4-H AT HOME

Lego Challenge

Engineering Fun with Lego Bricks and Challenge Cards

Muria Everitt, 4-H Afterschool Coordinator
Shannon Cromwell, Extension Associate Professor
Matt Palmer, Extension Associate Professor
Brandi Reber, Youth Programs Coordinator
Utah State University Extension, Sanpete County

EXTENSION
UtahStateUniversity

Introduction

The name 'LEGO' is an abbreviation of the two Danish words “leg godt”, which means “play well”. LEGO is the company name and they strive to help individuals "play well". The LEGO Group was founded in 1932 by Ole Kirk Kristiansen. The company has been passed down from father to son and is now owned by a grandchild of the founder. This kit is designed for youth to "play well" with their own Lego bricks by using challenge cards as prompts.

Objectives

Engineering is the process of creating and building structures, products and systems by using math and science. Youth will use this kit to complete engineering challenges by planning ahead and placing their Legos in patterns and designs limited only by their own imagination.

Supply List

- Instructions
- 50 Lego Bricks
- 8 Double Sided, Laminated Lego Challenge Cards

Do:

Step 1

Inventory the Supplies

1. Remove Legos and Challenge Cards from the bag.
2. Look over the various types of Legos you received. How many colors, shapes and sizes are in your kit ?
3. Notice patterns on the bricks and how they fit together.

Step 2

Choose a Challenge Card

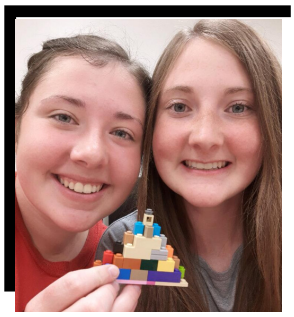
1. Read the challenge.
2. Look at the Legos and plan in your mind how you might build the object on the challenge card.

Step 3

Build

1. Use your imagination to engineer or build whatever the card suggests.
2. Can you build the same thing in more than one way?

Final Product



Presentation

1. Show someone your finished product.

Reflect

- What was easy about engineering the challenges? What was difficult or hard?
- Was it easier to plan ahead before you put the Legos together? Why?
- Share your answers with someone.

Apply

Once you have completed all the challenges here are some more ways to use them:

- Take turns building with a friend and guessing what they made.
- See who can build the challenge the fastest.
- Make up your own set of challenge cards.
- Use the Legos to engineer whatever you can imagine!

Mastery

- Start your own Lego Collection.
- Enter your own Lego design in the County Fair.
- Teach younger children how to make patterns with Legos and how to line up the pieces so that they fit together properly.

For additional Help

Please watch our tutorial on You Tube:
https://www.youtube.com/watch?v=pBD4cNLBCFo