JavaScript Teacher Quick-Start Guide

Welcome to JavaScript 1, Tynker's first JavaScript course for schools. This course prepares students for the rigors of AP Computer Science when they get to high school and bridges the gap between block-based coding and text-based coding. We recommend JavaScript 1 for intermediate or advanced coders in upper middle or high school who have already completed at least one of our block-based coding courses to get comfortable with basic programming concepts.

In this advanced lesson plan, students will be introduced to JavaScript as they complete engaging lessons, solve challenging puzzles, and build their own games in JavaScript. As they work through the different modules in JavaScript 1, students gain a strong mastery of JavaScript syntax, as well as the ability to creatively program games and other projects and debug their own code.

Recommended Before You Begin:

- Watch this video: https://vimeo.com/187401503/e7b16fcb75
- Have your students complete at least one Tynker Course that teaches programming fundamentals using block-based coding
- Review how this course is different from our block coding courses in the table below

What's Included:

- 12 scaffolded, self-guided lessons, approximately one hour each
- 12 lesson guides (one for each lesson) that will teach you what is important to emphasize and how you should teach important concepts
- Answer keys for all puzzles, quizzes, and DIY activities

Required Technology:

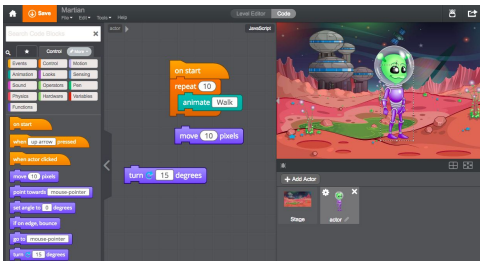
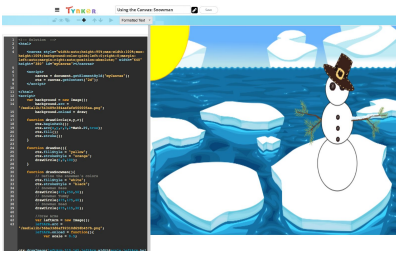
- Each student will need a laptop, desktop, or Chromebook computer with Internet access. If you do not have enough computers, students can pair up to work on lessons together. Courses are not supported on tablets or phones.

JavaScript 1 is separated into three sections:

- **Part I - JavaScript Syntax and Basics**: Students learn basic JavaScript syntax and programming as they set sail with the famous pirate Victoria Skyhart, completing puzzles to help her. They use JavaScript to navigate her pirate airship, avoid enemies, and collect treasure along the way.

- **Part II - UI and Interaction**: The second part of the course teaches students to use the canvas, background images, x-y coordinates, keyboard interaction, mouse interaction, and pen drawing.
- **Part III - Game Design**: This final portion of the course focuses on putting together everything students have learn to build games. Students will even build several games on their own.

How is this course different from Tynker's block coding courses?

	Block Coding Course (e.g. Programming 101)	**Text Coding Course** (e.g. JavaScript 1)
How Students Code	 Connect code blocks in Tynker Workshop	 Write text commands in a code editor
Interactivity Level of the Modules	Highly interactive with concept introductions, guided tutorials and puzzles.	More reading required to understand JavaScript syntax and apply concepts.
Types of Activities	Puzzles, guided tutorials, DIY projects, quizzes	Puzzles, DIY projects, quizzes
Syntax checking	N/A	Syntax highlighting and error messages in the editor
Projects they create	Tynker Projects	Tynker Notebooks
Teacher Experience	None required. Completely self-paced.	Some teacher experience required.
How you assign lessons?	Classroom → Lesson tab	Classroom → Lesson tab

Your students will be able to move through modules and lessons at their own pace. As the teacher, you have access to answer keys for all puzzles and quizzes, as well as completed samples for all do-it-yourself projects. Your Gradebook allows you to check how your students are doing in real time. It includes metrics on which modules students have completed, as well as which concepts they understand or are struggling with. This information makes it easy to know

where your assistance would be most helpful and provide accurate solutions and tips. For more information about setting up your class and starting to teach, check out our teacher training videos and quick-start teacher guide.

Topics covered: JavaScript syntax, sequencing, repetition, conditional logic, nested loops, automation, pattern recognition, simple motion, keyboard and mouse events, creating and using an HTML canvas, operators, expressions, variables, collision detection, using arrays and objects to store structured data.

Any questions? We're here to help!

If you have any issues or questions, just send us an email at support@tynker.com.

Tips for contacting support:

1. Let us know what browser, operating system, and machine you're using.
2. If your question is about a specific lesson, specify which course and lesson you're using.
3. If your question pertains to a specific account or project, let us know the username and project name.
4. Provide us a screenshot of what's going wrong if applicable.
5. If you're receiving an error message, tell us what the specific error message is.
6. If you're having problems onboarding students, send us the CSV file you're using.

Thanks for using Tynker!