

AUTISMFIT

Promoting the Inclusion and Wellbeing of Youth with
Autism



GAME 6

Level 1 + 2

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 6: Snack Attack (Healthy Mode).....	6
Experiment Explanation	6
Coding Overview	8
Outcome	8
Experiment 6: Snack Attack (Healthy Mode).....	9
Experiment Explanation	9
Coding Overview	11
Outcome	11

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

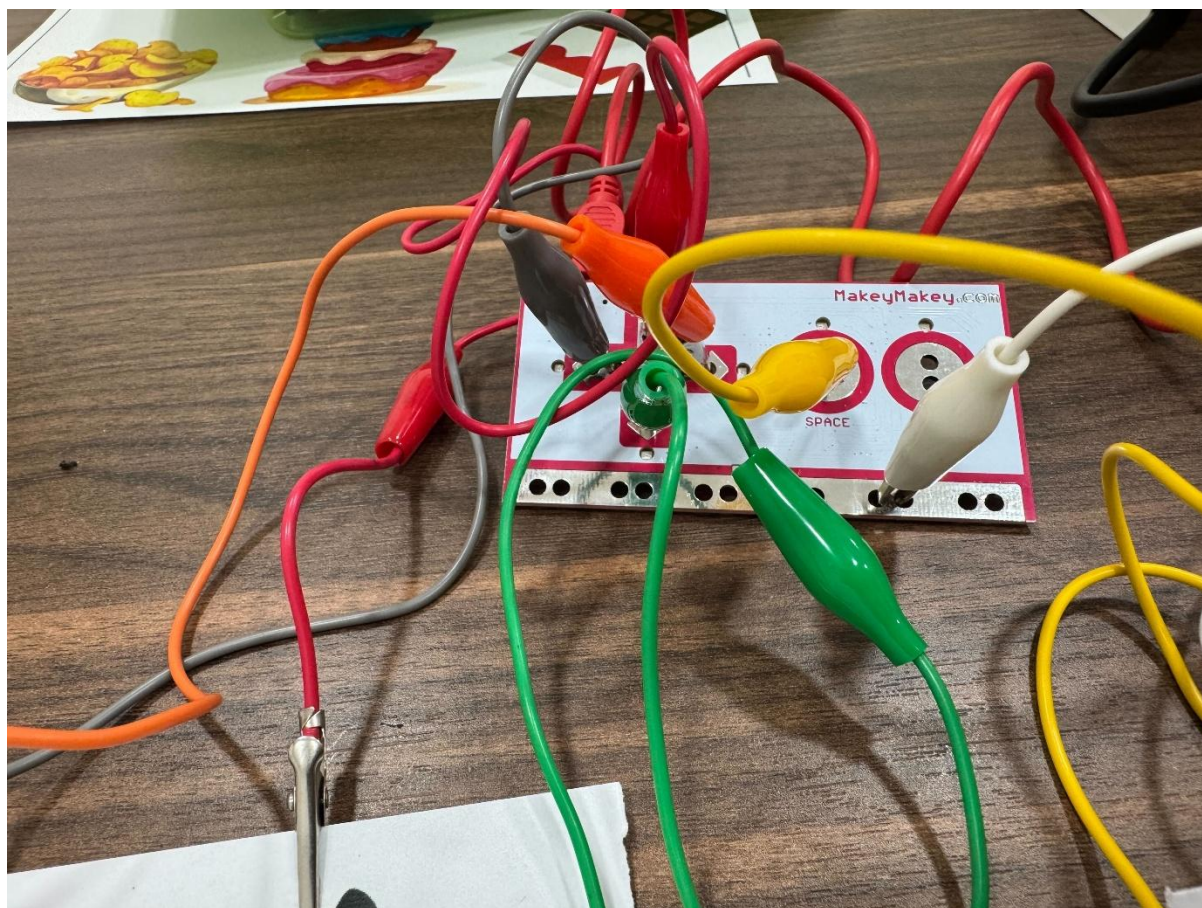
- **Customizable Sensory Inputs:** Makey supports various input types, such as sound, visuals, and touch, allowing us to adapt games to the sensory preferences of **youth with autism**.
- **Visual Scripting:** Instead of traditional coding, Makey uses visual **block coding**, enabling game creation through 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 makes learning about nutrition interactive and memorable. Transforming everyday objects like fruits and vegetables into touch-responsive inputs, allows young people to directly interact with healthy foods, strengthening recognition and familiarity.

