At the end of week 2 you should be able to accomplish most of these tasks with a little supervision

## Variables

* Create and assign 5 string variables
  + Assign any string of your choosing to the variable
  + Variable name must make sense
  + Add text to the start and to the end of the variables
  + Print out your values
* Create and assign 5 numeric variables
  + Assign numbers of your choosing to the variables
  + Variable name must make sense
  + Do a simple calculation on the variable (add 10, subtract 1, get the modulus of 7)
  + Print out the variables before and after the changes

## Conditional statements - if

* Compare one of your numeric variables to 17. Print out if the number is greater or less than 17
* Compare two numeric variables to each other. Print which one is bigger
* Check a numeric variable to see if it is evenly divisible by 3. Print whether it is or not
* Check a numeric variable to see if it is evenly divisible by 13. Print whether it is or not
* Print whether a variable is between 10 and 60
* Print whether a variable is less than 5 or greater than 100
* Compare a string variable to your name. Print if it matches or if it does not

## Switch statements

* Create a switch block that switches on a variable and the case statements are the colors of the rainbow. For each case print the color
* Create a switch block that switches on hour. There will be case statements for the hours 8 to 16. For each case statement you will print what job someone should be doing at that time. (10 – sweeping, 12 lunch, 15 hiding from boss, be creative)
* Create a hardness variable. Create a switch block that switches on mineral type “diamond”, “talc”, “gold” (<http://webmineral.com/help/Hardness.shtml#.WxfUr59KiM8>). Set the variable vale to the hardness for that mineral. If it does not match the default will be 5.

## Strings

* Print the length of a string variable
* Does the string start with “Edge”. Use multiple prefix, including one that your string DOES start with.
* Print if a variable starts with “Edge” and ends with “my”
* Create a new variable that contain characters 5 through 13 of another variable
* Create a new variable that copies from one string the 5 characters starting in location 4
* Uppercase a string
* Create a string of with your name. From this string get the first character of each name and create a variable that has your initials. Upper case and display the result.

## For Loops

* Print the numbers between 0 and 99
* Print the numbers between -5 and 5
* Print the even numbers between -12 and 17
* Print the numbers between 15 and -6
* Print the numbers evenly divisible by 7 between 1 and 99
* Print the numbers between 5 and 75, increment by 12
* Display the current time before a loop. Create loop that counts from -1000000 to 1000000. Display the current time after the loop. How long did it take to run the loop?

## Do-while and While Loops

* Use do-while and while for each example
* Create a string variable, look at each character in the string, while the current character is not ‘e’ keep looping

## Arrays

* Create an array with 10 numbers
* Create an array with 5 strings
* Create an empty array and add 4 strings to it
* Loop through each array and print the contents
* Create a long string and create an array by splitting the string into words
* Loop through the word array and print the words longer than 5
* Loop through the word array and print the words that start with “s”
* Create a string variable with many words, create an array containing the words in the string. Loop through the words and display words containing “th”.

## Functions

* Create a function with two parameters that adds then together and returns the value
* Create a function to take two numbers and a string value that represents a math operation “\*”, “+”,… Your code will switch on the math operation and do the chosen operation on the two numbers.   
  let result = calculate (47, 81, “+”); // returns 128  
  result = calculate (11, 11, “\*”); // returns 121
* Create a function that takes one parameter, which represents a part of time “h” for hour, “d” for date, “M” for month, and so on. Your method will get the current date and extract the hour, date,… from it and return to the user.  
  **let *now*** = **new *Date***(); // this will get you the current date and time  
  let currentHour = getDatePart(“h”);  
  let currentDate = getDatePart(“d”);
* Using the above two functions get the current hour and add 5 to it. Do this with one line of code
* Take the hardness switch code above and put it into a method returning the hardness of a mineral.
* Take the create initials code above and put it into a method return the initials of the persons name passed in o the function.