

AUTISMFIT

Promoting the Inclusion and Wellbeing of Youth with
Autism



GAME 7

Table of Contents

Introduction to Makey Software for Game Creation	3
Why Makey?.....	3
Key Features and Capabilities	3
Makey Makey: A Fun Tool for Learning Nutrition	4
Setup Makey Makey	4
Experiment 7 : Makey Chef: The Smoothie Challenge	5
Experiment Explanation	5
Coding Overview	5
Outcome	7

Introduction to Makey Software for Game Creation

This document provides an overview of Makey software - a tool that enables the creation of interactive and accessible games, which also can be beneficial for youth with autism. Designed to support interactive learning, Makey offers schools and parents a direct way to introduce **STEM-based projects** into classrooms and homes.

Since its inception in 2010, Makey has become a popular platform worldwide, known for its simplicity and extensive resources that make learning projects easy to find and implement.

This document will walk you through Makey's key features and capabilities, highlighting its potential for creating customizable, interactive games. With a focus on sensory engagement and adaptability, Makey is a powerful tool for developing games that are both educational and enjoyable.



Why Makey?

Makey software is a platform that simplifies **game creation**, making it accessible even for those **without a technical background**. With its user-friendly interface, visual scripting, and sensory customization, Makey is an ideal tool for developing interactive, multi-sensory experiences with an aim to diverse cognitive and sensory needs.

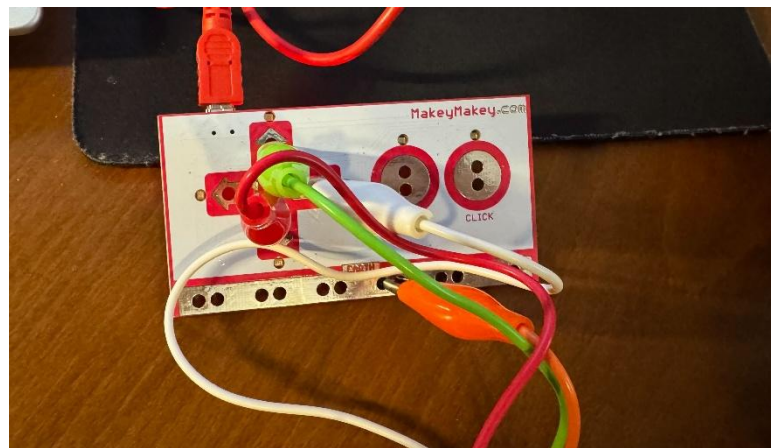
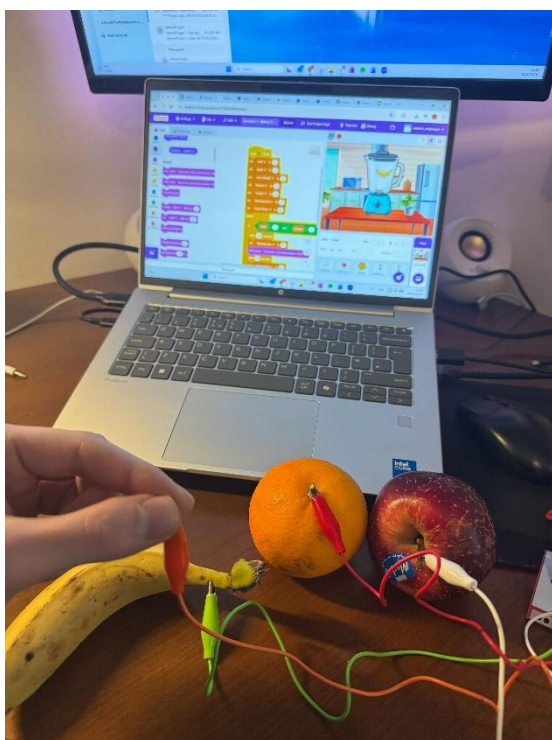
Key Features and Capabilities

- **Customizable Sensory Inputs:** Makey supports various input types, such as sound, visuals, and touch, allowing us to adapt games to the sensory preferences of **youth with autism**.
- **Visual Scripting:** Instead of traditional coding, Makey uses visual **block coding**, enabling game creation through drag-and-drop logic blocks that simplify the design process.
- **Adaptable Game Elements:** Game components can be adjusted easily, sensory effects, and interactions, making it easy to create content that suits each **user's comfort level**.
- **Educational and Recreational Focus:** Makey supports a wide range of game types, from memory and matching games to interactive storytelling, all of which can be customized to improve development and social engagement.

