

Unit 8: Coding-Building a Foundation

Content Area: **Unified Arts**
Course(s): **Computer Science 2**
Time Period: **December**
Length: **to May**
Status: **Published**

Unit Summary

In this lesson, students are asked to build a load-bearing structure using common materials. The structure will be tested on its ability to hold a textbook for more than ten seconds. The goal of this activity is to engage students in a difficult challenge to highlight strategies for showing persistence in the face of frustration. Most students will not get this right the first time, but if they continue trying and iterating, you can help them identify techniques to make struggle productive.

While this lesson may not at first seem connected to Computer Science, it plays an essential role in preparing students to tackle some of the more difficult challenges that will come their way when approaching new CS content. This lesson teaches that failure is not the end of a journey, but rather a step towards success. The majority of students should feel frustrated at some point in this lesson, but it's important to emphasize that failure and frustration are common steps that lead to creativity and success.

Student Learning Objectives

Students will learn to...

- identify the feeling of frustration when felt or described.
- list strategies for overcoming frustration during a difficult task.
- model persistence while working on a difficult task.

Essential Questions

- Why is it important to demonstrate persistence through tasks that are frustrating?

Enduring Understandings

Students will understand that...

- the design process is a systematic approach to solving problems.
- failure and frustration are common steps that lead to creativity and success.

Application

Students will be able to independently use their learning to...

- persist during times of frustration.

Skills

Students will be skilled at...

- persistence.
- accepting and overcoming challenging tasks.

Resources

- Watch [Practicing Persistence - Teacher Video](#).
- Watch the [Building a Foundation - Lesson in Action Video](#).
- Print [Building a Foundation - Teacher Prep Guide](#).
- Gather enough building elements (marshmallows or gumdrops with toothpicks or popsicle sticks) for each group. You don't have to give any certain amount; just make sure you put some limit on materials.
- Give a [Think Spot Journal - Reflection Journal](#) to each student.