

## **Always, Sometimes, or Never True**

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*Always, Sometimes, or Never True* is a strategy that provides students an opportunity to practice metacognition (thinking about their own thinking). It may be used at the beginning or end of a lesson. Students examine a set of statements and decide if they are always true, sometimes true, or never true. When used in small groups, the strategy encourages discussion and argumentation about the topic of study.

**Math:** Using this strategy helps uncover whether students overgeneralize or undergeneralize a mathematical concept. Mathematical thinking is encouraged because students must also provide examples or non-examples to justify their answers. It helps students understand that whenever a mathematical assertion is made, it should be checked out to determine whether it always applies, applies in some cases, or never applies.

**Science:** Using this strategy helps uncover the prior knowledge students use to evaluate a statement or claim about a scientific concept, process, or phenomenon as well as whether they know how to identify sufficient and appropriate evidence from data, observations, text, and other valid sources of information to justify their thinking. It helps students realize that statements or claims must be supported with evidence, and that just one piece of evidence is often not enough to say that a statement or claim is always true, sometimes true, or never true.

### **How to implement the strategy:**

1. Begin by examining research about the concept to identify common errors students often make or misconceptions students often have when learning about the topic.
2. If using the strategy before instruction, craft statements that focus on specific concepts, procedures, or phenomenon students will encounter while learning about the content.
3. If using the strategy after instruction, craft statements that address the concepts students have worked to develop.
4. Regardless of when the strategy is used (before or after instruction), each set of statements should include at least one of each choice: always, sometimes, or never.
5. Give students time to consider and respond to the statements individually. Then have students discuss the statements in small groups and come to consensus on each statement, including providing examples and/or evidence to support their ideas.
6. Lead a whole-class discussion. Students share their examples and/or evidence and justify their thinking.
7. Guide the discussion by asking probing questions and steering students to examples and/or evidence they may not have considered.
8. Develop a final class consensus on the validity of each statement with examples and/or evidence to justify the decisions.

### **Sources:**

- Keeley, P. and Tobey, C.R. (2011). *Mathematics Formative Assessment: 75 Practical Strategies for Linking Assessment, Instruction, and Learning, Thousand Oaks CA. Corwin Press.*
- Keeley, P. (2015). *Science Formative Assessment Volume 2: 50 More Strategies for Linking Assessment, Instruction, and Learning, Thousand Oaks CA. Corwin Press.*