Makey Makey: A Fun Tool for Learning Nutrition

Makey Makey turns nutrition learning into an interactive and memorable experience. By transforming everyday fruits and vegetables into touch-responsive controls, students actively engage with healthy foods, strengthening recognition and familiarity. This hands-on, game-based approach helps learners understand food groups, create balanced meals, and develop healthy habits in a fun and engaging way that supports long-term positive choices.

Setup Makey Makey



To set up your Makey Makey for this experiment:

1. Plug the Makey Makey into the USB port of your computer.
2. Connect one alligator clip to the **ground** (marked "Earth" or "GND" on the Makey Makey). The student must **hold or touch the ground cable at all times** for the experiment to work.
3. Connect the other alligator clips to the left, up, and right arrow inputs on the Makey Makey.
4. Attach the other end of each of those clips to a Banana (↑) Apple (→) Orange (↓) connected to Makey Makey.

5. On the computer, open your Scratch project. When a fruit is touched, it sends a signal just like a key press!

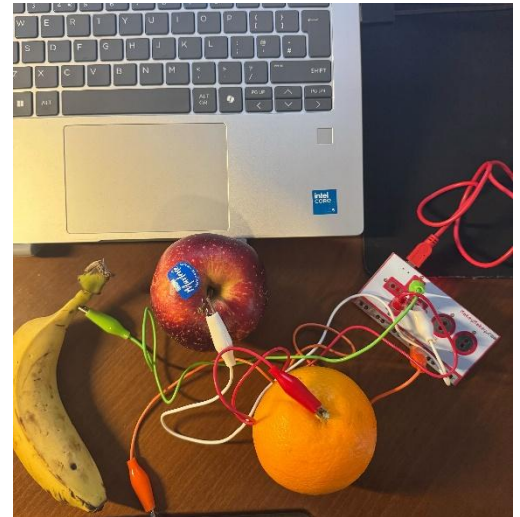
Experiment 7 : Makey Chef: The Smoothie Challenge

Experiment Explanation

- **Goal:** Help participants recognise fruits and basic food preparation steps by making a virtual smoothie.

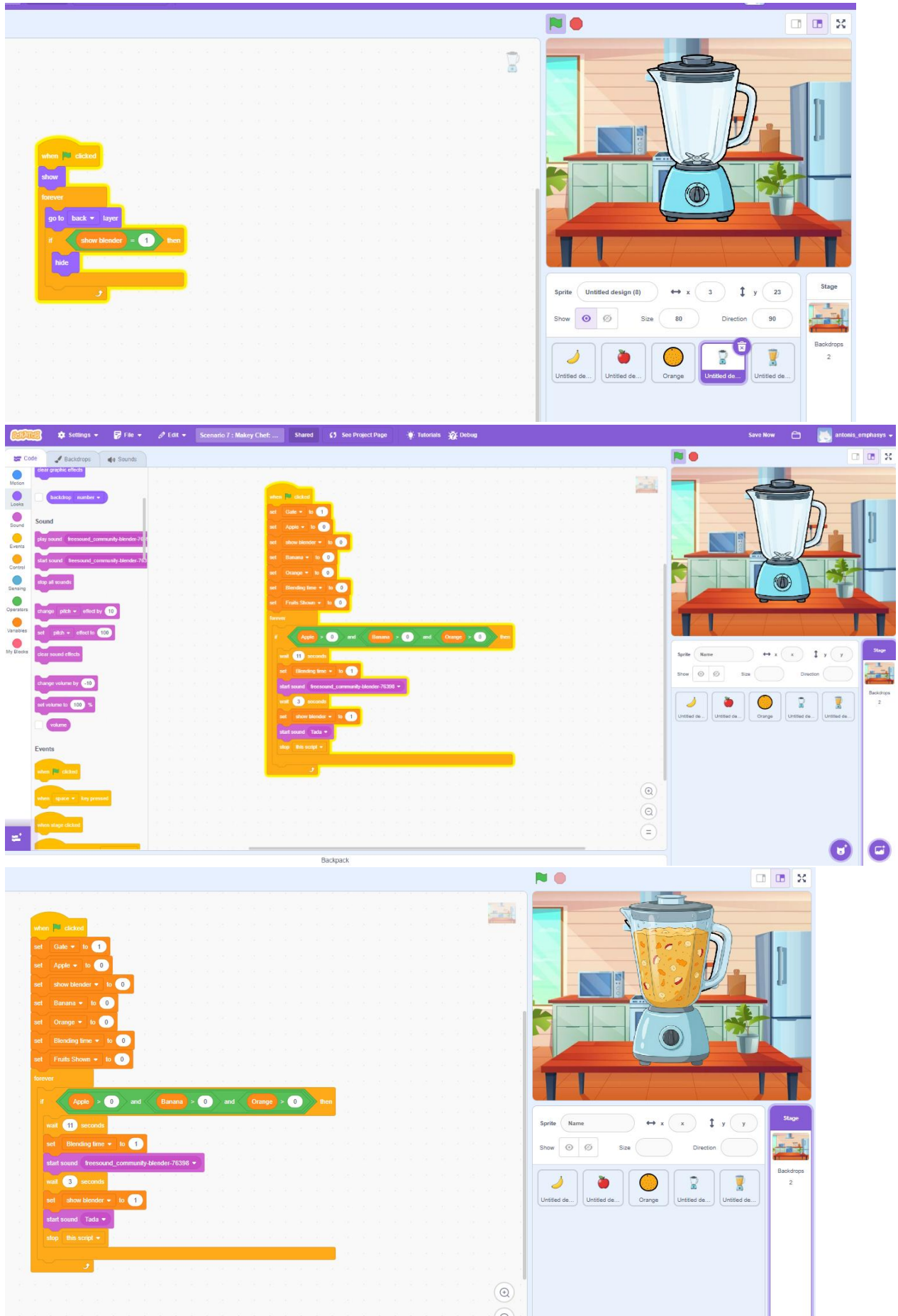
Setup: Banana (↑) Apple (→) Orange (↓)
connected to Makey Makey.

