Instructional Day: 14

Topic Description: This lesson provides an introduction to the concept of variables. Objectives:

The students will be able to:

• •Explain the concept of variables.

• •Create examples of variables.

• •Explain the concept of iteration.

• •Create examples of iteration.

Outline of the Lesson:

• •Finish Presentations (25 minutes)

• •Journal Entry (5 minutes)

• •Make Variable Example (15 minutes)

• •Enhance Variable Example (10 minutes)

Student Activities:

• •Finish Presentations.

• •Complete journal entry.

• •Participate in a discussion of the Make Variable example.

• •Enhance the variable example.

Teaching/Learning Strategies:

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Finish Presentations

o Have students fill out Peer Grading sheet.

o To help students vote on the best, you may need to do a quick recap of the stories. You may also want

to quickly replay some of the better ones.

o Another option is to have students pick the best of each day and do a run off just replaying the top 3

from each day.

Journal Entry: What does the word variable mean in both mathematical and English terms?

o Time the students so they work 3 minutes individually and 2 minutes sharing with their elbow partners. Make Variable Example

o Givetwomathexamples. x+3=5,2x=12

• Ask: What is the name of the variable here? (Answer: x)

• Although you have x in both equations, its value varies: it is 2 in one equation and 6 in another.

• The notion is the same in a program—a variable is a name that represents a value that can be

changed. In the math example, the name was x.

o Make the variable example with the students (variable example.sb) having the students help you and

build their own at the same time. A possible sequence might be

Start by explaining that you want to make a game where you earn points for picking healthy

foods and lose points for picking unhealthy ones.

•What do you think the variable will be? If no answer, ask what name will represent a

number that will change? (Answer: Points (or Good Nutrition Points in the example)) Exploring Computer Science—Unit 4: Introduction to Programming 164

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• Add the sprites for the banana, cheesie poofs and text that says “Click on food to eat it”.

• Ask: What tab do you think you should click on to make a variable? (Answer: Variables.)

• Click “make a variable” calling it Good Nutrition Points.

•Clicking the checkbox next to the variable will show or hide it.

Ask: If I want to make my points increase by 1 every time I choose the banana, how would I

write that script? (See example.)

•Explain that this is an example of iteration.

• As: How about making the points decrease by one when I click on the cheesie poofs? (See example.)

• Ask: What do you think should happen when the green flag is clicked? (Answer: reset the points to 0.)

•Ask: How do you think we should do that? (In example the script for this is under Sprite4)

o Ask: Does it matter which script the “when green flag clicked” is under? (Answer: No.)

•Explain that this is an example of initialization. •Enhance Variable Example

o Have Students enhance the variable example by

• Adding a food that is worth 2 points when clicked on.

• Adding a food that is –3 points when clicked on.

Resources:

•Peer Grading