Handouts

UNIT 3, MODULE 1:
Building Background Knowledge With Anticipation-Reaction Guides

TEKS Connections

English Language Arts

Grades 6–8

Reading/Comprehension Skills (Figure 19).

Students use a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message. Students will continue to apply earlier standards with greater depth in increasingly more complex texts as they become self-directed, critical readers. The student is expected to:

(A) establish purposes for reading selected texts based upon own or others' desired outcome to enhance comprehension;

(D) make complex inferences about text and use textual evidence to support understanding

Grade 6

(18) Writing/Persuasive Texts. Students write persuasive texts to influence the attitudes or actions of a specific audience on specific issues. Students are expected to write persuasive essays for appropriate audiences that establish a position and include sound reasoning, detailed and relevant evidence, and consideration of alternatives.

Grades 7–8

(18) Writing/Persuasive Texts. Students write persuasive texts to influence the attitudes or actions of a specific audience on specific issues. Students are expected to write a persuasive essay to the appropriate audience that:

(B) considers and responds to the views of others and anticipates and answers reader concerns and counter-arguments

The thinking process used with the Anticipation-Reaction Guide will prepare students to recognize alternatives and counterarguments and use text evidence to respond to them.

SOURCE: Texas Education Agency (TEA), 2008a.

Social Studies

Grades 6–7:

(21) The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including electronic technology. The student is expected to:

(B) analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

Grade 8:

(29) The student applies critical-thinking skills to organize and use information acquired through established research methodologies from a variety of valid sources, including electronic technology. The student is expected to:

(B) analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

The social studies standards emphasize making predictions and drawing inferences and conclusions. These skills often rely upon students' abilities to activate their background knowledge or to integrate new information with existing knowledge.

SOURCE: TEA, 2010.

Science

Grades 6–8

(2) Scientific investigation and reasoning.

(B) The student is expected to design and implement experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology.

Asking questions and formulating hypotheses in science is similar to the type of instructional activity we introduce in this module. Anticipation-Reaction Guides stimulate students' thinking about the subject and encourage them to form hypotheses that will drive their focus while reading and prompt discussion and analysis after reading.

SOURCE: TEA, 2009.

Mathematics

Grade 6

(13) Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:

(B) validate his/her conclusions using mathematical properties and relationships.

Grade 7

(15) Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:

(B) validate his/her conclusions using mathematical properties and relationships.

Grade 8

(16) Underlying processes and mathematical tools. The student uses logical reasoning to make conjectures and verify conclusions. The student is expected to:

(B) validate his/her conclusions using mathematical properties and relationships.

The math standards emphasize making predictions and drawing inferences and conclusions. These skills rely on students' abilities to activate background knowledge or to integrate new information with existing knowledge.

This objective points out an important feature of comprehension instruction that is often overlooked. We need to return to initial conclusions or assertions to determine whether they were correct or need to be adjusted. The Anticipation-Reaction Guide in this module is a structure for doing that.

SOURCE: TEA, 2006.

English Language Proficiency Standards (ELPS) Connections

4(J) The student is expected to demonstrate English comprehension and expand reading skills by employing inferential skills such as predicting, making connections between ideas, drawing inferences and conclusions from text and graphic sources, and finding supporting text evidence commensurate with content area needs.

SOURCE: TEA, 2007.

College and Career Readiness Standards (CCRS) Connections

English/Language Arts

II. Reading

(A)(4) Draw and support complex inferences from text to summarize, draw conclusions, and distinguish fact from simple assertions and opinions.

Cross-Disciplinary Standards

II. Foundational Skills

(A)(5) Analyze textual information critically.

SOURCE: TEA, 2008b.

Preparing Anticipation-Reaction Guides

- Review the text and identify four or five important concepts or themes.
- Form opinion statements about the concepts or themes:
  - Not true/false statements of facts
  - No expectation for one right answer
- Create the guide, including:
  - Statements
  - Reader's opinion section
  - Place to record evidence and page numbers while reading
  - Place for key discussion points
  - Place to articulate the reader's conclusions about the statements

Anticipation-Reaction Guide: English Language Arts Sample

Before reading: Think about whether you agree or disagree with each statement written below. Tell why or why not.

During reading: Look for evidence that supports or presents a counterargument for each statement. Write your evidence in the Evidence column and record the page number where you found it.