This hands-on, gamified experience helps students understand **food groups**, **build balanced meals**, and **learn healthy habits in a fun**, engaging way that encourages long-lasting positive choices.

Setup Makey Makey



Experiment 6: Snack Attack (Healthy Mode)

Experiment Explanation

- **Goal:**

The goal of this activity is for students to identify and select healthy foods using Makey Makey and Scratch. Players must choose the healthy option in each round, reinforcing their understanding of nutritious versus less healthy food choices through interactive gameplay.

- **Setup:**

Banana (↑), Orange (↓), Chips (←), Cake (→), and Chocolate (Space) are connected to the Makey Makey board.

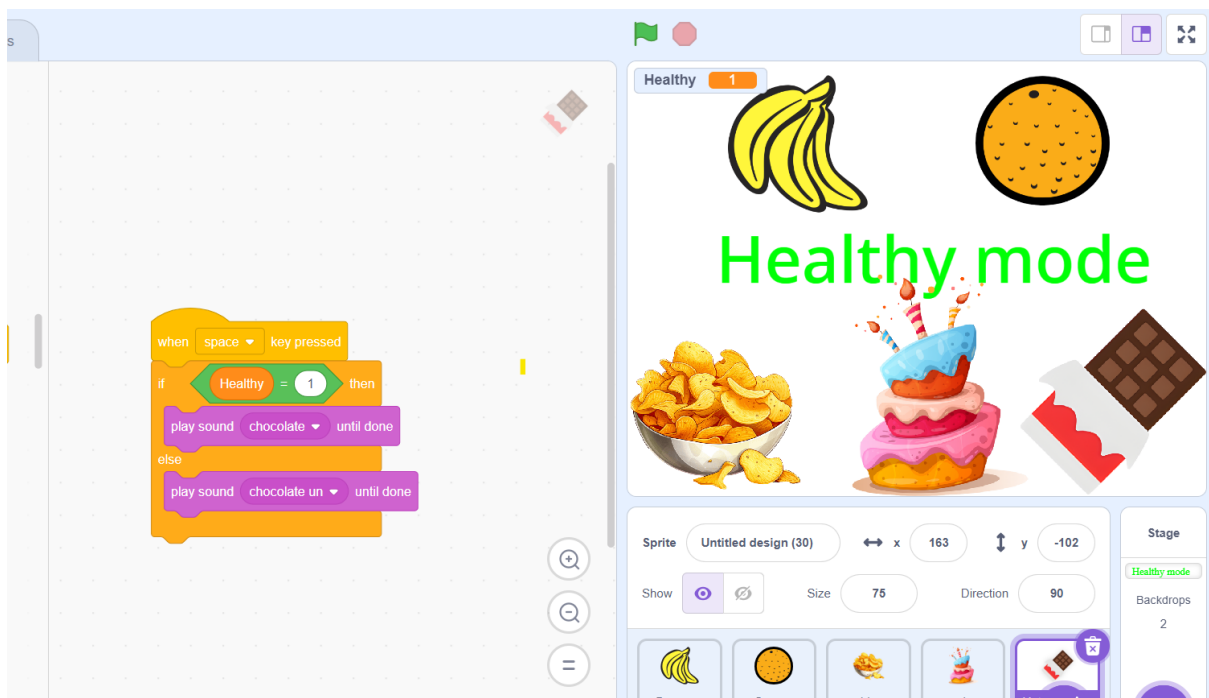
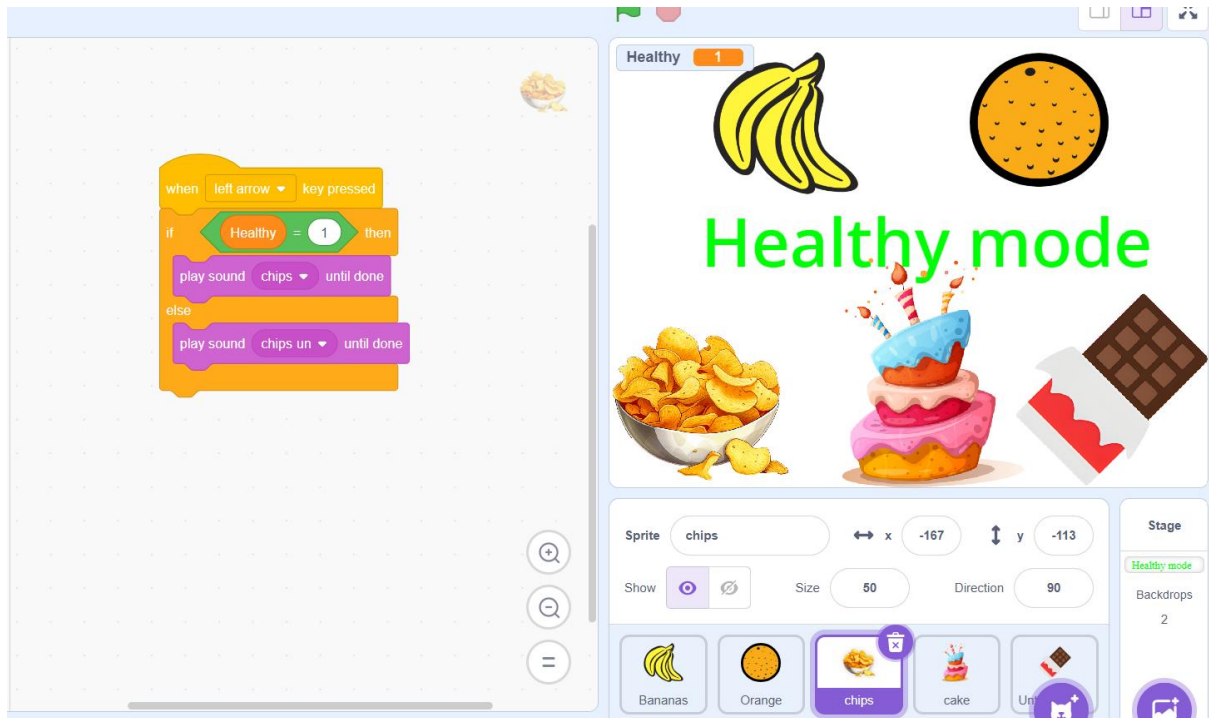
- **Interaction:**

