Getting Ready to Read: Anticipation Guide

MATHEMATICS

What we already know determines to a great extent what we will pay attention to, perceive, learn, remember and forget. (Woolfolk, 1998)

An *Anticipation Guide* is a series of questions or statements related to the topic or point of view of a particular text. Students work silently to read and then agree or disagree with each statement.

Purpose

- Help students to activate their prior knowledge and experience and think about the ideas they will be reading.
- Encourage students to make personal connections with a topic or unit of work so that they can integrate new knowledge with their background experience and prior knowledge.

Payoff

Students will:

- connect their personal knowledge and experience with a curriculum topic or issue.
- engage with topics, themes and issues at their current level of understanding.
- have a purpose for reading subject-area text.
- become familiar with and comfortable with a topic before reading unfamiliar text.

Tips and Resources

- In the context of mathematics, an anticipation guide increases comprehension by activating prior knowledge of mathematics skills and concepts and/or the contexts for math investigations and problems.
- An anticipation guide works best when the statements challenge students' thinking about a math topic or concept. The idea of the guide is to create curiosity about a math topic or concept and motivate students to read the text or problem and investigate the concept.
- In creating an anticipation guide to activate prior knowledge about math skills and concepts, write statements that challenge students' preconceived ideas or intuitive understandings of a concept e.g., Agree/Disagree: the volume of cylinder created by connecting an 81/2" x 11" sheet of paper vertically is more than the volume of the cylinder created by connecting the same paper horizontally.
- Anticipation guides can also provide a scaffold for students in developing skills in making mathematical conjectures and in developing hypotheses. After students take a position by agreeing or disagreeing with the statements in the anticipation guide, they usually want to continue by investigating the statement.
- Two on-line resources for more information about anticipation guides are:
  http://www.indiana.edu/~l517/anticipation_guides.htm
  - *Description, Purpose, Uses and Examples of Anticipation Guides* and
  http://www.ncsd.k12.pa.us/pssa/Reading/xguide.htm
  - *Prior Knowledge Strategies Across Content Areas - Extended Anticipation Guides*.
  See Student/Teacher Resource *Anticipation Guide – Sample*
  See Teacher Resource *Anticipation Guide – Template*

Further Support

- To provide extra support for students who struggle with reading, use strategies to communicate the information in the anticipation guide visually e.g., pictures and diagrams.
- Put students in pairs to complete the anticipation guide if they are having trouble making connections with the theme or topic, or if they are having trouble with the language (for example, ESL students).
- To provide an opportunity for struggling students to contribute in a more supportive situation, divide the class into small groups of four or five and ask them to tally and chart their responses before participating in a whole-class discussion.
- Read statements aloud to support struggling readers.

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MATHEMATICS

What teachers do	What students do
Before • Preview the task, lesson or unit to identify big ideas e.g., knowing that π ≈ 3.14 is less useful to students than understanding that π is a ratio between the circumference and diameter of a circle. • Using the Student Resource, *Anticipation Guide Template,* create an anticipation guide with general statements (3-4 for a lesson, 8- 10 for a unit) about these big ideas, each requiring the students to agree or disagree. • Ensure that every student has an opportunity to respond to each statement in the anticipation guide by recording a response in the "Before" column. • Ask students to explain their thinking in making their choices. At this stage it is acceptable for students to simply be guessing.	• Each student responds to each statement either by circling "agree" or "disagree" in the "Before" column on an individual copy of the statements or by using a signal such as "thumbs up" or "thumbs down" to statements written on a chart or overhead. • Justify and/or explain their response to the statements in the anticipation guide in pairs, small groups or whole class discussion.
During • Refer students to the statements in the anticipation guide as they participate in the task or lesson activities.	• Make connections between the text and the mathematics in the task or lesson activities and the statements in the anticipation guide.
After • Ask students to record a response to each statement in the anticipation guide in the "After" column. • Ask the students to compare the "Before" and "After" responses to each statement in the anticipation guide. • Use the comparisons of their responses to the statements in the anticipation guide to guide the discussion about the learning in the task or lesson.	• Respond to each statement in the anticipation guide by recording a response to each statement in the "After" column. • Compare the "Before" and "After" responses and suggest reasons for differences. • Use the statements in the anticipation guide to reflect on the learning in the task or lesson.

