



Hour of Code: Teacher Guide

Before the Hour of Code:

- Make sure student computers have an up-to-date browser (Chrome, Safari, or Firefox).
- To run the apps on their smartphone, students should download Expo at <https://expo.io/>
- Read through teacher notes in this document. Download notes to have exercise solutions ready.

During the Hour of Code:

1. Direct students to codehs.com/hoc_apps
2. Allow students to work through Hour of Code at their own pace, providing encouragement and support when needed. See tips below for handling student questions.
3. Tweet pictures or stories at @CodeHS #ReadWriteCode #HourOfCode!
4. If time allows at the end of the period, facilitate a discussion around the Hour of Code using the following guiding questions:
 - Before today, what did you think about programming or coding?
 - Did any of these ideas change during the Hour of Code?
 - What was your favorite part of the Hour of Code?
 - Did any parts of the Hour of Code challenge you? How?

Hour of Code Tips:

If students get stuck or have questions, it is okay if you don't have the answer! Ask questions to activate their problem-solving skills such as:

- What can we try differently?
- What do you want the program to do? What are you telling the program to do?
- How can we break this problem into smaller steps?

Thank you for your dedication to Computer Science Education!

Interested in going beyond the Hour of Code?

Reach out to us at hello@codehs.com.

Creating Apps Teacher Notes

This activity gives you some examples on how to make your first real mobile apps and how to test them out on your phone. To run apps on a smartphone, students will need to download the Expo app. Find more information about Expo at <https://expo.io/>.

Objective

Students will be able to ...

- Modify mobile apps made using React Native and JavaScript graphics programs
- Create their own simple mobile apps

Link to Activity: codehs.com/hoc_apps

Exercise Solutions

Hello World App, part 2	
Description	Change the text of this app to say “Hi, my name is _____!” and then re-run the program so you can see the updates on your phone.
Motivation	Students practice modifying JavaScript graphics programs that can be run on their phone
Solution	<pre>function start() { // Change the part inside the quotes to see the text on your phone change var text = new Text("Hi, my name is Karel."); var x = getWidth() / 2 - text.getWidth() / 2; var y = getHeight() / 2 + text.getHeight() / 2; text.setPosition(x, y); add(text); }</pre>

Creating Apps Teacher Notes

Touch to Interact, part 2	
Description	Modify this app so the circles have a radius of 10 and are red in color . Look in the Docs tab for more information on setting colors in JavaScript.
Motivation	Students practice modifying JavaScript graphics programs that can be run on their phone
Solution	<pre>function start() { // Clicking with the mouse is analogous to tapping on the phone // If you change this to mouseDragMethod, you can drag your finger to draw mouseDownMethod(onTap); } // This function takes a parameter named e // To learn more about graphics and click/tap events, you can explore the // Introduction to Computer Science in JavaScript course function onTap(e) { drawCircle(e.getX(), e.getY()); } // This function draws a circle at the given coordinates // You can modify this function to play around function drawCircle(x, y) { // Change the radius to change the size of the circle var radius = 10; // Change the color to anything you like // Look in the Docs tab to see how to choose colors in JavaScript var color = Color.RED; var circle = new Circle(radius); circle.setPosition(x, y); circle.setColor(color); add(circle); }</pre>

Creating Apps Teacher Notes

Make your own app!	
Description	Try making any app you like! Include buttons, images, or videos.
Motivation	Students will creatively apply what they have learned to build an app
Solution	Varies