Teaching Script:

Intro to Java:

Lesson One: How to use jGrasp?

* Opening jGrasp (windows button and searching jGrasp)
* How to open a new java file?
  + Go to file in the top left corner
  + Look for New and press Java
* How to Save the file? (don’t exactly know where at the moment/maybe set something up)
  + Two Ways:
    - File 🡪 Save As 🡪Save in a specific location
    - The Save Button
* What the Buttons Mean?
  + Green plus button: compiler
  + Runner Man: run the code
  + Paper with Number on the Side: adds line numbers to the code

Lesson Two: How to set up a Java Program? (Main components + syntax)

* First thing we write: a class
  + public class FILENAME {
    - class name should always be the same as the file name and should start with a capital letter
* Methods (write a main method)
  + public static void main(String[]args) {
* syntax:
  + curly brackets after the class and method mark the beginning and end of the code block
    - explain that if you have an open bracket you have to close it
  + every code statement should end with a semi colon (not methods or classes or something that has brackets
  + Write a print line to show syntax
* How to comment:
  + If you want to explain code or etc.
    - Use // to comment out a single line of code
    - Use /\* \*/ to comment out multiple lines of code

Lesson Three: Printing

* Different printing
  + println – prints on a separate line
  + print – prints on the same line
* what you need for a print statement:
  + System.out.println(“something to write”);
  + You need double quotation marks to show what you want to print otherwise it will not work
* If you want to print numbers: you don’t need quotation marks

Lesson Four: Variables

* Different variable types:
  + int: stores integers (whole numbers), without decimals, such as 123 or -123
  + String: stores text, such as "Hello". String values are surrounded by double quotes
  + (maybe go over double and char if they ask about adding decimals or single characters)
* How to declare variables:
  + type variableName = value;
    - type will be an int or a String
    - variableName is the name of the variable
      * can be multiple words put together
      * remember camelCase so the first word is lowercase and the words after that are Capitalized
    - the value is the value of what ever variable you are making
  + create a String variable and name it name and type your name in the quotation marks
  + then print out the name
  + because you set your name to a variable, you can print out System.out.print(name);
  + next create a number variable and print it out
  + since it’s a number you don’t need quotes
  + int num = 67; System.out.println(num);
  + (maybe talk to them about declaring variables without assigning a variable)
    - int num;
    - num = 67;

Lesson Five: Inputting/Outputting Data

* they know how to output data with the print statement
* to input data:
  + to import data, you have to import a Scanner
  + you put imports before the class
  + the import for scanner is: import java.util.Scanner;
* for the scanner to input data you have to make a new Scanner
  + so Scanner SCANNERNAME = new Scanner(System.in);
* then print out a question you want to answer
  + when is your birthday?
  + How old are you?
  + What school do you go to?
  + System.out.println(“Enter your birthday:”);
* To make your input a variable
  + Type: datatype NAME = SCANNERNAME.next(Int or Line)
    - Int is for intergers
    - Line is for strings
  + Once you make your input a variables, you can print it back out:
  + System.out.println(NAME);

Lesson Six: Conditionals (loops)