Statement	Reader's Opinion	Evidence	Page	Discussion	Reader's Conclusion
1. Livestock (cows, sheep, goats, pigs) should be raised only for supplying food to people.	*I agree because I have seen animals raised on a ranch.*	*Zlateh, the goat, is used for her fur as well as her milk. When she and Aaron get caught in a snowstorm, Zlateh is Aaron's companion, source of warmth, and friend.*	484, 485, 486	*The text evidence contradicts the statement. I changed my opinion because I saw how the goat provided more than food.*	*Although livestock are primarily raised for food, they can provide many other things to humans, such as warmth and companionship.*
2. No one can help you but yourself. In times of trouble, you can count on only you.	*I disagree because I have a friend I know I can count on.*	*Zlateh helps Aaron quite a bit. The goat keeps him company in a storm, keeps him warm, and helps to ease his hunger.*	484, 485, 486	*The text evidence supports the statement because Zlateh was there for Aaron, just like my friend is there for me.*	*We are not always alone in facing trouble. Friends, family—even animals—can help us.*
3. Sometimes, we do not realize the value of what we have.	*I agree because Theodore Taylor from "The Cay" is like this, and so are some people in real life.*	*Although Aaron loved Zlateh, he was willing to give her to the butcher for slaughter. But when she saves him in the blizzard, he never thinks of giving her away again.*	487	*The text supports the statement because Aaron didn't realize how much Zlateh was worth until the storm.*	*Sometimes we do not realize the value of what we have until something happens to open our eyes to it.*
4. Animals can communicate as well as humans can.	*I agree because we learned about dolphin communication in science class.*	*Zlateh says only one word, but she loves and trusts her people and she helps them as best she can, as shown by the way she comes to Aaron's rescue in the storm.*	484, 485, 486, 487	*The text supports the statement because Zlateh shows her loyalty and love by helping Aaron.*	*Although animals may not speak with words like humans do, they can communicate through their actions.*

After reading: Discuss how the evidence relates to your opinion. State your conclusion about the statement, using the text evidence.

Text source: Singer, I. B. (2001). *Zlateh the goat and other stories*. New York: Michael Di Capua Books.

TEKS information on the next page.

English Language Arts TEKS

Grades 6–8

Reading/Comprehension Skills (Figure 19).

Students use a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message. Students will continue to apply earlier standards with greater depth in increasingly more complex texts as they become self-directed, critical readers. The student is expected to:

(A) establish purposes for reading selected texts based upon own or others' desired outcome to enhance comprehension;

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Grade 6:

(18) Writing/Persuasive Texts. Students write persuasive texts to influence the attitudes or actions of a specific audience on specific issues. Students are expected to write persuasive essays for appropriate audiences that establish a position and include sound reasoning, detailed and relevant evidence, and consideration of alternatives.

Grades 7–8:

(18) Writing/Persuasive Texts. Students write persuasive texts to influence the attitudes or actions of a specific audience on specific issues. Students are expected to write a persuasive essay to the appropriate audience that:

(B) considers and responds to the views of others and anticipates and answers reader concerns and counter-arguments

SOURCE: TEA, 2008a.

Anticipation-Reaction Guide: What is a Tropical Rainforest?

Before reading: Think about whether you agree or disagree with each statement written below. Tell why or why not.

During reading: Look for evidence that supports or presents a counterargument for each statement. Write your evidence in the Evidence column and record the page number where you found it.

Statement	Reader's Opinion	Evidence	Page	Discussion	Reader's Conclusion

After reading: Discuss how the evidence relates to your opinion. State your conclusion about the statement, using the text evidence.

What is a Tropical Rainforest?

Student Fact Sheet 1

WHAT IS A TROPICAL RAINFOREST?

A tropical rainforest is one of the earth's most spectacular natural wonders! Here are some answers to frequently asked questions about rainforests.

Q: Where can you find tropical rainforests?

A: Tropical rainforests are located around the **equator**—from the **Tropic of Cancer** in the north, to the **Tropic of Capricorn** in the south. The largest rainforests are in Brazil (South America), Democratic Republic of Congo (Africa), and Indonesia (islands found near the Indian Ocean). Other tropical rainforests lie in Southeast Asia, Hawaii, and the Caribbean Islands. The Amazon rainforest in South America is the world's largest, covering an area about two-thirds the size of the continental United States.