In this game, different foods appear on the screen as Scratch sprites. Players interact by touching the real food items connected to the Makey Makey. Each food is linked to a specific key. Touching **Banana (↑)** or **Orange (↓)** triggers the sprite to say, “Correct! That is a healthy option.” Touching **Chips (←)**, **Cake (→)**, or **Chocolate (Space)** triggers the sprite to say, “Incorrect! That is not a healthy option.”

When a correct choice is made, a confirmation sound plays and the student completes 5 jumping jacks to represent “fruit power” before returning to the starting line. When an incorrect choice is made, a gentle correction sound plays and the student performs a reset stretch before returning to the line.

- **Why This Is Engaging:**

This game is engaging because it combines physical movement, hands-on interaction, and immediate feedback. Students actively participate by touching real objects, hearing instant responses, and moving their bodies after each choice. The jumping jacks and reset stretch add an energetic and reflective component, reinforcing learning through action. Tracking correct answers on a scoreboard or sticker chart further motivates students and encourages repeated participation in a fun, supportive learning environment.



Coding Overview

- Each Key Trigger:

Each food item is connected to a specific Makey Makey key. When a student touches a food while holding the ground wire, the corresponding key is activated. The Scratch sprite immediately responds with either a correct or incorrect message. Healthy choices (banana or orange) trigger a positive message and confirmation sound, while unhealthy choices (chips, cake, or chocolate) trigger a gentle correction message and sound. This setup allows the game to instantly recognize the student's selection and provide immediate feedback.

- The Code Structure:

The Scratch program uses simple “when key pressed” blocks along with if–else statements to detect which key has been activated. Depending on the key pressed, the program displays the appropriate message, plays the corresponding sound effect, and can update a score variable to track correct answers. This clear and straightforward coding structure makes the game easy to adjust, expand with additional foods, or enhance with new sounds and features.

Outcome

- Players practice identifying healthy and unhealthy foods by making active choices during each round.
- Players receive immediate visual and audio feedback through Scratch sprites that respond with either a correct or incorrect message.
- Encourages hands-on interaction and physical movement, making learning about nutrition fun, energetic, and engaging.
- Reinforces healthy decision-making while promoting discussion about nutritious food choices.
- Teaches basic coding concepts such as key detection, conditionals (if–else statements), sounds, and score variables in a visual and interactive way.
- Can be easily expanded by adding more food options, levels, timed challenges, scoreboards, or additional sound and animation effects.

