

Metacognitive Learning Strategies

The goal is to help students build metacognitive habits to evaluate new material and make sense of new concepts, which helps them grow into competent, independent learners. These questions are written from the students' perspective so they own their learning as they actively integrate new information with prior knowledge.

What stands out to me? What makes me wonder?

These questions give students **time to think** for themselves and **ask questions** to engage with the new material.

Noticing asks students to make observations based on facts and **wondering** draws on abstract thinking.

The **I notice... I wonder...** strategy allows teachers to gauge students' entry points.



Strategy: I notice... I wonder...

1. Students jot down what they **notice**.
2. Students share with a partner.
3. Students share to the whole class and the teacher generates a list.
4. Students jot down what they **wonder**.
5. Students share with a partner.
6. Students share to the whole class and the teacher generates a list.

Adapted from: edutopia.org/video/boosting-engagement-notice-and-wonder

Which parts or terms are new to me? Which parts do I recognize?

These questions engage students to **actively reflect and look for gaps** in their knowledge as they begin to consider how their existing thinking syncs with new information.

Once terms are identified, students can:

- Explain the new word in their own words
- Create a non-linguistic representation of the word
- Deepen their knowledge of the new word by comparing words, classifying terms, or writing their own analogies/metaphors
- Periodically play games to review new vocabulary (Quizlet, Kahoot, Connections)

Strategy: Create a Vocabulary Chart

1. Students skim a passage and jot down words they **sort of know**, or **don't know at all**.
2. Students anonymously share their list of words and then work as a group to write a definition.
3. The teacher may add more words that appear with high frequency, across a variety of domains, and are crucial when using on-level academic language.

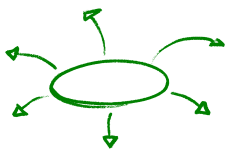
Adapted from: edutopia.org/blog/vocabulary-instruction-teaching-tips-rebecca-alber



How does this connect with what I already know?

This question provides students with opportunities to **regularly pause and ask themselves** how what they're learning fits into their existing knowledge framework.

Concept mapping combines **retrieval practice and elaboration** through the process of drawing one's understanding of relationships between concepts.



This 6-step protocol allows learners to identify what they know and where the gaps are, in addition to the relationships between concepts.

Strategy: Concept Map

1. Focus: Students identify a **guiding question**.
2. Brainstorm: Students jot down all the **concepts** related to the guiding question.
3. Organize: Students **choose concepts** that are central to the guiding question and ask *How are these concepts connected?*
4. Layout: Students **build their map** and connect ideas with arrows and symbols.
5. Link: Students **label the connections** with words to describe relationships.
6. Revise: As learning grows and evolves, students should **edit their map** to reflect their understanding.

Adapted from: edutopia.org/article/3-brain-based-strategies-encourage-deeper-thinking

What follow-up questions do I have?

This question encourages students to ask questions and **identify confusions to drive their independent learning**.



Strategy: Muddiest Point

At the end of a lesson, collect input on the part of the lesson that was the **most confusing** or **least clear**.

Students submit an exit ticket (paper or electronic) and then the teacher uses this data to plan further instruction.

Why is this idea important?

This question helps students make **personal connections** to their learning.

This builds **intrinsic motivation** and ensures that **student engagement** is part of the learning process.



Strategies: Your choice, depending on time and level of preparation

- Small-scale: Discussion
- Medium-scale: Journal entry
- Large-scale: Infographic or video

Adapted from the Edutopia article: www.edutopia.org/article/5-metacognitive-questions-students-learning-new-material