Q: Why are they called "rainforests?"

A: Because they're wet! Tropical rainforests are defined by their wet and dry seasons. Tropical rainforests receive 160 to 300 inches (400-760 cm) of rain each year. Compare this with the city of Los Angeles, which only receives an average of 10-20 inches of rain a year! Also because rainforests lie near the equator, temperatures stay near 75-80 degrees Fahrenheit all year round, which is nice and warm.

Q: What does a rainforest look like?

A: Picture yourself walking on a thin carpet of wet, rotting leaves. If you look up you see an umbrella of dark green leaves. Only a spot or two of blue sky peeks through the thick mass of tree branches and leaves. You see beautiful flowers growing wild upon the trees, as well as on the ground. You hear the constant sound of insects, birds, and falling twigs. In some rainforests, you might hear the sounds of large animals like the gorilla or jaguar.

There are so many **species** of plants and animals in the rainforest that, if you stood in one place and turned a complete circle, you might

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see hundreds of different species. This incredible number of species of living things is one of the major differences between tropical rainforests and the forests of North America.

A tropical rainforest consists of four layers: **the emergent trees, canopy, the understory, and the forest floor.** The emergent and canopy layers make up the very top of the rainforest, where a few trees, called emergents, poke out above the green growth to reach the sun. Most of the plant growth in rainforests is here, close to the sun. Most rainforest animals, including monkeys, birds, and tree frogs, live in the canopy.

Below the canopy are the young trees and shrubs that make up the understory. The plants in this layer rarely grow to large sizes because the canopy blocks most of the sunlight. The forest floor is almost bare because very little sunlight can get through the canopy and understory to reach the ground. This is where fallen leaves and branches rot quickly to release nutrients for other plants to grow. Large mammals such as South American tapirs and Asian elephants who are too heavy to climb up into the canopy layer live in the dim light of the understory and forest floor.

Q: How do rainforest plants and animals depend on each other?

A: In all of nature, and especially in rainforests, plants and animals depend on each other for survival. This is called **interdependence**. For example, some insects can only survive in one type of tree, while some birds only eat one type of insect. If this tree is destroyed, the insects will have no home. If the insects die, the birds who rely on them for food will starve to death. Because of this interdependence, if one type of plant or animal becomes extinct, several others could be in danger of extinction as well.

Q: What is the secret to making this system work?

A: One secret to this lush environment is that the rainforest reuses almost everything that falls to the ground and decays. When leaves fall from the trees, when flowers wilt and die, and when any animal dies on the forest floor, it decays and all of the **nutrients** in the decayed species are recycled back into the roots of the trees and plants.

Only the top few inches of rainforest soil have any nutrients. Most of the nutrients are in the **biomass**, the bulk of animal and plant life above the ground. The roots of rainforest trees are not very deep; that way they can collect all of the nutrients in the top few inches of the soil.

Rainforests even recycle their own rain! As water **evaporates** in the forest it forms clouds above the canopy that later fall as rain.

Q: How do humans depend on rainforests?

A: Rainforests are essential—not just to those who live in or near them, but to everyone on the whole planet. They help control the world's climate. However, when the rainforests are burned and cleared, carbon is released that causes the weather to be much hotter. This is called the **greenhouse effect.**

Retrieved from http://rainforestheroes.com/kidscorner/rainforests/s05_rainforests.html on July 24, 2007.

Student Fact Sheet 11

People also use many rainforest materials. Many of our medicines come from plants that grow in rainforests. Perhaps someday the cure for cancer or AIDS will be found in a tropical rainforest. Some of the medicines we now use come from tropical rainforest plants, such as aspirin, heart disease treatment, and painkillers.

Many products, such as medicines and Brazil nuts, can be taken from rainforests without destroying them; but other products—such as timber, gold, and oil—require a more destructive method of **extraction**. Logging for tropical timber and gold mining has contributed to much of the destruction of tropical rainforests.

Q: Do people live in rainforests?

A: Indigenous, or native, peoples have lived in tropical forests for thousands of years. They use every part of the forest in a sustainable manner, or in a way that does not destroy the forest. Recently, many other people have moved to tropical rainforests, and some of them have used the forests in ways that destroy them.

Q: Can rainforests grow back once they have been destroyed?

A: A rainforest cannot be replaced. Once it is destroyed it is gone forever. Once the web of interdependence has been broken, plants and animals have no way to rebuild their complex communities.

