



**Greater Good in Education**  
SCIENCE-BASED PRACTICES FOR KINDER, HAPPIER SCHOOLS

## MAKING SCIENCE MEANINGFUL

*"Tell me and I forget. Teach me and I remember. Involve me and I learn."*

*—Benjamin Franklin*

### OVERVIEW

To cultivate interest and motivation in science class, students write a short reflection on how their science learning is useful and relevant to their lives.

### PLANNING FOR IT

#### WHEN YOU MIGHT USE THIS PRACTICE

- At the beginning of the year to help cultivate students' interest and motivation to learn
- To help students see how science is a part of their everyday lives and that it can be used to make the world a better place
- To generate interest in scientific careers
- When teaching a dry or challenging scientific concept, so that students don't lose interest

#### TIME REQUIRED

- 5 minutes

#### LEVEL

- Middle School
- High School
- College

#### MATERIALS

- Writing materials

## LEARNING OBJECTIVE

Participants will:

- Reflect on how what they're learning in science is relevant to their lives

## ADDITIONAL SUPPORTS

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

## SEL COMPETENCIES

- Self-Awareness

## HOW TO DO IT

### REFLECTION BEFORE THE PRACTICE

Take a moment to reflect on how a specific scientific concept is relevant to your life. Does it increase your interest or curiosity about the topic?

### INSTRUCTIONS

#### THE PRACTICE

- Tell students that when they can relate what they're learning in class to real life, it often makes the learning more meaningful. You might mention how you relate scientific concepts to your life or to the world.
- Have students take five minutes to do a written reflection on how their current science learning is relevant to their lives or how it might be used to make the world a better place.
- When finished, have students share in pairs, small groups, or as a whole class.

#### CLOSURE

- Ask students how it felt to do this exercise. Did it change how they felt about what they're learning in class or science in general? How might they apply this kind of thinking to other classes?

### REFLECTION AFTER THE PRACTICE

Do you notice a shift in students' motivation and engagement in class as a result of this exercise? Are they applying this thinking to other scientific topics?

## THE RESEARCH BEHIND THE PRACTICE

### EVIDENCE THAT IT WORKS

A [study](#) of a diverse group of 262 high school science students found that both science grades and interest in science increased after writing about how what they were learning in class was relevant to their lives, in comparison to a control group. This result was particularly significant for students who did not expect to be successful in science class.

### WHY DOES IT MATTER?

The “outside-in” approach to education doesn’t always connect academic content to students’ lives and often leaves students questioning the meaning of what they’re learning. This approach can eventually lead to decreased student motivation and well-being.

Giving students the opportunity to consider the relevance of what they’re learning to their lives both now and in the future can be a powerful mechanism for engaging students in class. Indeed, a [study](#) of 2,000 students showed that when students attach a personally meaningful purpose that is prosocial in nature (kind and helpful to others) to what they’re learning, they are more likely to persevere on a boring academic task.

## SOURCE

Hulleman, C. S., & Harackiewicz, J. M. (2009). Promoting interest and performance in high school science class. *Science*, 326, 1410-1411.