Build Your Own Robot Arm

Student Worksheet:

How To Build Your Own Robot Arm

You are a member of a team of three or four students, all working together to design and build a robot arm out of the following materials which are provided to you. The robot arm must be at least 18 inches in length and be able to pick up an empty Styrofoam cup. Your team must agree on a design for the robot arm and identify what materials will be used. Your team should draw a sketch of their agreed upon design prior to construction.

Part of the teamwork process is sharing ideas and determining which design your team will go with. Trial and error are part of the design process. There is no "right" answer to the problem - your team's creativity will likely generate an arm that is unique from the others designed in your class.

Resources/Materials

- 3" wide and approx. 22" long strips of cardboard-- 5 or so
- Binder clips (different sizes)-- 8 or more
- Brads-- @10
- Clothespins-- 6
- Craft sticks--10-15
- Fishing line-- 3-4 feet
- Hangers-- 1 or 2
- Paper clips (diff. Sizes)-- 10-15
- Pencils-- 3-4
- Rubber bands (different sizes)--15
- Tape-- clear and masking (partial rolls should be fine)
- Twine-- 3-4 feet
- Various size scraps of cardboard--10 assorted
Student Worksheet:
Robot Arm Exercise Questions

- Did you use all the materials provided to you? Why, or why not?

- Which item was most critical to your robot arm design?

- How did working as a team help in the design process?

- Were there any drawbacks to designing as a team?

- What did you learn from the designs developed by other teams?

- Name three industries that make use of robots in manufacturing: