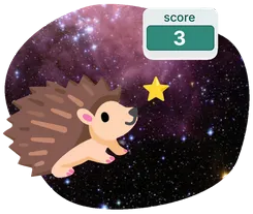
Make a Tilt Game - Educator Guide



Overview
This activity is designed to engage learners in using code to create a mobile game where they collect items. Learners can interact with their game by tilting their device (tablet or mobile phone).

Learners can create projects featuring any character and items they imagine by either drawing in the paint editor or selecting from the sprite library. This allows for a large diversity of projects, from a bee collecting flowers to pollinate, a squirrel gathering acorns, or even a unicorn collecting rainbows in space.

The activity can be completed in 45 minutes, or can be extended to enable more in-depth exploration and learning.

Videos to Support the Activity
The introductory video shows how to get started and then there are brief additional videos that show ideas that learners can choose to add to their projects.

Learning Objectives
- Learners will learn to use code to create a digital game
- Learners will have an active and engaging experience creating a computer program based on their ideas and interests
- Learners will gain experience debugging a program that they create

Grade Level
Grades 2-5 and can modified for younger or older students

Lesson Duration
45 minutes can be extended with more time to create, share, and reflect

Preparation and Equipment Needed
- iPad or Android tablets or mobile phones (Android OS 8+, iOS 15+)
- Install OctoStudio from octostudio.org
- Videos available on https://octostudio.org/en/hoc/tilt-game

OctoStudio App
This activity is designed to be used with OctoStudio, a coding app from MIT that works on tablets and mobile phones, enabling learners to create interactive animations, stories, and games anytime, anywhere.

With OctoStudio, learners can take photos and record sounds, bring them to life with coding blocks, and send their projects to friends and family. In the process of exploring and creating with OctoStudio, students develop important computational and problem-solving skills.

OctoStudio is completely free of charge, without any ads or in-app purchases. OctoStudio can work without access to the internet or data.

Languages
The OctoStudio app includes translation into more than 30 languages.

Accessibility
To use OctoStudio with a screen reader, turn on VoiceOver (iOS) or TalkBack (Android) in your device's settings. At this time, some of the main features of OctoStudio are operable with a screen reader.

You can toggle Sounds Effects for Code Blocks on or off in OctoStudio Settings. This feature will play a sound for each visual block when the code is run. (If you turn on a screen reader, OctoStudio will automatically turn on sound effects for code blocks.)

Curriculum and Standards Connections

- ***ISTE Student Standards***: Knowledge Constructor; Creative Communicator

- ***K12 Computer Science Framework*:** Creating computational artifacts; Testing and refining computational artifacts

- ***CSTA: K-12 Computer Science Standards (2017) AP - Algorithms & Programming*** 1B-AP-10; 1B-AP-12

- ***NGSS: Life Sciences*** NGSS LS1: From Molecules to Organisms: Structures and Processes; Developing and Using Models

Class or Workshop Slides
Make a Tilt Game Slides**:** If you have a large screen in your room, these slides may be helpful to show to guide and prompt students.

Workshop/Class Schedule

Duration		Notes
10 mins	**Imagine** (Slides 1-3)	• Introduce theme: Today we will create a game where a character moves around and collects items • Warm-up (optional): Close your eyes and imagine something surprising flying in the sky. What do you see? • Show the main introductory video for Make a Tilt Game with OctoStudio
25 mins	**Create** (Slide 4)	• Ask "What character will you pick for your project? - What item will it collect? - Where does your game take place? Encourage learners to start exploring and creating with OctoStudio. Provide a link to the Make a Tilt Game with OctoStudio page to watch add-ons
10 mins	**Share** (Slide 5)	• What did you create? • What is something you figured out or a problem you solved? • If you had more time, what might you add or change?

Creative Learning Process
This activity is designed to support learners creating at their own pace.

The OctoStudio app is designed to support the process of learning through tinkering. We recommend enabling learners to have time to try out different blocks and numbers, noticing what happens and revising and adding to their project as they go.

We also encourage peer learning and collaboration, students creating and learning from each other. Learners can share one device, taking turns to create a creature on a shared tablet.