

Sturdy Wall

Suggested Time

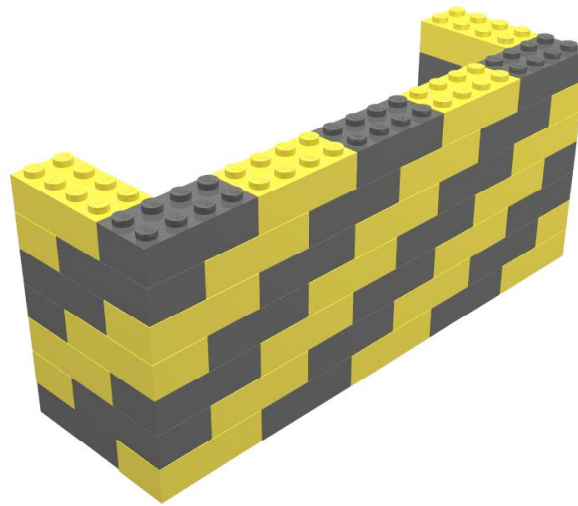
45 minutes

Age

5 - 10

Challenge

In this activity, design and construct a LEGO brick wall that is at least 4 inches high. The wall must be capable of withstanding the “flick test” (a simple flick of the finger).



Topics

Building, Sturdiness, Familiarity with different LEGO pieces

Subjects

Engineering

Related Math & Science Concepts

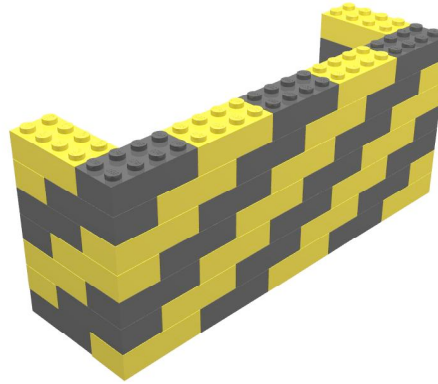
- Force
- Tension

Materials

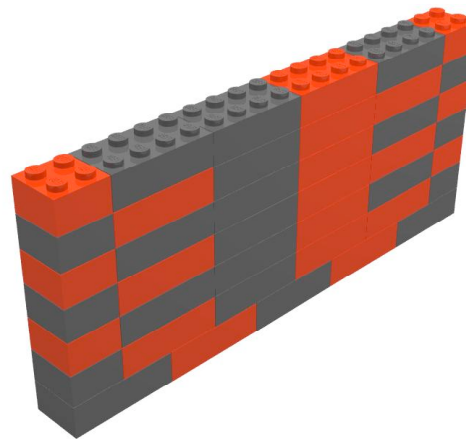
- Assortment of LEGO bricks

**Building
Instructions**

1. Build a wall made of LEGO bricks which is approximately 7 bricks high.



Hint: Overlapping bricks will create a sturdy wall. Breaks usually occur where bricks have not been overlapped and there are “double cracks” (see below).



In Action

Test the wall with a simple flick test (a flick of the finger). If the wall falls apart, redesign the wall to combat its weakness(es).

Related Activities

- Chair for Mr. Bear
- Sturdy Tower
- Strongest Shape
- Sturdy Car: The Drop Test

**Building &
Programming
Resources**

- Building With Bricks

***Classroom
Management***

1. For younger children, you can begin the lesson by reading “The Three Little Pigs”. After the story, bring up the topic of sturdiness and why certain structures are sturdier than others. Another point to touch on is why it is important for structures to be sturdy.
2. Students can work individually or in groups as long as there are enough bricks so that each wall can be 5 – 7 bricks high.
3. Students should build walls that can survive the “flick test”. Explain or demonstrate that the flick test is when one or two fingers are flicked against the wall. The sturdy walls will remain together.
4. Allow time for students to redesign their walls so they understand the concept of overlapping bricks for a sturdy structure.
5. Students can complete the Engineer’s Journal response sheet.
6. Spend five minutes at the end of the lesson discussing the walls that the students built. Have them assess which techniques worked and which did not work.

***Worksheets &
Handouts***

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- Sturdy Wall Journal
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