Music by Touch Post-Quiz Answer Key

1. Provide an example "stimulus-sensor-coordinator-effector-response" framework for both your (human) sense of touch and the robotic touch sensor activity you performed.

   For human touch: hot object > touch using finger > nervous system > muscle > move finger back

   For LEGO setup: button pressed > touch sensor > cable connecting to brick > motor > move the motor

2. Explain how the LEGO touch sensor works.

   When the touch sensor button is pressed, it closes a circuit (similar to when you turn on a light switch) and a current is sent to the LEGO brick, which then knows that the touch sensor button was pressed.

3. Assume the brick is connected to a touch sensor and a motor. Sketch a simple program to move a motor when a touch sensor is pressed.

   See next page for solution. ⬇

SOLUTION: Moving a motor using the touch sensor

Description: This program is for an NXT robot with an attached touch sensor. This program will cause the motor to move when the touch sensor is pressed. In this program the robot is set to do this motion only once.

Programming:

1) Hover over the "wait for" icon (third form bottom) and click on the touch icon (second in the pop up list) and drag the touch icon.

With the movement block highlighted, verify that the duration is set to unlimited.

With the touch sensor highlighted, verify the following information:
a) Control: Sensor
b) Sensor: Touch
c) Port: 1 (or whatever port the sensor is connected to)

2) Drag the move icon to the right of the Touch command on the sequence beam and set rotations to 1000.