

## Topics and Ideas

### Variables

What is a variable? What are the relationships between these three words: variable, type, value? How do you change the value of a variable? Can you change the type of a variable? What is the difference between declaring and initializing a variable? What types do we use most often?

### Operators

What do operators do? What categories of operators have we seen? List all of the operators that we have used. What is the difference between = and ==?

### Input/Output

How do you get data into a program? How do you send data out of a program? What does get input from the user mean? What does print mean? How you do each? How do you check if input is correct?

### Conditionals

What is the syntax of an if statement? How do you use else if and else? Is it possible to have an else without an if, or an else if without an else?

### Randomness

What are all of the different pieces of code that we need in order to use random numbers in our program? How can we get random dice rolls or random numbers in a range? What does it mean to seed the random number generator, and what goes wrong if we don't?

### Loops

What are the two types of loops that we have learned? Give examples of correct syntax. How can we use a loop to guarantee that user input is valid? How can we use a loop to repeat something a set number of times.