



ENCOURAGING AWE AND WONDER THROUGH QUESTIONING

“The most beautiful thing we can experience is the mysterious. It is the source of all true art and science.”

–Albert Einstein

OVERVIEW

Students ask questions about a topic or skill—ones that may or may not be answerable—opening their minds to the awe and wonder of life.

LEVELS

- PreK/Lower Elementary
- Upper Elementary
- Middle School
- High School

PLANNING FOR IT

WHEN YOU MIGHT USE THIS PRACTICE

- At the start of any lesson to excite and interest students in a topic or skill
- To help students engage more deeply with an academic concept
- To foster curiosity, creativity, and wonder
- To broaden students’ thinking

TIME REQUIRED

- ≤30 minutes

LEVEL

- PreK/Lower Elementary
- Upper Elementary
- Middle School
- High School

MATERIALS

- Writing materials

LEARNING OBJECTIVES

- Students will:
 - Engage deeply with a topic or skill through questioning and exploration
 - Reflect on the limitations of their own knowledge and existing knowledge

ADDITIONAL SUPPORTS

- [Making Practices Culturally Responsive](#)
- [Adapting Practices for Students with Special Needs](#)
- [Making a Practice Trauma-Informed](#)
- [Making Classrooms and Schools Trauma-Informed and Healing-Centered](#)

CHARACTER STRENGTHS

- Awe
- Wonder
- Curiosity
- Intellectual Humility

SEL COMPETENCIES

- Self-Awareness

MINDFULNESS COMPONENTS

- Focused Attention
- Open Awareness
- Non-Judgment

HOW TO DO IT

REFLECTION BEFORE THE PRACTICE

- Take a moment to think deeply about the topic or skill you are about to teach. What questions do you still have about this topic or skill? In other words, what are the mysteries surrounding this topic or skill? What do we not know, and perhaps will never know?
- What was it like to think in this deeper, more curious and humble way? How might your students benefit from this kind of thinking?

[Awe](#) is the feeling we get in the presence of something vast that challenges our understanding of the world. [Researchers](#) have discovered that engaging with philosophical insights, scientific discoveries, mathematical equations, systems thinking, or other types of “Big Ideas” can spark awe. Awe is often

followed by a sense of wonder, which drives the search for explanation and understanding and is elicited through exploration and asking questions.

This practice encourages students to broaden their thinking about the content they are learning or are about to learn, fostering greater curiosity, creativity, and wonder.

HOW TO DO IT

- When introducing a new concept, topic, or skill, invite students to ask questions about the concept, topic, or skill that lead to wonder and exploration instead of labels or pre-conceptions.
 - Optional: Divide students into pairs or small groups to brainstorm and record a list of questions before sharing with the whole class.
- To spark students' thinking, you might ask one or more of the following questions:
 - What do we know about this topic or skill and how do we know that?
 - What do other people assume they know about this topic? What would happen if they thought differently about it? What new things might they discover or learn?
 - What are the mysteries surrounding this topic? What sparks your curiosity about this topic? What don't we know or understand about the topic? What will we never know, but perhaps always wonder about the topic?
 - What might someone from another planet ask about this topic?
- Depending on the topic and developmental level of students, questions might range from "Why is an apple red?" to "What is beauty?" "Is 2+2 always 4?" to "Is war good or bad?" "Where do seeds come from" to "Is the universe chaotic or ordered or both?"
- Welcome all questions, even those that are unanswerable.

CLOSURE

- Ask students to write a short reflection on this exercise. How did this exercise make them feel? Did this exercise change their thinking about this topic? What does it feel like to be faced with questions about a topic that we may never know the answer to? How can we approach the mysteries and/or unanswerable questions that life offers us?
- As students learn more about the topic in subsequent days, invite them to return to this list of questions to see whether they have discovered any answers and/or to see how their questions might have changed or expanded.

SOURCE

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REFLECTION AFTER THE PRACTICE

- Did your students show greater creativity or curiosity about the topic you covered in your lesson?
- Do you notice whether students' thinking or questioning about other topics is expanding?

THE RESEARCH BEHIND IT

EVIDENCE THAT IT WORKS

In a [study](#) of 447 high school students in a Midwestern state (56% White, 25% Black, 6% Hispanic-American, 3% Asian American, and 10% multi-ethnic; 54% middle class), researchers found that dispositional awe (the tendency to feel awe in general) predicted academic outcomes, i.e., work ethic, behavioral engagement, and academic self-efficacy, via curiosity. In other words, awe-inducing activities may improve academic performance.

Awe also increases our cognitive capacity to learn and reason. A [study](#) of U.S.-based adults (75% white) found that people who often feel awe show greater [intellectual humility](#) (the ability to recognize the limitations of our knowledge and beliefs) and [wise reasoning](#) (the ability to consider others' perspectives and search for compromises).

WHY DOES IT MATTER?

In 2019, the [New York Times](#) asked students how to improve education. One student criticized the emphasis on standardized testing, stating, "That is not learning. That is learning how to memorize and become a robot that regurgitates answers instead of explaining 'Why?' or 'How?'" that answer was found. If we spent more time in school learning the answers to those types of questions, we would become a nation where students are humans instead of a number."

Awe is a natural part of learning and can help "humanize" the educational process. Indeed, as educators, we have the opportunity to create more spaces and places for joyful exploration, part of which includes awe. Awe can [foster curiosity for learning and exploration](#), and help create learning environments that feel [welcoming](#) for all by reducing feelings of personal grandeur, allowing students to pay greater attention to each other's needs. Awe also inspires us, making us feel [connected to something larger than ourselves](#) and changing how we think about our place in the world. In other words, awe can help students find meaning in what they're learning—a powerful tool for motivation and engagement.

TERMS OF USE

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