

# Instructional Scenario

## Go With the Flow



Course/Duty Area: Programming/Implementing Programming Procedures

### Scenario:

Flow control statements can decide which instructions to execute under which conditions. You would like to go outside but you will need to know if it is raining. If it is raining, you will need an umbrella. Do you have an umbrella? If you have an umbrella, then you can go outside. However, if you do not have an umbrella, you will need to wait a while until the rain stops to go outside. Design a flowchart showing your decisions. The flow control statements will directly correspond to the symbols and follow the path made by the arrow from Start to Finish to show what to do if it is raining. You must:

- Identify flowchart symbols and their meanings.
- Understand elements of flow control, flow control statements, and *if* statements.
- Define and understanding Boolean values, Boolean expressions, and conditions.
- Explore, identify, and understand comparison operators (i.e., relational operators).
- Explore, identify, and understand the OR operator's truth table.

### Big Question:

What is a *flowchart*, and why is it a useful tool for programmers?

### Focused Questions:

- What are the basic flowchart symbols and their meanings?
- What is a *flow control statement*?
- What are the three Boolean operators?
- What are the truth tables of each Boolean operator?

### Student Project or Outcome:

Design a flowchart to tell you what to do if it is raining.

### Project-Based Assessment:

Design a flowchart with symbols that

- shows *if* it is not raining *then* go outside
- shows *if* it is raining and you have an umbrella *then* yes, you can go outside
- shows *if* it is raining and you do not have an umbrella then you will have to wait a while until the rain stops *then* you can go outside.

### Teacher Resources:

[Flow Control](#), Invent with Scratch

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