Activity Tracker

WHAT: Microbit is a pocket-size programmable computer with integrated sensors and LEDs.

YOUR CHALLENGE: Activity monitors come in all shapes, sizes, and price tags. Using the Micro:bit and Scratch 3.0, design your own activity tracker to get (and stay) moving!

CAN YOU:
➔ Create a variable for walk/step, jump, shake, tilt?
➔ Set a timer to keep the user motivated?
➔ Attach the Micro:bit to yourself in a creative way to trigger the actions?

Blocks you might use:

Direct URL: https://beta.scratch.mit.edu/
Math Story Problem

WHAT: Microbit is a pocket-size programmable computer with integrated sensors and LEDs.

YOUR CHALLENGE: Design your own interactive math story by triggering different actions on the screen with the Micro:bit.

CAN YOU:
➔ Create an engaging storyline?
➔ Have your characters demonstrate a problem? Or have a user solve problems to unlock parts of the story?

Blocks you might use:

How could you use the display to represent 1 fraction in multiple, creative ways?

Direct URL: https://beta.scratch.mit.edu/
Micro:bit Touch Sensors

WHAT: Microbit is a pocket-size programmable computer with integrated sensors and LEDs. A MaKey MaKey is a small microcontroller that lets you turn anything conductive into a keyboard.

YOUR CHALLENGE: Design an interactive poetry game that uses the Micro:bit touch sensors to trigger your poem.

CAN YOU:
➔ Represent your poem through text, images, and voice recording?
➔ Animate your sprites by changing costumes?

Blocks you might use:

Direct URL: https://beta.scratch.mit.edu/
Interactive Lego Challenge

WHAT: Microbit is a pocket-size programmable computer with integrated sensors and LEDs.

YOUR CHALLENGE:
Using Legos, build something that is meaningful to you: your home, school, a park, etc.

CAN YOU:
➔ Integrate the Micro:bit creatively into your design?
➔ Trigger different actions in the your Scratch project related to this space?
➔ Light up a gumdrop LED using a resistor and the alligator clips? (hint: look for the steady power source).

Blocks you might use:

Direct URL:
https://beta.scratch.mit.edu/
The Micro:bit:

- Bluetooth © Smart antenna
- 32-bit ARM © Cortex™ M0 CPU
- 16K RAM 16MHz with Bluetooth Low Energy
- Micro USB connector
- 2 programmable buttons
- 3 digital/analogue input/output rings
- 25 individually programmable LEDs
- Power port
- Ground back port
- Accelerometer and compass
- 20 pin edge connector

Compass not (yet) activated in Scratch

https://www.flickr.com/photos/120586634@N05/26146398532/in/album-72157666779253585/