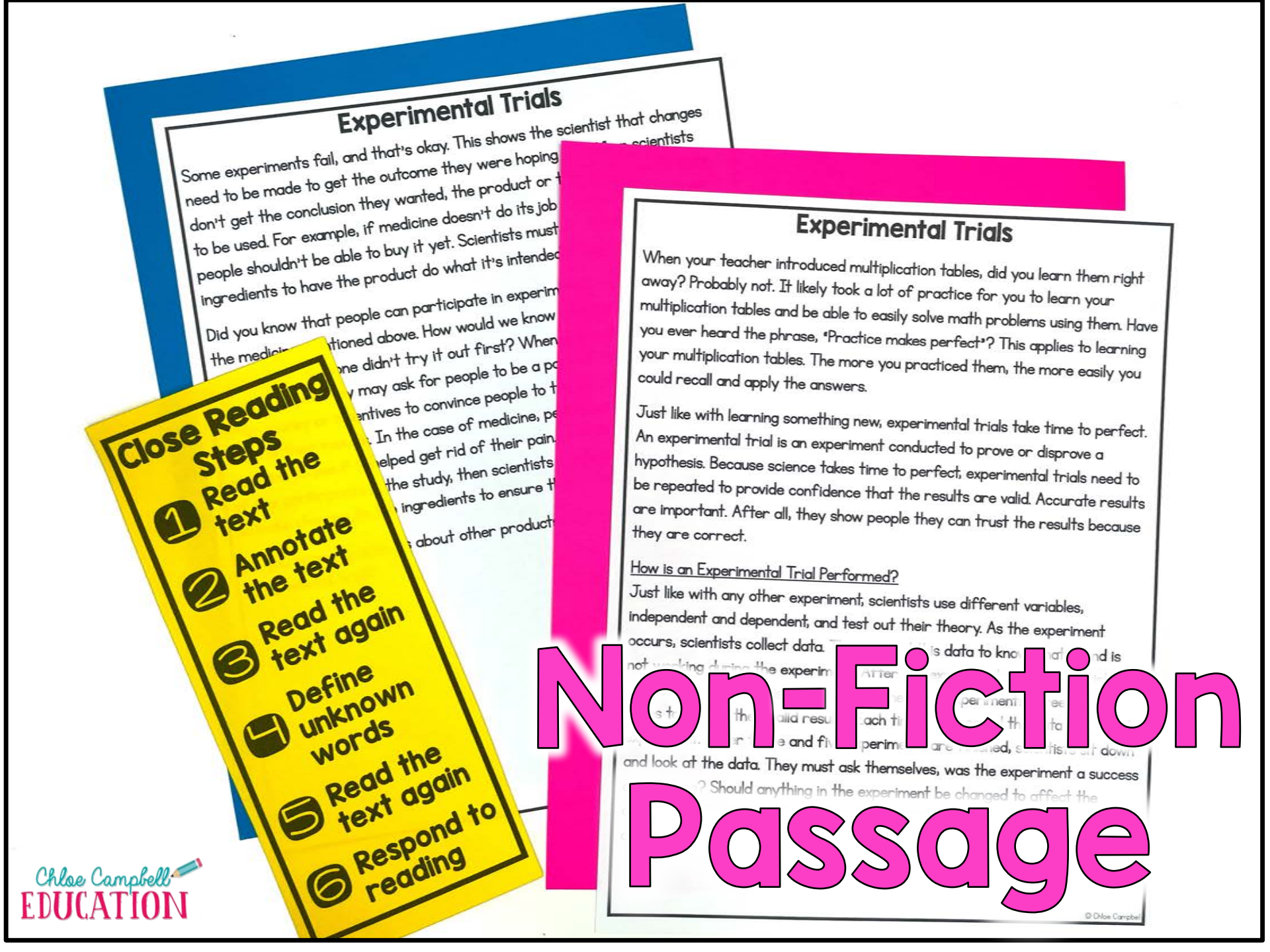
Experimental Trials
Some experiments fail, and that's okay. This shows the scientist that changes need to be made to get the outcome they were hoping
don't get the conclusion they wanted, the product or
to be used. For example, if medicine doesn't do its job
people shouldn't be able to buy it yet. Scientists must
ingredients to have the product do what it's intende
Did you know that people can participate in experim
the medici tioned above. How would we know
one didn't try it out first? When
may ask for people to be a p
entives to convince people to
. In the case of medicine, p
elped get rid of their pain.
the study, then scientists
ingredients to ensure t
about other product
Close Reading Steps
1 Read the text
2 Annotate the text
3 Read the text again
4 Define unknown words
5 Read the text again
6 Respond to reading
Experimental Trials
When your teacher introduced multiplication tables, did you learn them right away? Probably not. It likely took a lot of practice for you to learn your multiplication tables and be able to easily solve math problems using them. Have you ever heard the phrase, "Practice makes perfect"? This applies to learning your multiplication tables. The more you practiced them, the more easily you could recall and apply the answers.
Just like with learning something new, experimental trials take time to perfect. An experimental trial is an experiment conducted to prove or disprove a hypothesis. Because science takes time to perfect, experimental trials need to be repeated to provide confidence that the results are valid. Accurate results are important. After all, they show people they can trust the results because they are correct.
How is an Experimental Trial Performed?
Just like with any other experiment, scientists use different variables, independent and dependent, and test out their theory. As the experiment occurs, scientists collect data
and look at the data. They must ask themselves, was the experiment a success
Non-Fiction
Passage
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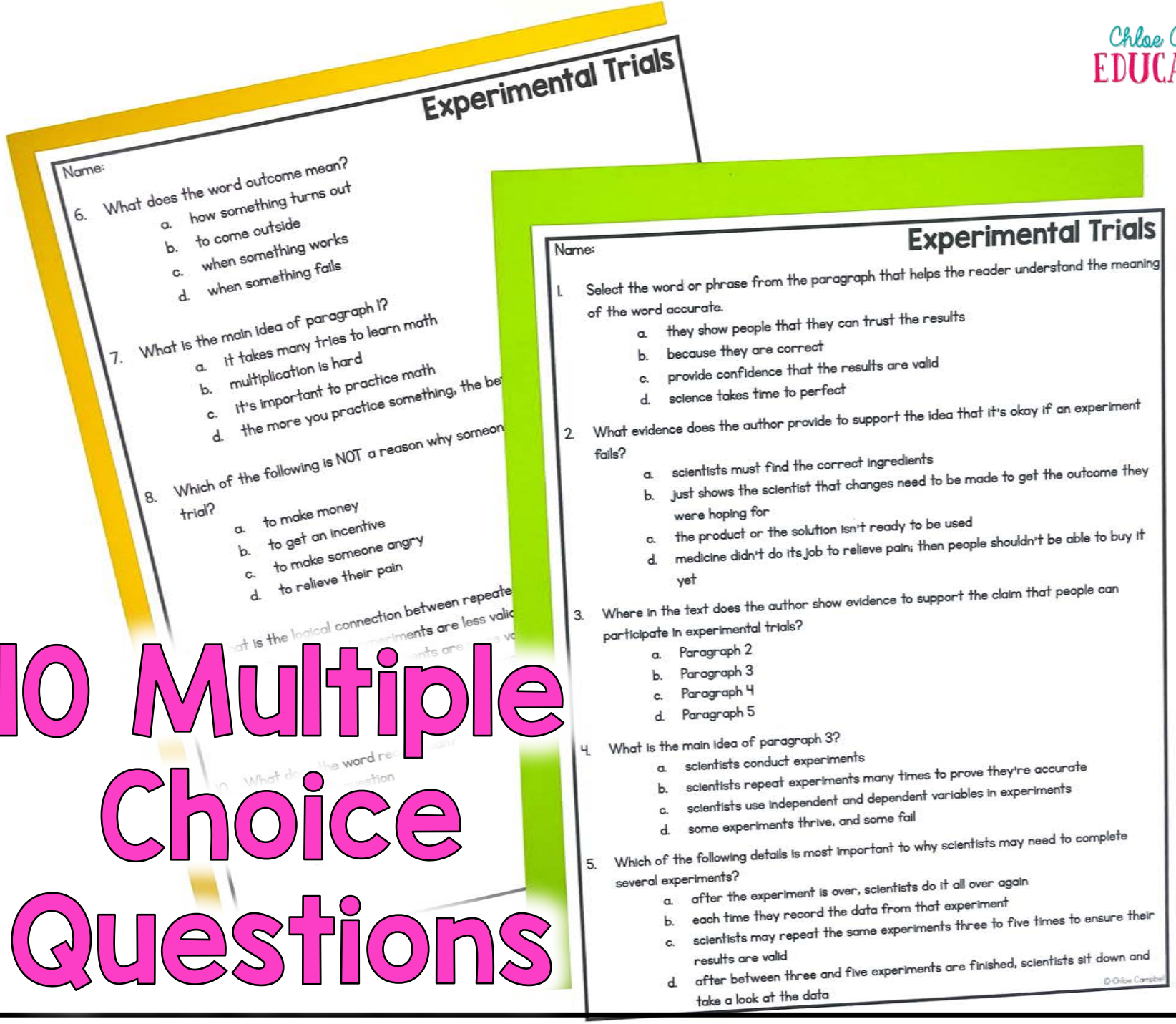