Experiment 6: Snack Attack (Unhealthy Mode)

Experiment Explanation

To activate **Unhealthy Mode**, players must press the “2” key on the keyboard during the game. Pressing “2” switches the game from Healthy Mode to Unhealthy Mode, where the objective changes and students must now select the unhealthy food options instead of the healthy ones. This feature allows both modes to be included within the same game, making it easy to transition between challenges and keep the activity dynamic and engaging.

- Goal:

The goal of this activity in Unhealthy Mode is for students to identify and select unhealthy foods using Makey Makey and Scratch. Players must choose the unhealthy option in each round, reinforcing their understanding of the difference between healthy and less healthy food choices through interactive gameplay.

- Setup:

Banana (↑), Orange (↓), Chips (←), Cake (→), and Chocolate (Space) are connected to the Makey Makey board.

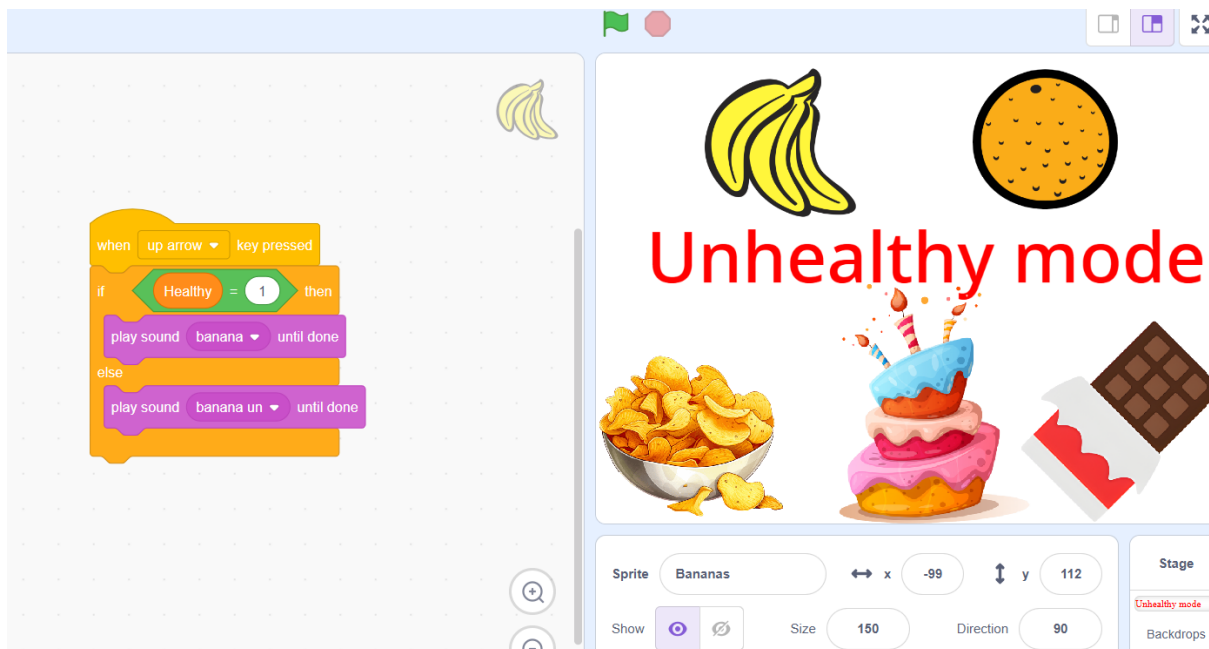
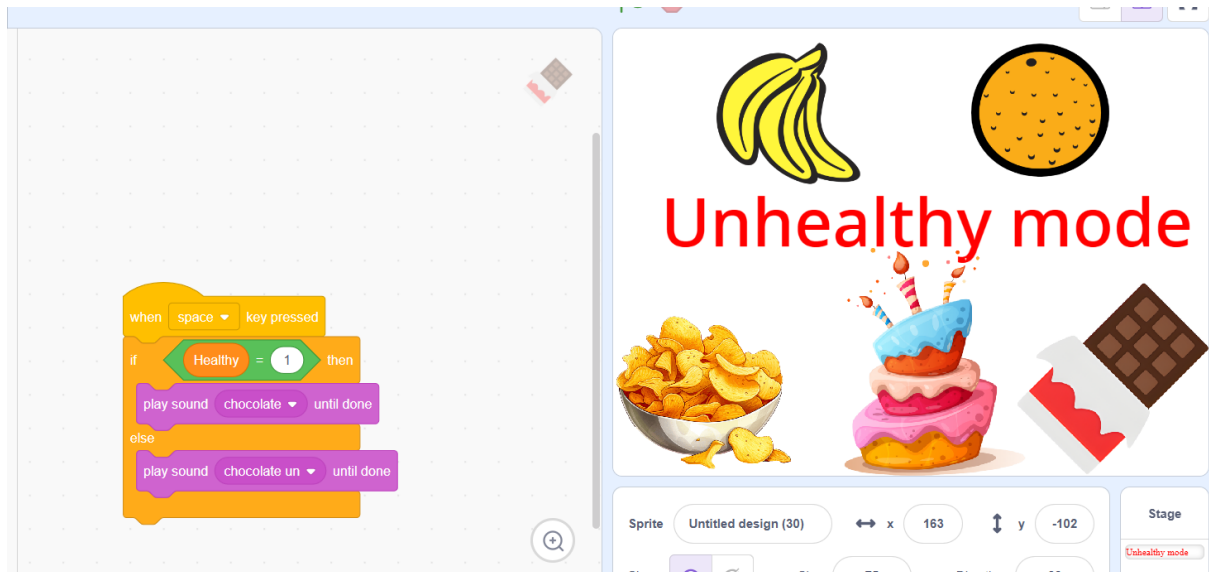
- Interaction:

