



Year-Round Training Guide

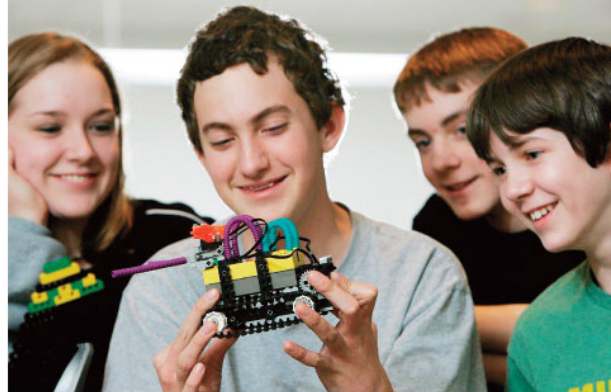
MODULE 5: **Using Technology to Deliver a Robotics Program**



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***4-H Robotics:
Engineering
for Today
and Tomorrow***





4-H Robotics Curriculum

4-H Robotics Introduces Youth to:



- Basic physical science concepts related to robotic systems
- The Scientific Inquiry Process
- The Engineering Design Process
- Technology tools for learning and communications
- An exploration of SET careers



4-H Robotics Curriculum

- ***Virtual Robotics:*** Youth utilize an interactive computer game environment to learn about the science and engineering of robots.
- ***Junk Drawer Robotics:*** Youth make use of everyday objects to design, build and learn about robots.
- ***Robotics Platforms:*** Youth employ robotics kits to understand robotics and programming and develop their own robot designs.





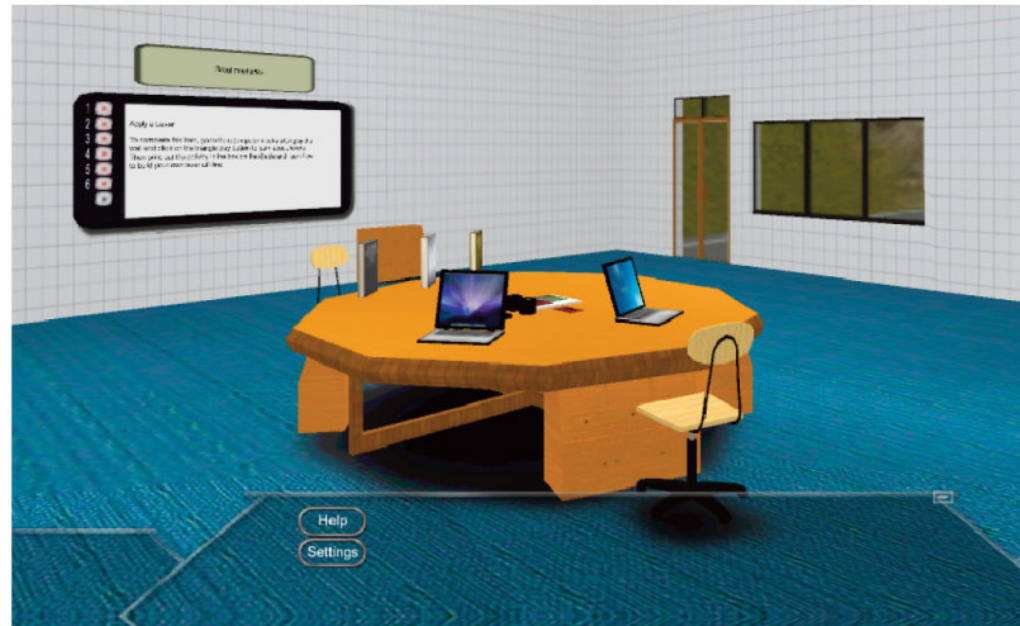
Track 1:

Virtual Robotics

Youth build skills and knowledge about robotics as they play an interactive computer game.

The learning experience includes videos, simulations, and animations—all in an interactive virtual robotics lab.

Curriculum is delivered on a DVD.





Track 2:

Junk Drawer Robotics

Youth design, construct and test robots that lift, move or float.

Each level focuses on one aspect of robotics and the science, engineering and technology behind it.

Designed to be a teen-led program.

Curriculum includes three printed Presenter's Guides and a Youth Robotics Notebook.





Track 3: ***Robotics Platforms***

Youth apply the engineering processes of designing, building and programming robots.

Youth build skills and knowledge and apply what they have learned to a challenge activity.

Curriculum is delivered on a DVD.

Makes use of a commercial robotic kit such as LEGO® MINDSTORMS®, VEX®, TETRIX® or CEENBoT™.





MODULE 5: **Using Technology to
Deliver a Robotics Program**



Virtual Robotics

Computer Requirements

- Mac or PC Computer
- 2.0 GHz Processor
- 3 GB RAM available
- 2 GB used on Hard Drive
- Sound Card
- Graphic Accelerator Card: 128 MB
- Screen Resolution: 1024 x 768 or higher