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Experimental Trials
Name:
6. What does the word outcome mean?
a. how something turns out
b. to come outside
c. when something works
d. when something fails
7. What is the main idea of paragraph 1?
a. it takes many tries to learn math
b. multiplication is hard
c. it's important to practice math
d. the more you practice something, the be
8. Which of the following is NOT a reason why someon
trial?
a. to make money
b. to get an incentive
c. to make someone angry
d. to relieve their pain
Experimental Trials
Name:
1. Select the word or phrase from the paragraph that helps the reader understand the meaning of the word accurate.
a. they show people that they can trust the results
b. because they are correct
c. provide confidence that the results are valid
d. science takes time to perfect
2. What evidence does the author provide to support the idea that it's okay if an experiment fails?
a. scientists must find the correct ingredients
b. just shows the scientist that changes need to be made to get the outcome they were hoping for
c. the product or the solution isn't ready to be used
d. medicine didn't do its job to relieve pain; then people shouldn't be able to buy it yet
3. Where in the text does the author show evidence to support the claim that people can participate in experimental trials?
a. Paragraph 2
b. Paragraph 3
c. Paragraph 4
d. Paragraph 5
4. What is the main idea of paragraph 3?
a. scientists conduct experiments
b. scientists repeat experiments many times to prove they're accurate
c. scientists use independent and dependent variables in experiments
d. some experiments thrive, and some fail
5. Which of the following details is most important to why scientists may need to complete several experiments?
a. after the experiment is over, scientists do it all over again
b. each time they record the data from that experiment
c. scientists may repeat the same experiments three to five times to ensure their results are valid
d. after between three and five experiments are finished, scientists sit down and take a look at the data
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10 Multiple Choice Questions

