Botball Lesson Plan

**Title:** Programming: Declaring variables and constants

**Concept / Topic to Teach:** Declaring variables and constants to store data

**Standards Addressed:**

**Goal:**

By the end of this activity, students will be able declare and implement variables.

**Anticipatory Set:**

This is important because using variables and constants make changing values easier and guarantee that all changes are made.

**Time Required:**

**Required Materials:** Computer with KISS-C, Demo bot, download cable

**Activity Procedure:**

1. Open KISS-IDE
   1. Target: CBCv2
   2. New Program
2. Watch Video
3. Try it out
   1. Declare a constant for motor speed
   2. Declare a variable for motor speed

**Assessment:**

**Extension Activities:**

**Variables and Constants Handout**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable type | Variable description | printf placeholder | example |
| int | Integer | %d | 10 |
| float | Floating point decimal | %f | 10.0 |
| double | Double floating point decimal | %f | 4 294 967 296. |
| string | String of text | %s | Ten |

**Declare the variable:**

int exampleVariable;

**Initialize the variable:**

exampleVariable = 1; (previously declared)

or

int exampleVariable = 1; (declare and initialize at the same time)

**Several at once:**

int exampleVariable=1, i = 0, whoKnows;

**Declare the constant AND initialize**

#define exampleConstant 1.1

or

const float exampleConstant=1.1;