www.4-H.org/robotics



4-H Robotics Scenarios



**Assessing
Learning**



**Teaching with
Technology**



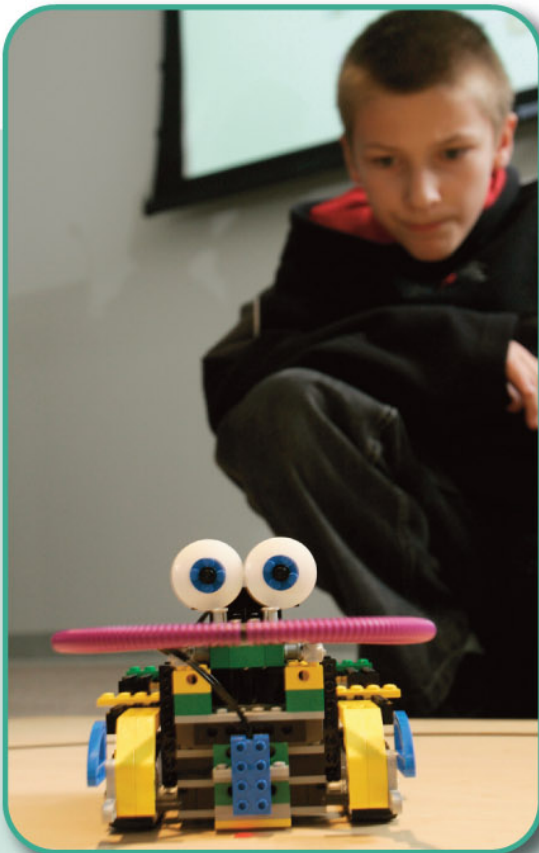
**Leading
Discussions**



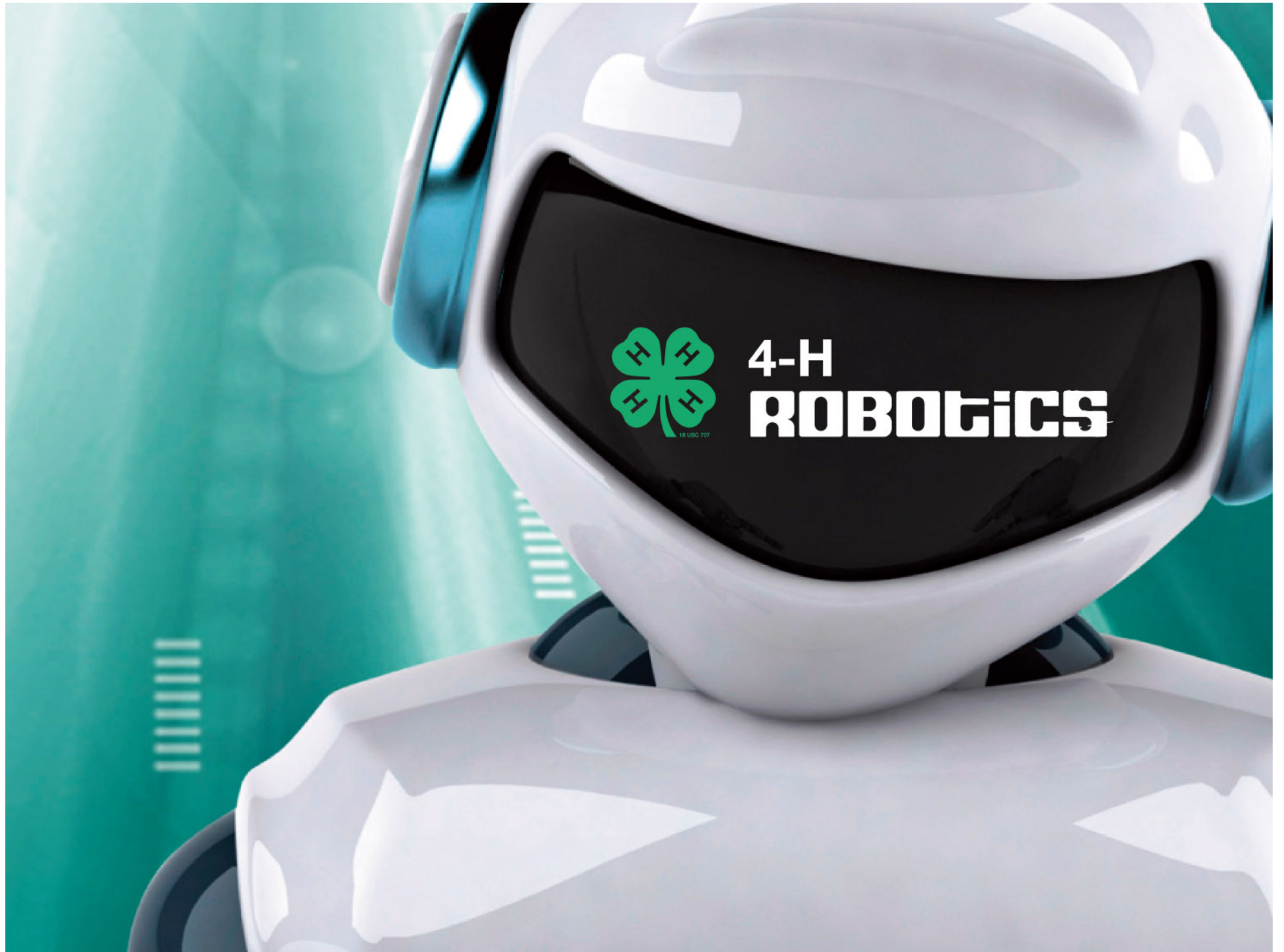
**Program
Planning**



Closing and Questions



- Developed personal knowledge to draw upon when leading *Virtual Robotics*
- Developed strategies for implementing the program effectively with youth
- Developed strategies for facilitating learning through technology



4-H
ROBOTICS