Goals: Learn the basics of Simulink blocks. Students will familiarize themselves with the Simulink block builder and how to create linear systems which solve basic math problems.

Standards Covered: (f) (j)

Sequence:

1. Do some basic math based off of the Simulink “magic box” example. Students must create basic code in order to do this. *(10 min)*
2. Expand the basic math example to use actual math blocks in the Simulink interface. *(5 min)*
3. Write functions in the Simulink function block/compare this method (of graphical representation) to the motor functions created in Unit 1. Discuss which makes more sense to a programmer and why *(10 min)*
4. Expand models to include a scope, manual switch and sine wave blocks. These serve as examples for students to follow. *(10 min)*
5. Ask students to create their own Simulink closed systems to solve a mathematical problem examples: area of a square, hypotenuse of a triangle, radius of a circle *(25 min)*

Evaluation/Activity:

1. Students are given time to brainstorm their mathematical equation and they plan the model which they would like to replicate in Simulink. Create the mathematical model which works in Simulink (each student individually) and share with the rest of the class.

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