Rainforests have been evolving for 70 to 100 million years. They contain plants and animals that live nowhere else on earth. When a rainforest is destroyed, so are the plants and animals who have lived there for millions of years. Once they are destroyed, they will only be memories of our past. It is up to us to help preserve the rainforest before it is too late! For information on what you can do to help, download a copy of "Seven Things You Can Do to Save the Rainforest"from our website at www.ran.org, or you can write or call Rainforest Action Network and ask for a copy of our student fact sheet. You can also send an email to tsolum@ran.org to get on our kids email list.

Retrieved from http://rainforestheroes.com/kidscorner/rainforests/s05_rainforests.html on July 24, 2007.

Student Fact Sheet 1

Glossary

Biomass: Living and dead matter produced, including plants and animals.

Canopy: The highest layer of the rainforest, made up of the tops of trees. Animals such as howler monkeys, red-eyed tree frogs, sloths, and parrots live in the canopy.

Equator: An imaginary circle around the earth, equally distant at all points from the North and South poles. It divides the earth into two halves—the Northern and Southern Hemispheres.

Emergent: The rainforest layer that includes the tops of the tallest trees.

Evaporate: When moisture changes from liquid to gas in the air.

Extraction: To remove something (for example, to take out Brazil nuts from the Amazon rainforest).

Forest Floor: The ground layer, made up of tree roots, soil and decaying matter. Mushrooms, earthworms, and elephants all make their homes here.

Greenhouse Effect: The warming of the planet caused by chemicals which trap heat in the air. This process is being sped up by humans who put too many heat-trapping chemicals into the air. Some causes include car exhaust, factory smoke, and burning rainforests.

Interdependence: The concept that everything in nature is connected to each other, and cannot survive without the help of other plants, animals and abiotic factors (such as sun, soil, water and air) around it.

Nutrients: Food needed for growth by living things.

Species: A distinct kind of plant or animal that has many common characteristics or qualities.

Sustainable: Using products of the forest in a way that does not permanently destroy them, so that people in the future can also use them.

Tropic of Cancer: A circle around the earth, parallel and to the north of the equator.

Tropic of Capricorn: Similar to the Tropic of Cancer, but to the south of the equator.

Understory: The second layer of rainforests, made up mostly of young trees and shrubs. Animals that live here include jaguars, tapirs, fer-de-lance snakes, and woodpeckers.

Written by Susan Silber & Illisa Kelman

revised 2/04

SOURCE: Silber & Kelman, 2004.
Retrieved from http://rainforestheroes.com/kidscorner/rainforests/s05_rainforests.html on July 24, 2007.

Anticipation-Reaction Guide: Social Studies Sample

Before reading: Think about whether you agree or disagree with each statement written below. Tell why or why not.

During reading: Look for evidence that supports or presents a counterargument for each statement. Write your evidence in the Evidence column and record the page number where you found it.

Statement	Reader's Opinion	Evidence	Page	Discussion	Reader's Conclusion
1. The businesses that mine oil should be allowed to pay for access to rain forests if oil is discovered there.	*I agree because the money can be used to help people who live there and the world needs more oil.*	*Extracting oil destroys the rainforests.*	*3*	*The text does not support the statement because the rainforests would be destroyed if oil companies went in, and money cannot restore them. I changed my opinion.*	*Rainforests should be protected from oil companies because the extraction process destroys the forests.*
2. Governments around the world have a responsibility to put limits or restrictions on what can be done with rainforests.	*I agree because if there are no restrictions, some people could use up rainforests and leave nothing for others.*	*Rainforests are in different countries around the equator. Rainforests control the world's climate. People rely on medicines from rainforest plants. Rainforests can't be replaced.*	*1* *2* *3*	*The text supports the statement and my opinion because it shows that the rainforests are important to the whole world and cannot be replaced if destroyed.*	*Governments should work together to protect the rainforests because they are not replaceable and we all need them.*
3. The good results of taking plants and minerals from the rainforest are more important than the bad side effects to the environment.	*I agree because the people there need to make a living and the products there can help us in other countries.*	*Plants and animals are interdependent, so destroying one could cause others to become extinct, too. Clearing the trees leads to the greenhouse effect.*	*2*	*The text presents counterarguments to the statement. I still agree with my opinion because there are some ways to use products from the rainforest that are not destructive.*	*The rainforest products can provide many benefits to humans, but we must make sure to limit the negative effects because the plants and animals we need there are interdependent.*
4. To protect the rainforests from destruction, people should not be allowed to live in them.	*I disagree because it would be unfair to make people leave the place where they have always lived.*	*Indigenous people have lived there for thousands of years and do not destroy the rainforests.*	*3*	*The text supports my opinion that the statement is wrong. It shows that there are ways to live in the rainforest without destroying it.*	*Indigenous people can provide an example of how to use the rainforest in a way that does not destroy it.*