Notes

Anticipation Guide – Samples (Grades 7 & 8)

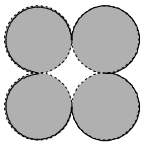
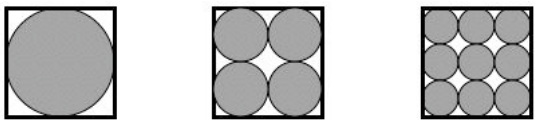
Instructions:

- Check "Agree" or "Disagree" beside each statement below *before* you start the Gazebo task.
- Compare your choice and explanation with a partner.
- Revisit your choices at the end of the investigation. Compare the choices that you would make *after* the investigation with the ones that you made before the investigation.

Anticipation Guide
TIPS Section 3: **Grade 7** Summative Task, The Gazebo **–** http://www.curriculum.org/occ/tips/index.shtml

Before		Statement	After	
Agree	Disagree		Agree	Disagree
		1. An equilateral triangle and a square are both regular polygons.		
		2. A regular polygon could have 13.5 sides.		
		3. A square with sides that are 4 metres long will also have a diagonal that is 4 metres long.		
		4. All the diagonals in a regular polygon have the same length.		

Anticipation Guide
TIPS Section 3: **Grade 8** Summative Task, Multi-dart **–** http://www.curriculum.org/occ/tips/index.shtml

Before		Statement	After	
Agree	Disagree		Agree	Disagree
		1. The total length of the outside curves (i.e. the bold parts) is 3 times the circumference of one of the circles. 		
		2. You will have more pizza to eat if you buy the original on the left instead either of the other two choices. 		
		3. If you double the length of each side of a square, then the area is also doubled.		

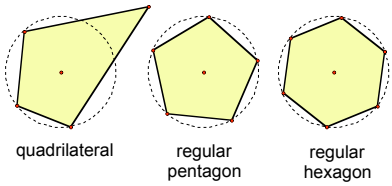
Student/Teacher Resource

Anticipation Guide – Samples (Grades 8 & 9)

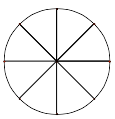
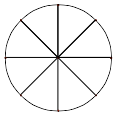
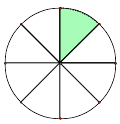
Instructions:

- Check "Agree" or "Disagree" beside each statement below *before* you start the Gazebo task.
- Compare your choice and explanation with a partner.
- Revisit your choices at the end of the investigation. Compare the choices that you would make after the investigation with the ones that you made before the investigation.

Anticipation Guide
Investigations connected to discoveries about π - **Grade 8**
(based on TIPS Section 3: Grade 7 Summative Task, The Gazebo – http://www.curriculum.org/occ/tips/index.shtml)

Before		Statement	After	
Agree	Disagree		Agree	Disagree
		1. There is a relationship between the longest diagonal and the perimeter of any regular polygon.		
		2. Each of these polygons has a *diagonal* that is also a *diameter* of the illustrated circle. 		
		3. The ratio between the perimeter of a square and its diagonal is the same for any two squares.		

Anticipation Guide
TIPS Section 3: **Grade 9** Summative Task, Cones **–** http://www.curriculum.org/occ/tips/index.shtml

Before		Statement	After	
Agree	Disagree		Agree	Disagree
		1. If you are allowed to cut along the marked radii of this circle, you can create nets for 8 different cones. 		
		2. Each cone formed using part of this circle will have the same volume. 		
		3. The angle in the shaded sector is 45^{o}. 		

Teacher Resource

Anticipation Guide - Template

Instructions:

- Check “Agree” or “Disagree” beside each statement below *before* you start the task.
- Compare your choice and explanation with a partner.
- Revisit your choices at the end of the task. Compare the choices that you would make *after* the task with the choices that you made before the task.

Before		Statement	After	
Agree	Disagree		Agree	Disagree
		1.		
		2.		
		3.		
		4.		
		5.		