Name:
Date:

// Vocabulary: Integer, Declare, Assign

Wow! You're ready to start programming your first **integer** variable. Anytime you see *italics* it is an example of how you would write something in Arduino language.

- An **Integer** variable is a number (no fractions or decimals) between -32768 and 32767.
- To create an **Integer** variable you type the following: *int variableName;*
- This is called "**declaring**" a variable.
- The variableName can be anything you like, but it should make sense to you.
- To **assign** an **Integer** variable the value 120 type the following: *variableName = 120;*

For example you could **declare** an **Integer** variable named clouds (*int clouds;*) that represents the number of clouds in the sky. Once you have **declared** your variable it is not equal to anything, it is empty and waiting for you to set it equal to a number between –32768 and 32767. To do this you type the following: *clouds = 8;*. (Don't forget the ; at the end. This is called a semicolon and it's how the computer knows you are finished doing something.)

This means that you can see eight clouds in the sky. Setting a variable equal to a value is called "**assigning**". **Declare** three **Integer** variables about the picture on this page in the spaces below and then **assign** them values between –32768 and 32767. Include at least one variable with a negative value and one variable with a value greater than ten. Feel free to make up variables and values that you can't actually see in the picture. Try to keep it making sense. Look at the example above if you are unsure of how to **declare** and **assign**. (Don't forget the semicolons at the end of each line!)

Declare:

Assign:

List three of the silliest things you can think of that you might keep track of with an **integer** variable. Example: How many pieces of ham do I have in my pocket? How many bugs could you fit in a rocket?

Now pick one of the ideas above. In the space below declare your variable and **assign** it a value. For example: *int ham; ham = 1073;* I either have big pockets or small pieces of ham.

Name:
Date:

// Vocabulary: Character, Declare, Assign

OK! You're ready to start programming your first **character** variable. Anytime you see *italics* it is an example of how you would write something in the Arduino language.

- A **Character** variable is a single letter, symbol or number.
- To create a **Character** variable you type the following: *char variableName;*
- This is called "**declaring**" a variable.
- The variableName can be anything you like, but it should make sense to you.
- To **assign** a **Character** variable the value "Q" you type the following: *variableName = 'Q';*

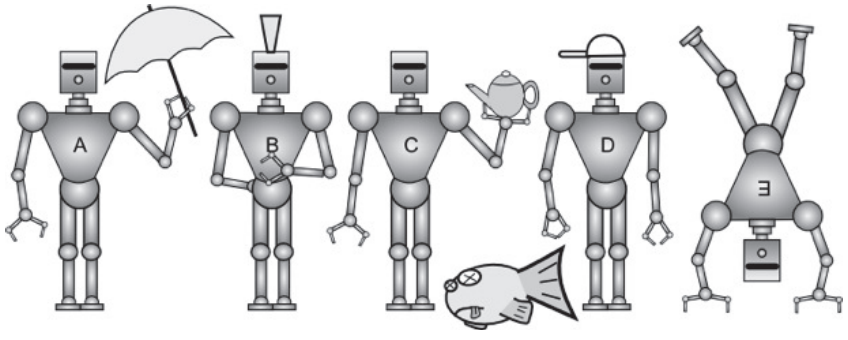
For example you can **declare** a **character** variable named weather (*char weather;*) that uses a letter to represents the weather. You can use the letter R to mean it is raining, S for snow, and C for clear. Once you have **declared** your variable it is not equal to anything, it is empty and waiting for you to set it equal to a **character**.

To do this you type the following: *weather = 'C';*. (Don't forget the ; at the end. This is called a semicolon and it's how the computer knows you are finished doing something.) Also, there are many different **character** types other than a letter: !?*%$&@ are all valid **character**s.

For example, *weather = 'C';* means that the sky is clear, but that's just because you decided it means that. C could mean whatever you need to keep track of. For example C could mean that it is cold out, if that's what you decided. Setting a variable equal to a value is called "**assigning**". **Declare** three **Character** variables about the picture on this page in the spaces below and then **assign** them **character** values that make sense. Check the example when you are **assigning** a value, this can get tricky. Make sure the variable names describe the object you want to keep track of. Look at the example above if you are unsure of how to **declare** and **assign**. (Don't forget the quotation marks and semicolons at the end of each line!)

Declare:

Assign:



List three of the silliest things you can think of that you might keep track of with a **Character** variable. Example: What color lollipops do robots eat? What's a pirate's favorite letter?