SCIENCE, TECHNOLOGY, ENGINEERING & MATH



MACHINES and ROBOTS (3-5)

The SCIENCE of ROBOTICS:

A **robot** is a machine designed to do work. Robots have three major components:

- **Control** tells the robot what to do. This is usually a computer or program.
- Machine the moving parts that do work.
- **Sensors** these parts tell the robot about the world around. These can be cameras, motion detectors, sound detectors, etc.

Coding – the process of translating from one language to another. For instance, if English is your language, the letters of the alphabet are the **code**.



LITERACY CONNECTION:

<u>House of Robots</u>, by James Patterson and Chris Grabenstein is the first in a series of books bringing to you the interesting robot-filled life of 5th-grader Sammy, who has a genius inventor for a mom.

Try an <u>audio sample</u> of the book and check out the inspired <u>animated shorts</u> based on the books.

ACTIVITY: DESIGN a ROBOT

Materials: pencil, paper, various recyclable materials OR a build a robot kit (This <u>DIY Spider-Bot</u> is only \$5)

Use ABCya's Make-a-Robot game for inspiration!

- 1. Decide what you want the robot to DO it needs a job!
- Think about what the robot will need to do those jobs a removable pencil-hand for homework? A popcorn maker in the body? Rockets on the feet so it can fly?
- 3. Make sure your robot has a control, moving machine parts and a sensor.



EXPLORE: Robots can help humans do a variety of jobs from taking samples near active volcanoes to cleaning up the ocean. Design your own robot and test it with National Geographic's <u>RoboWorks</u> <u>interactive challenge</u>!

For examples of robots in action, watch the video at: <u>Robot STEM Activity</u>

This at-home educational activity is from the Literacy Coalition of Palm Beach County's literacy-based Stories & STEM program. Stories & STEM is made possible with support from Prime Time Palm Beach County, Inc., which receives significant funding from the Children's Services Council of Palm Beach County, Inc.

Having fun? Send pictures or video links of you and your Stories & STEM projects to csharkey@literacypbc.org



