**Assignment: Robotics and Patents**

Before beginning the Robotics and Patents Assignment, assign team roles to each teammate. This step ensures that each team member participates and helps to organize the robotic project activities. You may assign the Robotics Team Roles listed below.

The goal of forming a robotics team is to assign every teammate a role that they *want* to do and have the skills to do. Please think about and discuss each teammates’ interests and strengths.

* Project Manager
* Technical Writer
* Research Scientist
* Robot Design Engineer
* Computer Programmer
* Strategic Planner
* Quality Control Specialist

**Instructions:** Are you ready to sketch, design, and build your patent robot? Make a drawn-to-scale mechanicaldrawing of your robot. Use the concept of similar figures, proportion, and scale. Next, design a robot from your drawn-to-scale mechanical drawing. Finally, build the design of the robot.

**Materials:** Pencil, paper, rulers, protractor, compass, and rubric

**Steps:**

1. Draw a model robot. Include the actual, life-size finished measurements for the desired robot design. The drawing can include more than one view. For example, front, back, and side.
2. Based on the actual measurements, use proportions to calculate the proposed measurements needed for the scale drawings.

**Tip:** Pick a ratio to use when converting the life-size measures to the drawn-to-scale measures. Forexample, one-foot equals one inch. Then use this ratio to calculate a proportion to find the scale measurements.

1. Make a new drawn-to-scale drawing of the robot using rulers and the scale measurements from the calculations.
2. Design your robot using the Robot Design Process and your drawn-to-scale robot.
3. Build the robot using the Robot Design Process.
4. Share the sketch, design, and build with classmates.