SENSES AND SENSORS

SCIENCE
WORLD
BRITISH COLUMBIA

DURATION:

45 minutes

GRADE:

3–4

30 students maximum

KEYWORDS:

Robot

Programming

Computational Thinking

STEAM

Coding

Animals

Senses

Sensors

**CURRICULUM
LINKS BY GRADE:**

Grade 4: Life Science

**CURRICULAR
COMPETENCIES:**

Questioning and Predicting

Planning and Conducting

Processing and Analyzing

Evaluating

STUDENTS WILL BE INTRODUCED TO CODING BY EXPLORING THE SIMILARITIES BETWEEN HUMAN SENSES, ANIMAL SENSES AND ROBOT SENSORS.

WHAT WILL HAPPEN IN THE SENSES AND SENSORS WORKSHOP?

Students will discover how robots work by exploring the similarities between human senses, animal senses and robot sensors. Students will first discuss the importance of human and animal senses. They will then learn how robots perceive and react to their environments through role play and challenges with the Dash robots. By the end of the workshop, they will understand how inputs result in reactions.

CLASSROOM ACTIVITY:
DASH LESSONS/BLOCK CODING WITH SCRATCH

If you have Dash: education.makewonder.com/curriculum

If you don't have Dash: Block coding with Scratch
WHAT YOU NEED:
» A computer with access to scratch.mit.edu
» Optional: Scratch programming cards (see link in resources)

WHAT TO DO:

1. Have students share computers in pairs so that they can use pair programming, a software development technique that has proven effective in teaching programming. In pair programming, the students have roles: the driver is in charge of the mouse and the keyboard and explains what they are doing. The navigator is in charge of checking the driver's work and is in charge of note-taking and reference materials. Students should switch roles every 5 to 7 minutes.

2. Have students explore block coding on their own with the help of the Scratch programming cards or give them specific challenges. To find examples of challenges and block coding lessons, you can refer to the Science World Scratch Programming series or to the Scratch website under the "For Educators" tab.

MORE ABOUT CODING AND SENSES AT TELUS WORLD OF SCIENCE:

Search: Sara Stern Gallery

BodyWorks Gallery

RECOMMENDED RESOURCES:

» Dash Educators Guide
   education.makewonder.com/curriculum

» Science World Resources | Scratch Programming Series
   scienceworld.ca/resources/units/scratch-programming-series

» Scratch Programming Cards
   resources.scratch.mit.edu/www/cards/en/ScratchCardsAll.pdf

To view our complete field trip offerings, or to book a trip, please visit scienceworld.ca/fieldtrips.
To enquire about programs for schools, contact the sales office at reserve@scienceworld.ca or 604.443.7500.

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