Close Reading

Close Reading: A reading strategy that is used to comprehend and analyze a text closely. Students will typically read the text at least twice for comprehension, details, analysis, and deep questioning of the text's purpose and meaning.

Steps for Close Reading:

1. Read the Text
2. Mark Up the Text or Annotate the Text
3. Read the Text Again
4. Define Unknown Words
5. Read the Text Again
6. Respond to Reading

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Teacher Tips & Suggestions

Includes:

- Teacher Tips
- Questions to Ask Students
- Close Reading Steps - Bookmark
  - Version with "Mark the text"
  - Version with "Annotate the text"
- Steps to "Mark the Text" Bookmark
- Steps to "Annotate the Text" Bookmark
- Informational Text: The
- 10 Multiple Choice Questi
- 7 Graphic Organizers

Questions to Ask Students

- What is the text mostly about?
- Who is the audience for this text?
- What's is the writer's purpose of this text?
- What's your favorite part of the passage?
- What words are new to you? What do you think the words mean?
- What detail stands out to you?
- What questions do you now have about the topic?
- If you can ask the author 2 questions, what would yo ask them?
- In this paragraph, what is the author saying?
- What is the structure of the text? How does it help

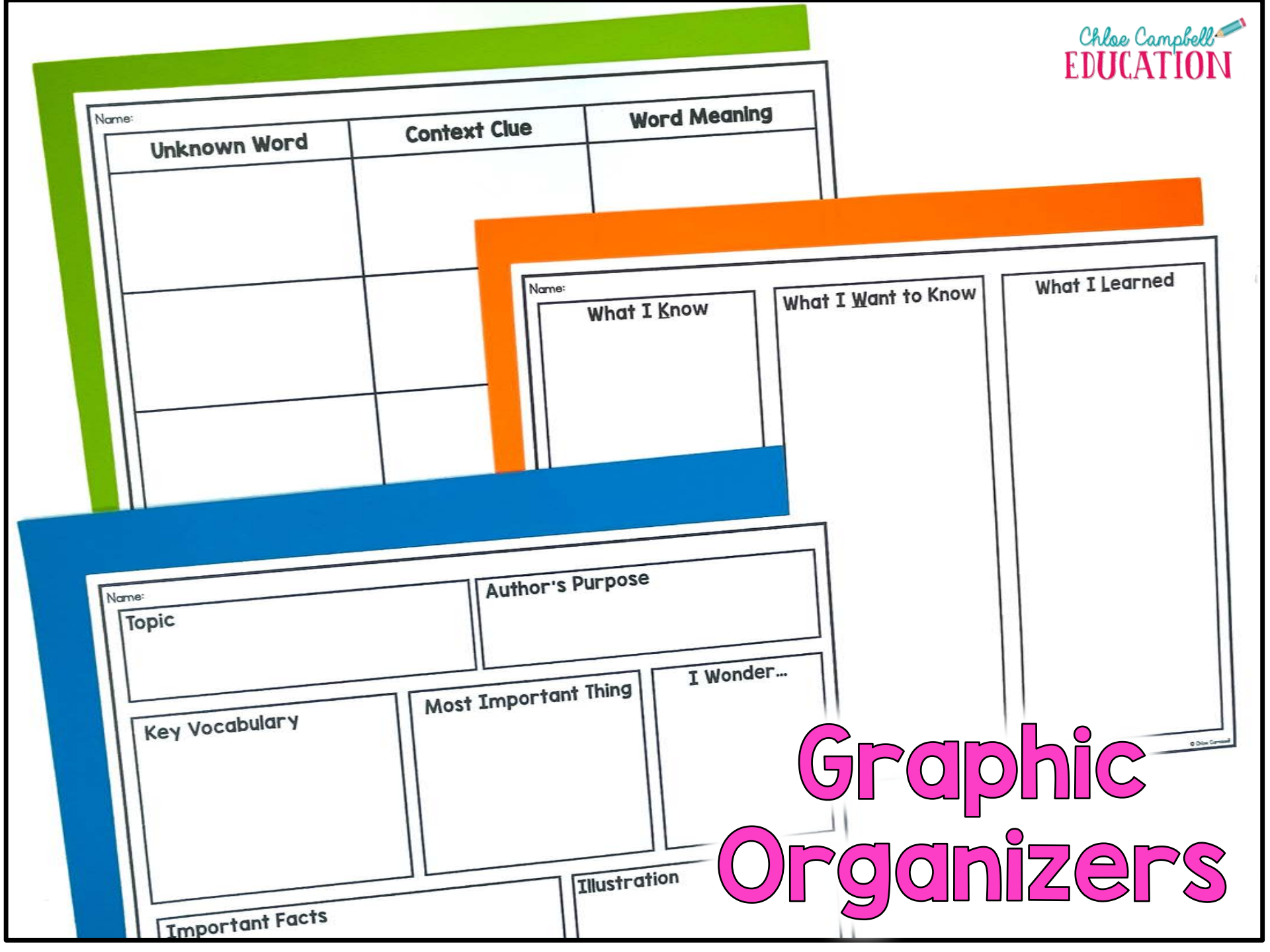
Teacher Tips

Close reading: A reading strategy that is used to comprehend and analyze a text closely. Students will typically read the text at least twice for comprehension, details, analysis, and deep questioning of the text's purpose and meaning.

1. Read the Text: When students read the text for the first time, they are reading just to identify what the passage is mostly about. The first read is surface level and allows the students to understand the gist of the text.
