

Make a Spinner



Making a spinner in Unity is a great entry-level project to get students to think about programming and development.

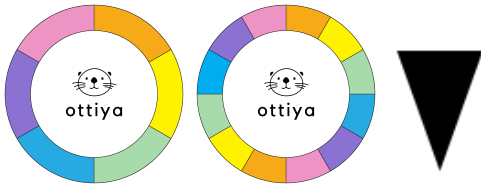
50 min

This series was created with students in middle/high school in mind, but it could be used for younger and older students with modification on how the content is presented.

Difficulty Level:



Assets



Video Materials

Title	Time	Description
[Video] Getting Started	8 m 42 s	• Create new project • Add resources • Select build settings • Drag and drop resources into the scene • Change the background color
[Video] Make it Spin!	4 m 52 s	• Basic script and explain each component • Drag and drop the script onto the roulette • Play
[Video] Make it Slow Down and Stop	2 m 17 s	• Adjusting the rotational speed (functions)



Experiment with Different Speeds and Images	2 m 44 s	• Changing the initial speed, speed of slowing down, and the wheel asset
Curriculum Guide	2 m 13 s	• Ideas on how to integrate mathematics concepts and information for teachers who are facilitating a class using Ottiya videos

Integrating Mathematics: Related Math Concepts

- Cartesian coordinate system for a three dimensional space (rotation of the wheel)
- Decay models/functions (slowing down the wheel)
- Probability of landing on a particular color (where the needle lands when the wheel stops)

Integrating Mathematics: Probability Discussion Questions

- What are the chances of a certain event happening?
- How can you use math to change the probability of something happening?
- What are the benefits and limitations of using a spinner to predict outcomes?

Integrating Mathematics: Complex Problem Solving

- Problem solving skills (as a teacher, you could weave in a story that adds more complexity and meaning to this project)
- For example: Ottiya wants to change the color of their logo mascot. The team wants to choose one of the colors on the wheel--which color should they choose? Should a spinner be used to make decisions about work and life? Why or why not?



Additional Resources

- How to build to an iOS device:
<https://unity3d.com/learn/tutorials/topics/mobile-touch/building-your-unity-game-ios-device-testing>
- How to build to an Android device:
<https://unity3d.com/learn/tutorials/topics/mobile-touch/building-your-unity-game-android-device-testing?playlist=17138>
- Get Started with Visual Studio:
<https://visualstudio.microsoft.com/vs/getting-started/>

COMMON CORE ALIGNMENT

High School: Statistics & Probability » Using Probability to Make Decisions

[CCSS.MATH.CONTENT.HSS.MD.A.2](#)

(+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution. (Calculate expected values and use them to solve problems)

[CCSS.MATH.CONTENT.HSS.MD.B.6](#)

(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). (Use probability to evaluate outcomes of decisions)

*High School: Functions » Linear, Quadratic, & Exponential Models**

[CCSS.MATH.CONTENT.HSF.LE.A.1](#)

Distinguish between situations that can be modeled with linear functions and with exponential functions.

[CCSS.MATH.CONTENT.HSF.LE.A.1.A](#)

Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

[CCSS.MATH.CONTENT.HSF.LE.A.1.C](#)

Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.