Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
2013 Volume III: Sustainability: Means or Ends?

Robotic Construction Using Sustainable Energy and Design

Guide for Curriculum Unit 13.03.02
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This unit explores the field of robotics, the construction of robots, and how to create robots that are more sustainable. Being sustainable has to do with the amount of energy an object or robot uses, how much material an object or robot is made up of, and the type of materials the object or robot is constructed out of. Sustainability begins when an object is first created, or in this case, how a robot is designed. Students will be given the opportunity to experiment with various designs to test power and efficiency while trying to create a sustainable product. Before something becomes a tangible product, it is an idea. Students will need to think about the design of their robot prior to construction in order to make sure it is sustainable. Students will be given the opportunity to brainstorm their ideas in class alone and with a partner by using graphic organizers to help develop their ideas prior to beginning constructions, which will allow them ample time to think about energy, efficiency, and sustainability.

(Recommended for Robotics, grades 9-12)