EDUCATIONAL OUTREACH
FLORIDA POLYTECHNIC UNIVERSITY

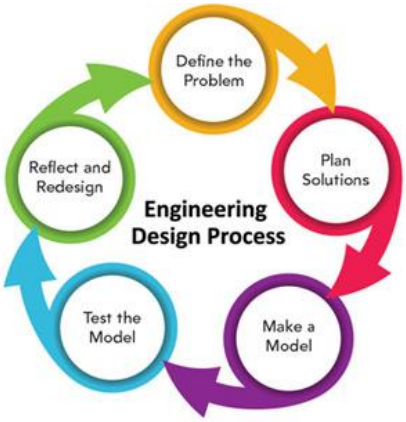
CODING AND PROGRAMMING
COJI
The Emoji Robot

Programming is the process of creating a set of instructions or language that tell a computer how to perform a task. ***Coding*** the process of assigning a name to something for the purposes of classification or identification.

Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing. These technologies are used to develop machines that can substitute for humans and replicate human actions.

Many people confuse robotics with gaming in which you control a robot using a controller.

Robotics, programming, coding engineering and other field of STEM use a ***design process*** that follows a series of steps to solve a problem or challenge.



Challenge

Today, your challenge will be to help Coji (can be purchased online) travel from the classroom to the lunchroom. Along the way he has to run an errand for his teacher, grab a snack and follow all school rules including not walking on the grass.

First, your team will have to create a **CODE PLAN**. You team will assign a command to each of Coji's symbols. Example:

→
RIGHT

Next, you'll need to measure how far Coji moves for every command

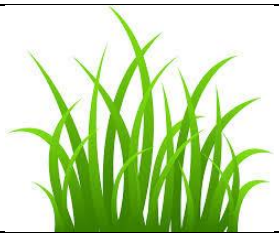
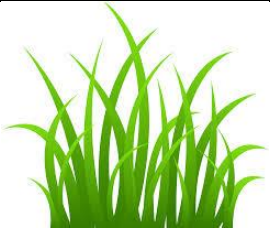
Example- Move Forward 1 spaces = __3 inches__

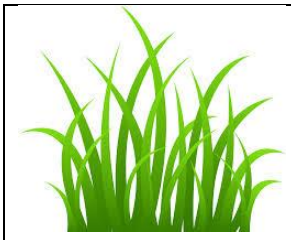
Move Forward _____ inches Move Backwards _____ inches

Then, your team will create a **TRAVEL PLAN** for Coji by programming his movements using the code your team created.
Remember, Coji has to run an errand for the teacher, grab a snack and has to follow the rules so no cutting through the grass! He has to run the errand before he can get his snack.

TEAM GOALS: _____
_____
_____

RULES: _____

START			
			
ERRAND 			

			FINISH

Test your program

1. Was your plan successful?

2. How many steps did you use?
Could your team have used less steps?
3. How will you change your plan? Why?

Extensions

Low Technology Version

The concept of this lesson is for students to create their own language and instructions that meet a challenge. This lesson can be done "low tech" by treating it as a board game using pieces that students manually move.

Create your own game level

Work backwards. Students can create a level of a game, creating a "key" to successfully complete the game level. Classmates test their games by deciphering their code. This can be found on our resource page: **Coding and Programming DIY Game**

Thank you for downloading this lesson, please take a moment to complete our survey