

# Stop Motion Outta Trash

**WHAT:** Stop Motion Studio is a stop motion app that allows you to join together many pictures into a movie. The onion skin feature helps you line up your shots to create a smooth animation. The voice recording feature even lets you narrate the story once you're done filming.

**YOUR CHALLENGE:** The Olympic Committee is struggling with keeping up with trash removal at each event site and they need our help! It is up to you to design a robotic trash removal system and help clean up after every event.

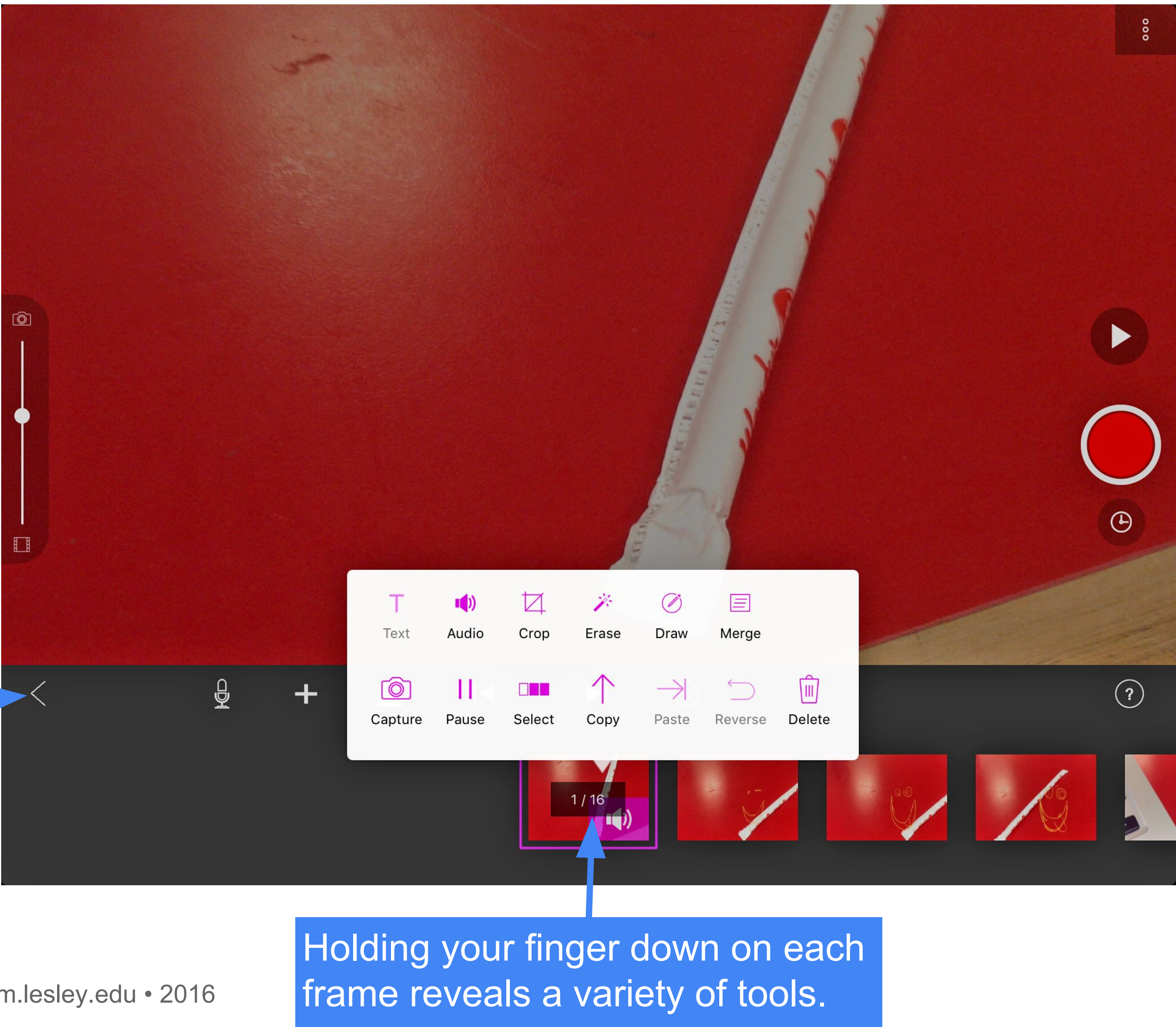
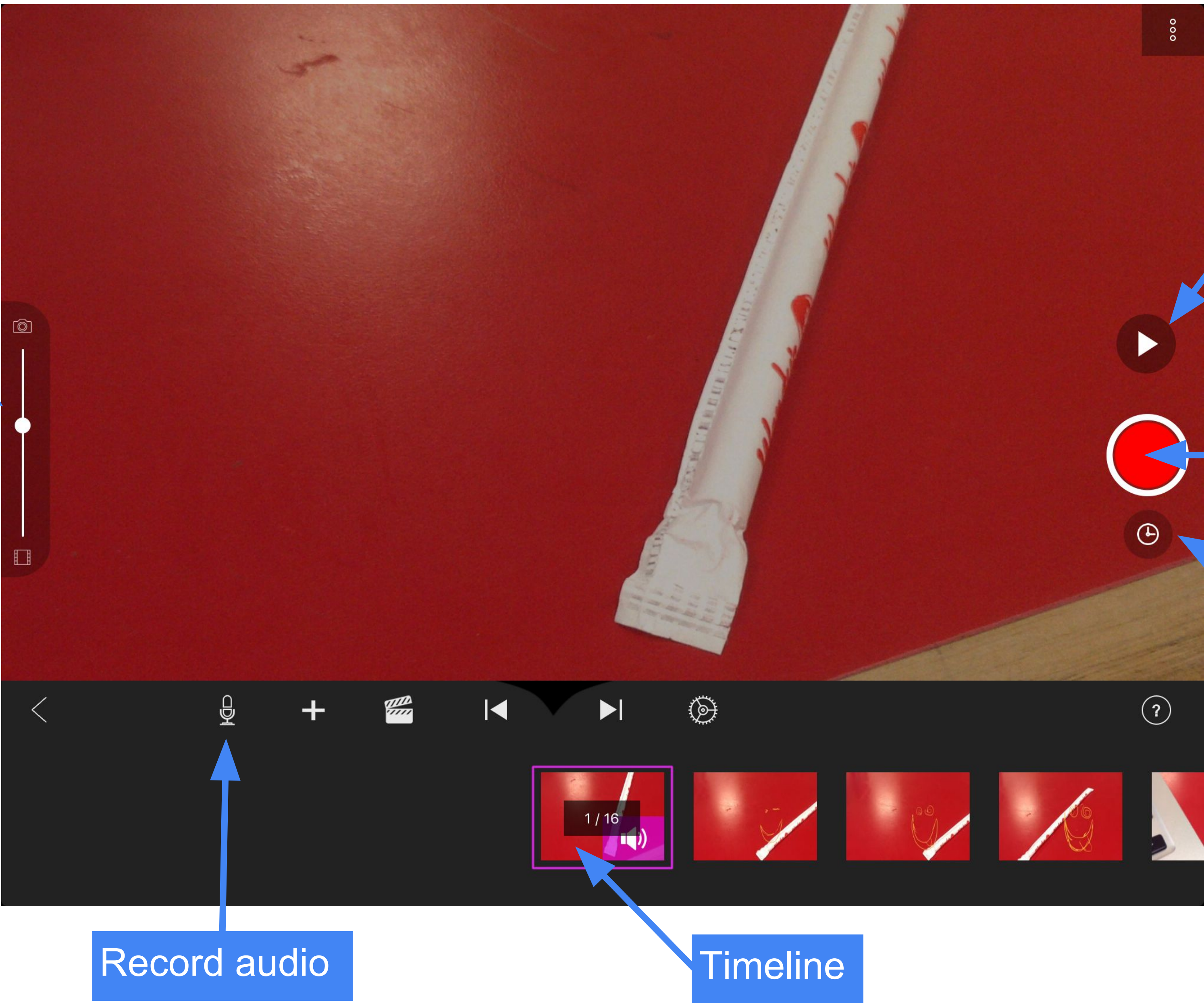
## CAN YOU BUILD:

- A trash removal robot built from almost any recycled materials?
- A robot with moving parts (head turning, arms moving)
- Model its effectiveness in trash removal at one of the Olympic Events?
- Record narration at the end to bring your creation to life?





# Stop Motion Studio Tips





# littleBits

# Olympic Robots

**WHAT:** littleBits are small electronic components that snap together with magnets to create a circuit. littleBits kits include components such as power, sensors (inputs), sound/lights/numbers (outputs) and a whole bunch more.

**YOUR CHALLENGE:** Using recyclable materials & littleBits build a robot that picks up trash or cheers for their team (mascot).

**CAN YOU DESIGN A BOT THAT:**

- Moves/makes sound.
- Uses a sensor to initiate it's actions?
- Creatively integrates a switch (on/off) function?





# MaKey MaKey

## Olympic Revelers

**WHAT:** MaKey MaKey works by creating simple circuits connected to an input (space key, up arrow key). Control the computer by turning conductive objects like fruit, tin foil, and water into a touch pad, mouse or keyboard. With Scratch, you can program interactive stories, games, animations, and music — and share your creations with others.

### YOUR CHALLENGE:

Use conductive materials to design your own controller and animate the Olympic celebration in Rio.

*In Scratch, start by selecting your favorite Rio scene from the Stage Backdrops.*

### CAN YOU:

- Select your Favorite Scene from Stage Backdrops
- Record your own sound?
- Animate your Olympic Revelers?
- Can they move, cheer, and say something?
- Can you use your controller to shake up the scene?





INDEPENDENT ACTIVITY

# Selfie Corner

Take a minute to share what...



*Surprised you!*

*Excited you!*

*Scared you!*

*Perplexed you!*

*Inspired you!*

Be sure to include **#BLC2016** and **#makered**  
(We are tweeting via **@lesleysteam**)



# BristleBots

**WHAT:** Bristlebots are made of a vibration motor, battery, toothbrush, and foam tape. The robot is brought to life by completing a simple circuit between the battery and motor.

## YOUR CHALLENGE:

Use the materials provided to design your own bristlebot Rio Olympics mascot bot.

- Can you make a switch?
- Can you redesign your bot to move faster, slower, straight, or in circles?
- Design a bot using pipe cleaners for legs?





# BristleBot

## Hints...



Notice one side of the battery is positive and one side is negative.