After reading: Discuss how the evidence relates to your opinion. State your conclusion about the statement, using the text evidence.

TEKS information on the next page.

Social Studies TEKS

Grade 6:

(5) Geography. The student understands how geographic factors influence the economic development, political relationships, and policies of societies. The student is expected to:
  (A) identify and explain the geographic factors responsible for the location of economic activities in places and regions;
  (B) identify geographic factors such as location, physical features, transportation corridors and barriers, and distributions of natural resources that influence a society's ability to control territory; and
  (C) explain the impact of geographic factors on economic development and the domestic and foreign policies of societies.

(8) Economics. The student understands the factors of production in a society's economy. The student is expected to:
  (A) describe ways in which the factors of production (natural resources, labor, capital, and entrepreneurs) influence the economies of various contemporary societies;

SOURCE: TEA, 2010.

Anticipation-Reaction Guide: Science Sample

Before reading: Think about whether you agree or disagree with each statement written below. Tell why or why not.

During reading: Look for evidence that supports or presents a counterargument for each statement. Write your evidence in the Evidence column and record the page number where you found it.

Statement	Reader's Opinion	Evidence	Page	Discussion	Reader's Conclusion
1. You would expect people to get hungry whenever they see or smell food.	*I agree because I feel hungry when I see a food commercial or smell my neighbor's barbecue.*	*Hunger is an internal stimulus that happens when the body sends signals that it needs more food.*	*204*	*The text evidence does not support the statement. I change my opinion, because hunger is an internal stimulus that comes from the body.*	*Hunger is an internal stimulus, and the desire to eat caused by the sight or smell of food is different from actual hunger.*
2. Because earthworms spend most of their time living underground, internal stimuli should be more important for their survival than external stimuli.	*I disagree because I have noticed that earthworms respond to rain and that might be an external stimulus.*	*Earthworms respond to external stimuli because they move away from light. During the daylight hours, they usually stay in the soil so their skin will not dry out.*	*208* *209*	*The text evidence supports my opinion that earthworms respond to important external stimuli, like light.*	*Earthworms need to respond to external stimuli for their survival, just like other animals.*
3. If you look at a vine growing in a clear glass vase, you can easily see how plants respond to external stimuli.	*I agree because you can see the plant roots and leaves through the glass.*	*Plants respond to light by bending toward it. Also, the roots of plants respond to gravity when they grow down into the water or soil.* *Plants may also respond to touch. Some vines have tendrils that grow around supports, like stems of nearby plants.*	*210* *211* *212*	*The text evidence does not support the statement. I change my opinion because although you can see the roots, you cannot observe the actions of the plants the way we can observe animals moving.*	*Plants respond to external stimuli, but it is difficult to observe the responses in real time.*

After reading: Discuss how the evidence relates to your opinion. State your conclusion about the statement, using the text evidence.

TEKS information on the next page.

Science TEKS

Grades 6–8:

(3) Scientific investigation and reasoning. The student uses critical thinking, scientific reasoning, and problem-solving to make informed decisions and knows the contributions of relevant scientists. The student is expected to:

(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;

The Anticipation-Reaction Guide prompts students to use critical thinking as they formulate an opinion and give their rationales, identify and analyze text evidence that either supports or presents counterarguments for their opinion, and finally articulate their conclusions based on the evidence. This approach can help students to effectively engage in science texts at any stage of the science lesson.

SOURCE: TEA, 2009.

Anticipation-Reaction Guide: Mathematics Sample

Before reading: Think about whether you agree or disagree with each statement written below. Tell why or why not.

During reading: Look for evidence that supports or presents a counterargument for each statement. Write your evidence in the Evidence column and record the page number where you found it.

