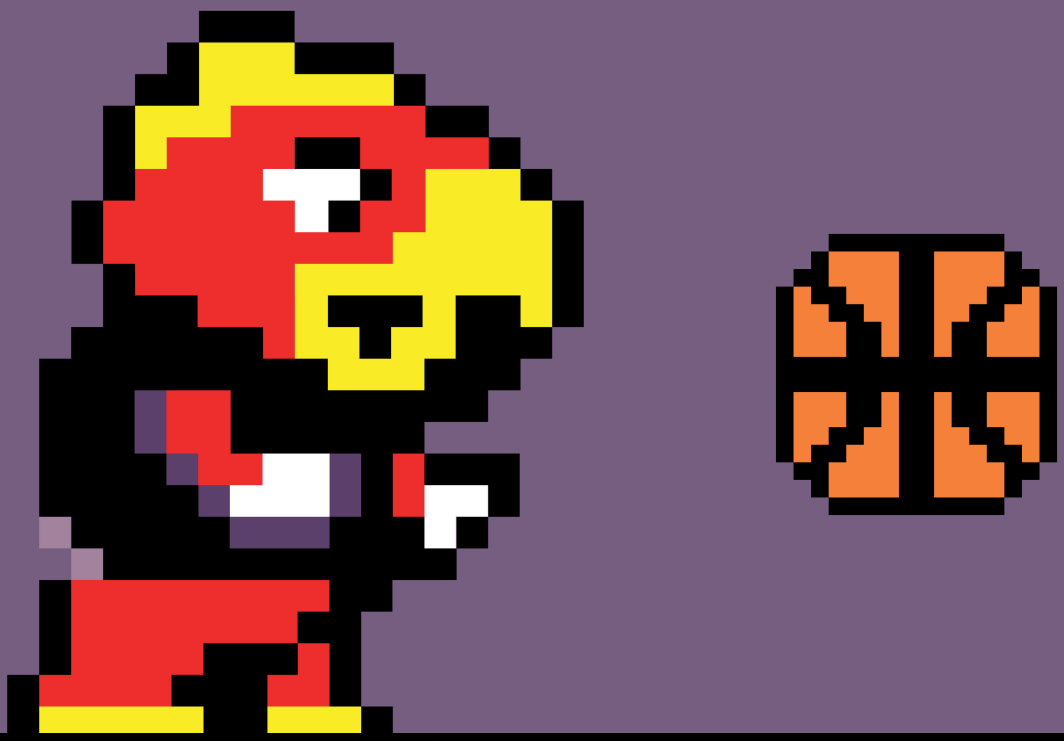
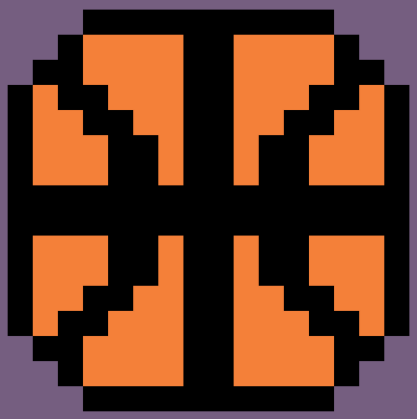
EXTENSION RESOURCE

ATLANTA HAWKS & MICROSOFT CODED DUNK CHALLENGE



Microsoft



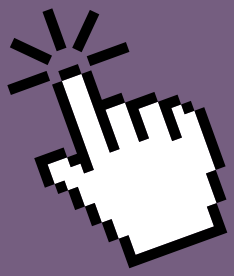


TABLE OF CONTENTS

Getting Started

a. Lesson Intro
b. Minds-On Questions

The Tutorial

a. How the Tutorial Works
b. Notes for Problem Solving

Beyond the Tutorial: The Dunk Challenge and Post-Activity Support

a. Participating in the Atlanta Hawks & Microsoft Coded Dunk Challenge
b. Conversation Prompts to Scaffold the Experience

GETTING STARTED

THE ATLANTA HAWKS & MICROSOFT CODED DUNK CHALLENGE

Lesson Intro

The goal of this experience is to learn how STEM concepts are present in the world of sports – specifically basketball! To be a better player, a better coach, a better manager, or a better analyst, professionals need to have a solid understanding of human body science, statistics, the physics of the game, and how to maximize the use of technology in collecting data and predicting results. For this activity, you'll have the chance to create your own arcade game in MakeCode Arcade, featuring the Atlanta Hawks mascot, Harry the Hawk!

Minds-On Questions

The following questions can be asked before the activity. The goal is to bring context to the activity and to get students to connect this activity to their own experiences.

• Do you know what a trick shot is? Who on the Hawks would you like to see perform a trick shot?
• What style of game do you think would best fit a trick shot challenge? Think of video games you've played; is there a specific game you can think of that would best demonstrate a trick shot activity?
  - Example: A platforming game, where you jump, run, and control your character through a series of obstacles. Or an input-based game, such as a skateboard or rhythm game, where you have a fixed amount of time to score points.
• What coding activities have you done in the past that might help you start this project? What might you need to learn to help you work through this activity?
• What is your idea of the "perfect trick shot challenge"? What would you like the game to look like, without worrying about whether you can code it?

THE TUTORIAL

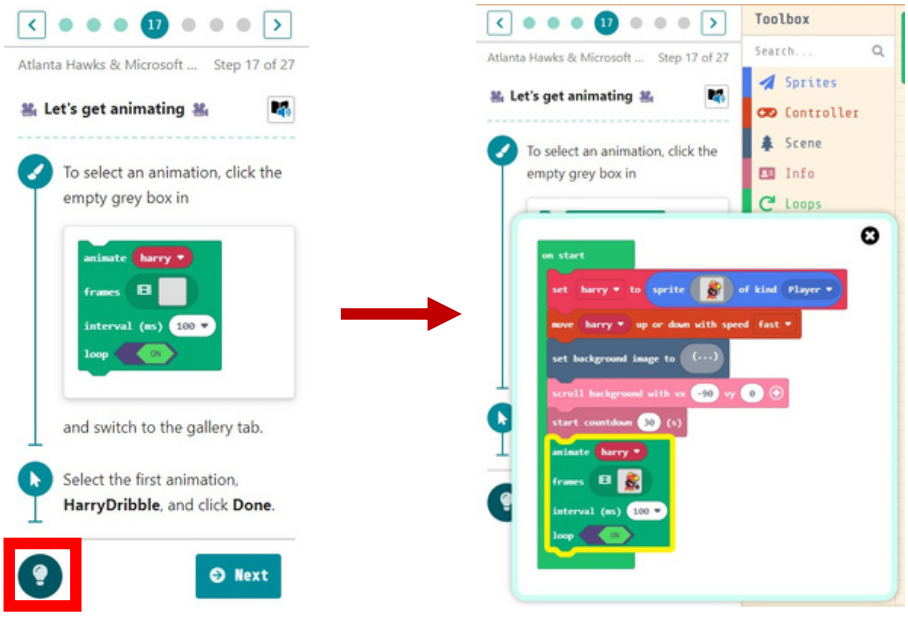
THE ATLANTA HAWKS & MICROSOFT CODED DUNK CHALLENGE

How the Tutorial Works

There are two ways for you and your students to access the tutorial:

1. Entering “aka.ms/hawk” in the URL bar takes you directly to the tutorial in MakeCode Arcade.
2. Microsofthawksdunk.com is the activity landing page, where you can follow a link to the tutorial, find video resources, and submit entries for the competition.

There is a full video walkthrough of the tutorial, here - Coded Dunk Challenge Tutorial Walkthrough. The tutorial guides users through each step, so you’ll likely only need to support if someone accidentally modifies one of the blocks after placing it in the workspace. If you’re ever lost on what should be done, you can click on the lightbulb icon in the bottom of the step for reference (see below)



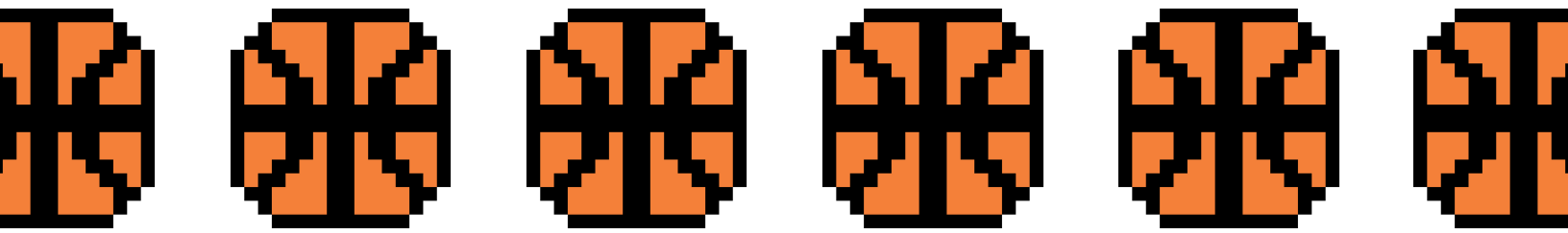
THE TUTORIAL

THE ATLANTA HAWKS & MICROSOFT CODED DUNK CHALLENGE

Problem Solving

Got Stuck? No problem, here are some Notes for Problem-Solving:

- There are some highlights in our Tutorial Walkthrough (the link is queued to begin at the tips and recommendations point), that speak to potential challenges you may encounter. We have also outlined them below:
  - If you press A or B during the final dunk animation, it will interrupt it to play the trick animation. To avoid this, simply restart the game and don't press any buttons when the animation begins.
  - For details on the animating/remixing process for submission, please review the Animation Guide.
  - The final step of the tutorial will display the link that will take you to the competition landing page, where you can submit your entry in the competition.
  - Finishing the tutorial will transition you from the tutorial, into the advanced code editor – this will not only give them an opportunity to name their project and export it, but to create their own assets from scratch in the advanced code editor (I speak to this in the walkthrough). It essentially gives them the option to make *new* sprites and animations and save them to their project.



BEYOND THE TUTORIAL

THE DUNK CHALLENGE AND POST-ACTIVITY SUPPORT

Participating in the Atlanta Hawks & Microsoft Coded Dunk Challenge

After completing the tutorial, students can participate in the Atlanta Hawks & Microsoft Coded Dunk Challenge; a submission-based competition that involves modifying the existing trick and dunk animations from their project for a chance to win exciting prizes! Upon creatively adjusting the in-game animations, they can submit their project towards the bottom of the competition landing page - microsofthawksdunk.com. For guidance on how to access and modify animations in MakeCode Arcade, please refer to our guide, here - MakeCode Animation Guide.

For their submission, you will want to:
• Encourage youth to remix (modify) any of the trick animations to create their own.
• Encourage youth to remix Harry's Dunk animation.

Conversation Prompts to Scaffold the Experience

After you have completed the activity, here are some prompts for your participants to reflect on the activity:

- Who knows what STEM stands for?
- Where can you find Science in basketball? (A: How muscular coordination works, why nutrition matters, how cardiovascular fitness is built and measured, etc.)
- Where can you find Technology in Basketball? (A: Shot clocks, timers, scales and body
- composition measurements, video cameras, etc.)
- Where can you find Engineering in basketball? (A: Players running shoes optimize their speed
- and agility, shape and material of the basketball, building gyms and courts, etc.)
- Where can you find Math in basketball? (A: Keeping score, Player/Season Statistics, designing
- the court, angles of shooting to promote scoring, etc.)
- "Have you ever heard of an algorithm?" "Where do you experience algorithms in sports"?