



Your Brain on Sunshine Activity Guide

Mission 3: Synaptic Sparks, Objective 3

Name:

The activity for this objective is to run a simulation that demonstrates the effects of sunlight and nature walks with brain health. You will need a source of light, like a flashlight.

Students can work individually or with a partner for this activity.

1. Go to **File → Browse Files...** and open the file called **BRN_sunshine**

File opened

2. Go to **File → Save As** and rename the file **sunshine**

File saved as **sunshine**

3. Follow CodeTrek to:

- Call functions if the light sensor reading is different
- Delay 2 seconds if light sensor reading is normal
- Adjust level of serotonin when going for a nature walk
- Break to end the program

CodeTrek followed

NOTE: *When adding code, be very careful with the indenting, spelling and punctuation!*

4. Run the code. Fix any errors or problems with the code.

No errors in the code

5. Find the light sensor on the CodeX. It is located above BTN_A and BTN_B.

Light sensor located

6. Start the simulation by running the code.

- The simulation begins in the morning, with an average level of serotonin.
- The light sensor is read every 2-3 seconds. If there is a change in light (more or less), serotonin levels change.
- Try these events. You can do them in any order, and as often as you want.
 - Cover the light sensor just a little to dim the light
 - Completely cover the light sensor
 - Return to normal light
 - Press BTN_A to go on a nature walk
 - Shine a little light on the light sensor
 - Shine a lot of light on the light sensor

Observe simulation

Were you able to:

- Go to full memory (100%)
- Go to no memory (0%)
- Get memory to 50%
- Observe the mood (display & pixel color)
- Add serotonin by going on nature walks

7. End the simulation by pressing BTN_B.
The simulation can be repeated by restarting the code.

End the simulation (BTN_B)

8. Answer the reflection questions on the next page.

Reflection questions



Reflection: From this objective and simulation, what did you learn about the effects of sunlight on the brain, mood and memory?

Reflection: From this objective and simulation, what did you learn about the effects of being outside and connecting with nature on the brain, mood and memory?

