LEGO® Language

Now you're speaking my language! Learn how programmers "speak" with computers and complete a LEGO-building challenge with family and friends.

TEKS:

TA 4.3.A: The student is expected to explain the importance of and demonstrate personal skills and behaviors, including problem solving and questioning, effective communication, following directions, mental agility, and metacognition, that are needed to implement a design process successfully.

Materials:

- 15-20 LEGOs
- Paper
- Pencil

How To:

1. Brainstorm a LEGO® design with a specific function (for example, a doghouse that protects a tiny LEGO® dog from the rain) and sketch this design on a piece of paper.
2. Build the design using 15-20 LEGOs.
3. Grab a friend or family member! Don't let them see your LEGO® design.
4. Write step-by-step instructions for how your friend or family member should build what you just created out of LEGOs.
5. Once they are finished, compare the two structures. Are they the same?
6. Now, switch roles and repeat the process!

STEM Explanation:

Was the design built by your partner the same thing you imagined in your head? How could you alter your instructions to help your partner build exactly the same structure as what you created? Was it hard to follow your partner's directions?

31 Days of STEM Fun!

A computer can't predict exactly what you want it to do any more than your partner could predict exactly what you created with your LEGOs! Have you ever wondered how a computer always knows how to respond to a command? Every click, backspace, letter, and arrow key means something to the computer – and someone had to teach it what to do in response!

A computer programmer writes very specific language, called code, to tell a computer everything from simple commands to complex actions. Computers don't understand English; they speak their own type of language called programming. Each command is programmed for a specific outcome. For example, when you click on the "x" at the top of your internet browser, the computer knows you want to close that page.

Career:

Computer programmers write the instructions for software programs on computers. They take games or apps created by software developers and create directions for them that the computer can understand.

Resource:

https://www.computerscience.org/resources/kids-introduction-to-coding/