

Lesson 9: KWL-Robotics

Purpose: To probe students' prior knowledge about robotics, what students wish to learn about robotics, and chart new understandings during the course of the module.

Standards

NCTE/IRA Standards for English Language Arts

Standard 1- Students read a wide range of print and non-print texts...to build and understanding of themselves [and] acquire new information.

Standard 5- Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.

Standard 12- Students use spoken, written, and visual information to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

National Science Education Standards

Science as Inquiry – Content Standard A

1. Abilities necessary to do scientific inquiry.
2. Understanding about scientific inquiry.

Overview

Your students have many ideas about robotic exploration. Some will be correct others will be incorrect. In this lesson you will review what your students know and what they would like to know. This is an exercise to help present the MarsBots lessons using the knowledge your students bring to the classroom and the knowledge they wish to gain. Revisiting the KWL chart throughout the MarsBots learning module will assess what the students have learned.

Understandings

1. Robots are made up of simple machines.
2. Robots gather different information (data) depending on their design and use.

Materials

1. 3 large sheets of butcher or chart paper
2. Sticky notes (3" x 3") 4 per student
3. Markers

Time

Initial lesson 45 to 60 minutes

Daily revisit and revision 20 to 30 minutes

Directions

1. Create a large KWL chart for the entire class. *Label chart #1 "What I Know About Robots," #2 "What I Want to Know About Robots," #3 "What I Have Learned About Robots." Explain that the charts will be revised as knowledge and understandings are acquired.*

| What I K now About Robots. | What I W ant to Know About Robots. | What I Have L earned About Robots. |
|-----------------------------------|---|---|
| | | |

2. Hand out sticky notes. Ask each student to write down two things they know about and two things that they want to know about robots on separate sticky notes.
3. Have each student place the sticky notes with what they know on chart #1 and what they want to know on chart #2.
4. As a class, read each sticky. *This is not the time to discuss or debate statements. Discuss what the class wrote down as what they know or want to know. Explain to the class that the sticky notes will move over to chart #3 as they learn about robots through their activities.*

5. Each day before beginning a new MarsBots lesson, revisit charts. *Discuss new knowledge, new understandings, and possible misunderstandings. Move sticky notes as needed.*