Build and test structures (simple, complicated or bio related items for strength)

Subject Area(s) Engineering

Associated Unit

Lesson Title **Popsicle stick strength and testing**

Header

Image 1
Image file: ___?
ADA Description: ___? *(Write as if describing the image to a blind person; do not repeat caption content.)*
Source/Rights: © ___?
Caption: ___?

Grade Level   _6_ (6-8)

Lesson #   1 of __

Lesson Dependency

Time Required   ___ minutes

Summary **Students will discover that they can build different structures using common items found at home. They will build structures using a trial and error methodology (iterations). Then transfer that learning to testing other structures such as a simulated chicken bone.**

Engineering Connection

Engineering Category =
Choose the category that best describes this lesson's amount/depth of engineering content:
1. Relating science and/or math concept(s) to engineering
2. Engineering analysis or partial design
3. Engineering design process
    This lesson will utilize an informal design process which is front loaded and then an engineering analysis at the end.

Keywords

Educational Standards (List 2-4)
Source, year, standard number(s)/letter(s), grade band and text (its unique ID# is optional)

State STEM Standards (required)

ITEEA Standards (required)

- ➢ [NGSS Standards](#)

- ➢ *Structure, Function, and Information Processing:*

  MS-LS1-1

- ➢ *Forces and Interactions:*

  MS-PS2-3

[CCSS Standards](#) (strongly recommended)

Pre-Requisite Knowledge

What is a structure, why test something, and what is data.

Learning Objectives

After this lesson, students should be able to:

- Describe the engineering design process as circular, build a structure using iterations. Students test the strength of the structure/or bone

Introduction / Motivation

Lesson Background & Concepts for Teachers

Image Insert Image # or Figure # here [use Figure # if referenced in text]

Figure 1
Image file: ___?
ADA Description: ___? *(Write as if describing the image to a blind person; do not repeat caption content.)*
Source/Rights: © ___?
Caption: Figure 1. ___?

Vocabulary / Definitions

Word	Definition

Associated Activities

Lesson Closure

Assessment

Pre-Lesson Assessment

Descriptive Title: ___?

Post-Introduction Assessment
Descriptive Title: ___?

Lesson Summary Assessment
Descriptive Title: ___?

Homework
Descriptive Title: ___?

Lesson Extension Activities
Build a testing unit and have students utilize the device

Additional Multimedia Support

References

Attachments

Other

Redirect URL

Contributors

Supporting Program

Acknowledgements

Classroom Testing Information

Testing apparatus with camera.