

Vital Signs Simulator Build and Test

NAME _____

DATE _____

PERIOD _____

The boundary

This program is a **training simulation**. It does not measure a person, diagnose a condition, or replace medical equipment. Use only fictional values supplied by the lesson.

Build in Microsoft MakeCode

1. Open **makecode.microbit.org** and create a project named Vital Signs Simulator .
2. In on button A pressed ,set heartRate to pick random 60 to 110 .
3. Add show number heartRate .
4. Add a heart LED image, pause 200 ms , and a smaller or blank heart image.
5. In on button B pressed ,set temperature to pick random 970 to 1005 .
6. Add show number temperature and explain that 986 represents 98.6°F because the micro:bit display does not show decimals in this build.
7. Test both buttons in the on-screen simulator.
8. Save a screenshot or share link. Download to a physical micro:bit only if one is available.

Test record

TEST	EXPECTED RESULT	WHAT HAPPENED	REVISION MADE
Button A	Shows a fictional heart-rate value		
Button A visual	Shows a pulse animation		
Button B	Shows a fictional temperature code		
Repeat test	Values can change within the assigned range		

Paper block trace

Use this only when MakeCode will not open. Trace Button A from left to right. Then complete Button B and check both sequences against the test record on page 1.

Button A: on button A pressed → set heartRate to pick random 60 to 110 → show number heartRate → show heart → pause 200 ms → clear screen

Button B: on button B pressed → set temperature to pick random 970 to 1005 → show number temperature

Where does the fictional value come from? _____

Explain your design

Which block stores a value? _____

Which block displays a value? _____

Why is this program a simulator rather than a medical device?

Name one nursing-related role that uses monitored data. What does that worker do with the information?

Equal evidence routes

- ☐ Physical micro:bit
- ☐ MakeCode browser simulator
- ☐ Paper block trace supplied by the teacher

The route does not change the score. Evidence is the tested logic and explanation.

Complete thought: “Button [A or B] should [expected result]. It shows [result]. I would revise [block] because [reason].”