2. Mark Up the Text or Annotate the Text: Encourage students to use their annotation bookmarks (provided below) to make notes directly on the text. Students can write in the margins, use sticky notes to make notes, use color coding. You can even slip the text inside a dry-erase pocket and encourage students to use dry-erase markers to mark up the text.
3. Read the Text Again: If the teacher is working with the students for this, the teacher can read the text aloud this time. Model think-alouds and use expression while you read. If students are working with partners in a station, encourage them to each read a paragraph then switch readers.
4. Define Unknown Words: During this step, invite students to circle any unknown or unfamiliar words. Use the provided graphic organizer to select 4-5 unknown words and work to identify the meaning of each word.
5. Read the Text Again: With this third time reading the text, encourage the students to read the passage independently.
6. Respond to Reading: Students will now use the text to answer the 10

Graphic Organizers

- Main Ideas with Text Evidence
- Central Ideas with Text Evidence
- Central Ideas with Details
- Main Idea, Details, Conclusion
- KWL: What I Know, What I Want to Know, What I Learned
- Overview: Topic, Author's Purpose, Key Vocabulary, Most Important Thing, I Wonder, Important Facts, Illustration
- Context Clues (3 Versions: 3 words, 4 words, 5 words)
- Arthropods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EDUCATION
Name:
Unknown Word
Context Clue
Word Meaning
Name:
What I Know
What I Want to Know
What I Learned
Name:
Topic
Author's Purpose
Key Vocabulary
Most Important Thing
I Wonder...
Important Facts
Illustration
Graphic Organizers