- **Interaction :** The player builds a smoothie by touching banana, apple, and orange cutouts, with each touch triggering a sound and a fun fact. After selecting three ingredients, the player presses the blend cup to see a happy smoothie animation and receive positive feedback.
- **Why This Is Engaging:** It combines hands-on touch interaction with sounds, visuals, and immediate feedback, making learning feel like play. Players stay motivated by actively making choices and seeing their smoothie come to life at the end.



Coding Overview

- **Each key trigger:** Each key trigger adds a specific fruit to the blender and plays a fun fact: touching the up arrow adds the banana, touching the right arrow adds the apple, and touching the down arrow adds the orange. Once all three fruits have been triggered and appear in the blender, the smoothie is made.
- **The code uses simple:** The Scratch code uses simple **when key pressed** and **if-else** blocks to detect each fruit trigger, play a fun fact, and show the fruit in the blender. Variables are updated to track when the banana, apple, and orange are added, making the code easy to understand and simple to expand with more fruits or actions.



The screenshot displays the Scratch IDE interface for a project titled "Makery Chef". The main stage shows a kitchen scene with a blue blender character on a red table. The blender's mouth is open, and it appears to be blending fruit. The background is a kitchen with a refrigerator, a microwave, and a window.

The code editor on the left shows the following script:

```

when clicked
  show
  forever
    go to back layer
    if show blender = 1 then
      hide
  
```

The right panel shows the Sprite area with a list of sprites: "Untitled design (8)", "Orange", and "Untitled de...". The Stage area shows a list of backdrops: "Backdrops 2".

The bottom panel shows the code editor with a more complex script:

```

when clicked
  set Gate to 1
  set Apple to 0
  set show blender to 0
  set Banana to 0
  set Orange to 0
  set Blending time to 0
  set Fruits Shown to 0
  forever
    if Apple > 0 and Banana > 0 and Orange > 0 then
      wait 11 seconds
      set Blending time to 1
      start sound 'recsound_community-blender-76398'
      wait 3 seconds
      set show blender to 1
      start sound 'Tada'
      stop this script
  
```

Outcome

- Players choose fruits by touching real or printed fruit cutouts, allowing them to build their own smoothie.
- Each selection gives instant audio feedback with a fun fact and visual feedback as the fruit appears in the blender.
- The hands-on interaction makes learning about fruits and healthy choices fun and engaging.
- The activity supports discussion and reflection by reviewing the fruits used in the smoothie.
- The project teaches basic coding concepts such as key detection, **if-else** logic, and variables through an interactive Scratch experience.
- The setup can easily be expanded by adding more fruits, sounds, or visual elements.