In this mode, foods appear on the screen as Scratch sprites, and students interact by touching the real food items connected to the Makey Makey. Each food is linked to a specific key. Touching **Chips (←)**, **Cake (→)**, or **Chocolate (Space)** triggers the sprite to say, “Correct! That is an unhealthy option.” Touching **Banana (↑)** or **Orange (↓)** triggers the sprite to say, “Incorrect! That is a healthy option.”

When a correct choice is made, a confirmation sound plays and the student completes 5 jumping jacks to represent “energy boost” before returning to the starting line. When an incorrect choice is made, a gentle correction sound plays and the student performs a reset stretch before returning to the line.

- Why This Is Engaging:

Unhealthy Mode adds an extra challenge by reversing the rules, requiring students to think more carefully before making a choice. The combination of physical interaction, immediate feedback, and movement keeps students actively engaged. Tracking correct answers on a scoreboard or sticker chart encourages motivation, friendly competition, and repeated participation in a fun and supportive learning environment.



Coding Overview

- Each Key Trigger:

Each food item is connected to a specific Makey Makey key. When a student touches a food while holding the ground wire, the corresponding key is activated. In Unhealthy Mode, the Scratch sprite immediately responds based on whether the selected food is unhealthy. Choosing chips, cake, or chocolate triggers a positive confirmation message and sound, while selecting banana or orange triggers a gentle correction message and sound. This setup allows the game to instantly recognize the student's choice and provide immediate feedback.

- The Code Structure:

The Scratch program uses simple “when key pressed” blocks combined with if–else statements to determine which key was activated and whether the selection is correct in Unhealthy Mode. Depending on the key pressed, the program displays the appropriate message, plays the corresponding sound effect, and updates a score variable to track correct answers. This clear and straightforward coding structure makes the game easy to modify, expand with additional foods, or enhance with new sounds and features.

Outcome

- Players practice identifying unhealthy foods by selecting the less nutritious options during each round.
- Players receive immediate visual and audio feedback, with Scratch sprites indicating whether their selection of an unhealthy or healthy food is correct or incorrect for the mode.
- This encourages hands-on interaction and physical movement, making learning about unhealthy versus healthy foods engaging, dynamic, and fun.
- It reinforces understanding of food categories while promoting discussion about what makes certain foods less healthy.
- The game teaches basic coding concepts such as key detection, if–else conditionals, sound effects, and score tracking in a visual and interactive manner.
- It can be easily expanded by introducing more food options, additional game modes, timed challenges, scoreboards, or enhanced sound and visual effects.