Ideas for Use

- Science or ELA Stations
- Whole Group Instruction
- Partner Practice
- Guided Reading Groups
- Substitute Plans
- Send home to practice
- ELA Work Stations or Centers
- Assessment

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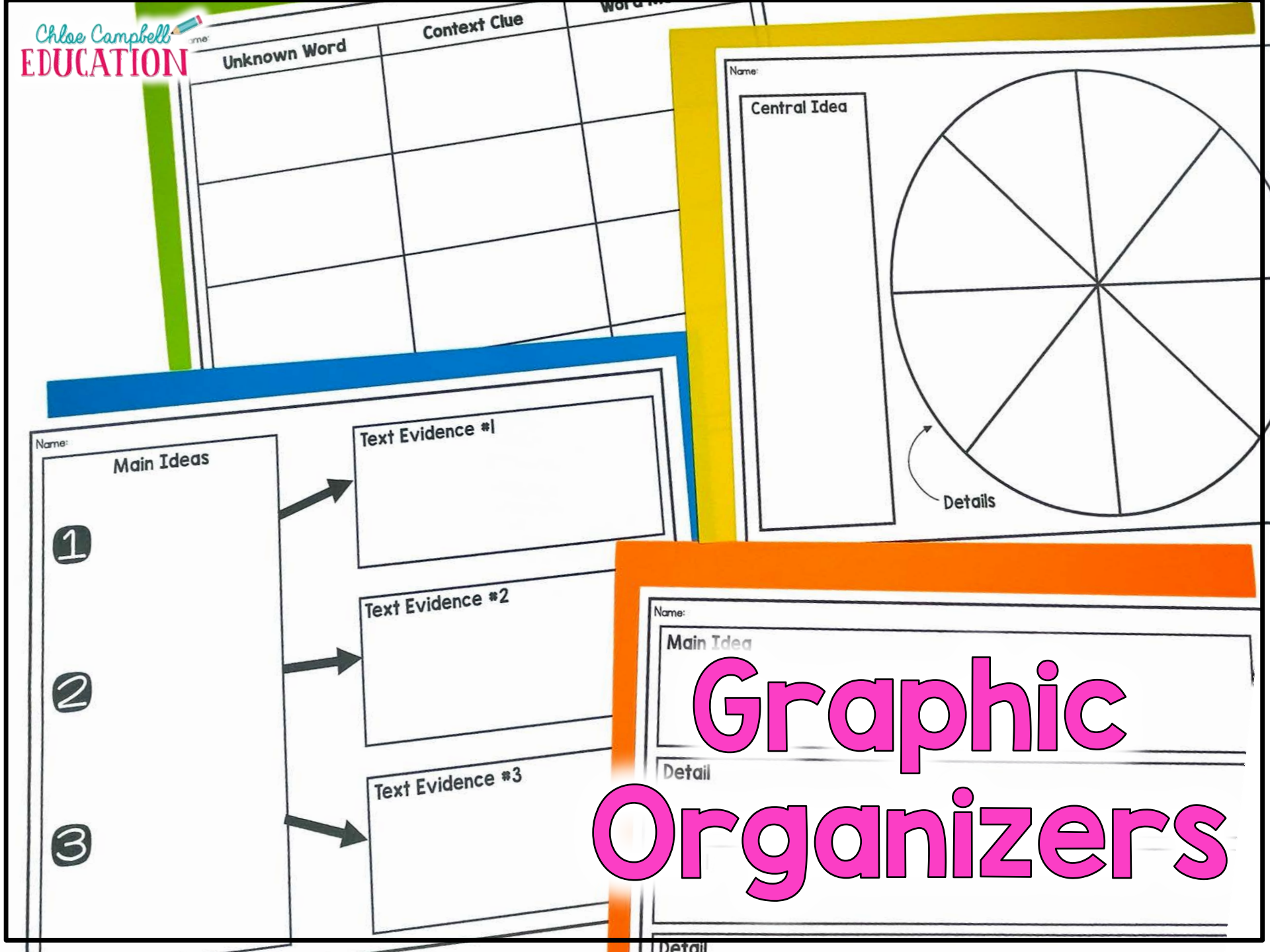

Graphic Organizers

Purchase now to connect science and literacy in your classroom!

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