

Bricks Challenge

Drag & Drop Learn about robot arm gripping devices and build a drag & drop robot.

LEVEL

Grades 1-4

LEARNING OBJECTIVES

- The operation of the Canadarm2.
- Robot arm gripping mechanism.

LESSON DURATION

75 minutes



LESSON OVERVIEW

In this lesson, students learn about the Canadarm2 on the International Space Station and learn about robot arm gripping mechanisms, building a drag & drop robot.

CURRICULAR CONNECTIONS

These are just some of the strands and expectations documented in the curricula defined by the <u>Ontario Ministry of Education</u> which are supported and supplemented by the content of this lesson.

This lesson supports the <u>Ontario Science & Technology Curriculum (2022)</u>, specifically:

- Specific Expectation <u>A1.3: The engineering design process</u>
- Strand D: Structures & Mechanisms
 - o Grade 1: Everyday Materials, Objects & Structures
 - o Grade 2: <u>Simple Machines & Movement</u>
 - o Grade 3: <u>Strong & Stable Structures</u>
 - o Grade 4: <u>Machines & their Mechanisms</u>

REVIEW QUESTIONS

- Where is the Canadarm2 operating?
- Why was the Canadarm2 important to the International Space Station?
- What is the purpose of a robot arm gripper?
- Can you identify a few different types of grippers?
- What gears did we use in building our gripper, and why?

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EXPLORE & PLAY

EXPLORE FURTHER



RESOURCES FOR PARENTS

| Learn about <u>different types of robot arm</u> and how they are used. | Read a <u>history of gripping mechanisms</u> . |
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ABOUT YOUNG ENGINEERS

Young Engineers is committed to inspiring and educating children about science and technology through practical and fun hands-on learning. We believe that children learn best when they play and experiment with technology, rather than just learning the concepts.

Founded in 2008, Young Engineers operates engineering afterschool activities in over 50 countries. With over 30,000 happy students globally, Young Engineers has been recognized by the Harvard School of Education and the European Union Commission.

OFFERINGS

Young Engineers offers several structured programs for children aged 4-15 covering engineering, mechanics, coding, and robotics. We also offer single and multiple day camps and adventure themed birthday parties. For full information on our programs and to register for available classes, please visit our <u>web site</u>.

CONTACT

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