### **Javascript: Games**

### **Duration: 1 Week**

### **Summary**

This lesson does not teach any new Javascript syntax or semantics. It has the students use the Javascript programming that they have learned to create a full game that is similar to the popular Hoppy Bird game. The Khan lessons describe and provide code that they can use. This allows the students to see how a professional programmer has written a full game (including the use of objects, loops, functions, arrays, etc.).

The assignment has them make modifications to the game to turn it into a Frogger style game. This requires the student to understand the Hoppy game, to modify it in several places, and to add a limited amount of code (usually about 10 lines to a program of over 100 lines).

### **Learning Objectives**

* Explain the code for a game (Hoppy Beaver) in Khan Javascript.
* Program a game in Khan Javascript with scoring, winning, and losing.

### **Course Material**

Sign in to Khan Academy before completing the following tutorials.

Complete the following Videos and Exercises, in order. You will earn points for completing the exercises labeled "Do". You must be signed in to Khan Academy to have it show that you completed these modules. The assignment requires that you show this.

* Watch: [Intro to Games](https://www.khanacademy.org/computing/cs/programming-games-visualizations/intro-games-visualizations/v/welcome-games-visualizations) [3:07]
* Read: [Intro to Hoppy Beaver](https://www.khanacademy.org/computing/cs/programming-games-visualizations/side-scroller/a/intro-to-hoppy-beaver)
* Do: [Beaver Character](https://www.khanacademy.org/computing/cs/programming-games-visualizations/side-scroller/a/beaver-character)
* Do: [Forest Environment](https://www.khanacademy.org/computing/cs/programming-games-visualizations/side-scroller/a/forest-environment)
* Do: [Stick Collisions](https://www.khanacademy.org/computing/cs/programming-games-visualizations/side-scroller/a/stick-collisions)
* Do: [Scoring and Winning](https://www.khanacademy.org/computing/cs/programming-games-visualizations/side-scroller/a/scoring-and-winning)

### **Assessments**

* Conceptual Quiz:
  + [Hoppy Beaver Game](https://docs.google.com/document/d/1AO_KgXL2lUNzft7KjkEtclH1KbHAOyu1RtjRT7hb-Sc/edit?usp=sharing) (requires access)
* Practical Assignment:
  + [Javascript: Games](https://drive.google.com/open?id=1Hm1ufgqZApCKz_chL8ZouhBCX89tWnq7w6MSV7jkNEM) | [Grading Rubric](https://drive.google.com/open?id=1BC_9bz_pAdAP3kpy4orp9f0OwnXVXYK0rYAxCyRrV1Q) | [Answer Key](https://docs.google.com/document/d/1Z8cuRyd17mUKvhScXUh_cRhgHL5Y6ePyVnHLfLcS1Po/edit?usp=sharing)