Statement	Reader's Opinion	Evidence	Page	Discussion	Reader's Conclusion
1. A triangle could have one right, one obtuse, and one acute angle.	*I disagree because I think it would have too many degrees.*	*A right angle has 90 degrees.* *An obtuse angle has more than 90 degrees.* *An acute angle has less than 90 degrees.* *A triangle has 180 degrees.*	*Small-group activity, textbook page x*	*Our activity showed that my guess was correct. A right angle plus an obtuse angle would be more than 180 degrees already, even without the acute angle.*	*A triangle cannot have one right angle, one obtuse angle, and one acute angle because the sum of the angles would be more than 180 degrees.*
2. A quadrilateral could have three obtuse angles and one acute angle.	*I disagree because I think the three obtuse angles would have too many degrees.*	*An obtuse angle has more than 90 degrees.* *An acute angle has less than 90 degrees.* *A quadrilateral has 360 degrees.*	*Textbook page x*	*I change my opinion because I saw the example in the book with 100 degrees for each obtuse and 60 degrees for the acute angle. It is kind of like the one above, but a quadrilateral has 360 degrees, not 180 degrees.*	*A quadrilateral could have three obtuse angles and one acute angle as long as the sum of their measurements equals 360 degrees.*
3. A triangle could have three acute angles.	*I disagree, because I think it would not be enough degrees.*	*An acute angle is less than 90 degrees.* *A triangle has 180 degrees.* *180 divided by 3 = 60 degrees.*	*Small-group activity, textbook page x*	*I change my opinion because I saw that a triangle can have three angles less than 90 degrees. In fact, an equilateral triangle has three 60-degree angles.*	*A triangle can have three acute angles as long as their sum is 180 degrees.*

After reading: Discuss how the evidence relates to your opinion. State your conclusion about the statement, using the text evidence.

TEKS information on the next page.

Mathematics TEKS

Grade 6:

(6) Geometry and spatial reasoning. The student uses geometric vocabulary to describe angles, polygons, and circles. The student is expected to:

(B) identify relationships involving angles in triangles and quadrilaterals;

Below are some sample statements (and corresponding TEKS) that could form the basis for Anticipation-Reaction Guides in grades 7 and 8.

Grade 7:

(2) Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, or divides to solve problems and justify solutions. The student is expected to:

(C) use models, such as concrete objects, pictorial models, and number lines, to add, subtract, multiply, and divide integers and connect the actions to algorithms;

SAMPLE STATEMENTS for an ANTICIPATION-REACTION GUIDE:
The difference of two positive integers is always positive.
The sum of two negative integers is always negative.
The product of two negative integers is always negative.
The sum of two integers is always greater than the original addends.

Grade 8:

(10) Measurement. The student describes how changes in dimensions affect linear, area, and volume measures. The student is expected to:

(A) describe the resulting effects on perimeter and area when dimensions of a shape are changed proportionally; and

(B) describe the resulting effect on volume when dimensions of a solid are changed proportionally.

SAMPLE STATEMENTS for an ANTICIPATION-REACTION GUIDE:
If the side lengths of a rectangle are doubled, the perimeter of the rectangle doubles.
If the side length of a cube is tripled, the volume of the cube triples.
If the area of a square is halved, the side length of the square is halved.

SOURCE: TEA, 2006.

Scaffolding Anticipation-Reaction Guides

- Provide sentence stems for rationale:
  - I agree/disagree with this statement because ____ and ____ support the idea that ____.
  - I agree/disagree with _____ because I learned that _____.
  - The author presents the argument that _____, but I believe _____ because _____.
  - The author shows _____, and that makes me think that _____.
  - On page _____ it says that _____. This means _____.
- Supply the page numbers or the paragraph where evidence can be found for each statement:
- Use different options for responding:
  - Utilize response cards.
  - Share reasoning with partner.
  - Debate sides.

Anticipation-Reaction Guide

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After reading: Discuss how the evidence relates to your opinion. State your conclusion about the statement, using the text evidence.

Reflection Log

Think about how you might use the information presented in this module to plan instruction and support students' academic literacy needs. What seemed particularly useful to you? What ideas were new or interesting? What confirmed or challenged your previous beliefs? What questions do you still have?

Use the lines below to record your thoughts.

References

Unit 3: Comprehension Instructional Routines
Module 1: Building Background Knowledge with Anticipation-Reaction Guides

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