



Here's a **step-by-step roadmap to learn JavaScript**, starting from the basics and going up to intermediate and advanced topics. This is perfect whether you're learning for frontend (like with HTML/CSS/Bootstrap) or backend (like Node.js later).

JavaScript Roadmap for Beginners to Advanced

☒ 1. Getting Started

- What is JavaScript?
 - Where and how to use it:
 - Inline in HTML: `<script> ... </script>`
 - External file: `<script src="script.js"></script>`
 - `console.log()` and browser dev tools
-

☒ 2. Variables & Data Types

- `var`, `let`, `const` (scope & reassigning)
- Data types:
 - String, Number, Boolean
 - Null, Undefined
 - Array, Object

☒ 3. Operators

- Arithmetic: `+`, `-`, `*`, `/`, `%`
 - Assignment: `=`, `+=`, `-=`
 - Comparison: `==`, `===`, `!=`, `<`, `>`
 - Logical: `&&`, `||`, `!`
-

☒ 4. Control Flow

- `if`, `else if`, `else`
- `switch` statement
- Ternary operator: `condition ? true : false`

☑ 5. Loops

- for, while, do while
- Loop through arrays: for, for...of, forEach()

☑ 6. Functions

- **Function declaration:**

```
function greet(name) {  
    return "Hello " + name;  
}
```

- **Arrow functions:**

```
const greet = (name) => "Hello " + name;
```

☑ 7. Arrays

- Creating arrays: `let arr = [1, 2, 3];`
- Array methods:
 - o `push()`, `pop()`, `shift()`, `unshift()`
 - o `map()`, `filter()`, `reduce()`
 - o `forEach()`, `includes()`, `indexOf()`

☑ 8. Objects

- Define and access:

```
const user = {  
    name: "Deepak",  
    age: 25,  
};  
console.log(user.name);
```

- Object methods
- Looping through objects: `for...in`

☑ 9. DOM Manipulation

- `document.getElementById()`, `querySelector()`
- Changing HTML/CSS with JavaScript
- Adding/removing classes
- Creating/removing elements

☑ 10. Events

- onclick, onchange, oninput, etc.
- addEventListener():

```
button.addEventListener("click", function () {  
    alert("Clicked!");  
});
```

☑ 11. ES6+ Features

- Destructuring
- Template literals: `Hello \${name}`
- Spread/rest operators: ...
- Default parameters
- let and const scope rules
- Arrow functions
- Promises & async/await

☑ 12. JSON & APIs

- What is JSON
- Fetching data using fetch():

```
fetch("https://api.example.com")  
  
    .then(res => res.json())  
  
    .then(data => console.log(data));
```

☑ 13. Form Validation

- Validate input fields
- Show error messages
- Submit data with JavaScript

☑ 14. Local Storage & Session Storage

- Store and retrieve user data

☒ 15. Practice Projects

- ☐ Calculator
- ☐ To-Do List
- ☐ Color Picker
- ☐ Product List with search/filter
- ☐ Weather App using an API
- ☐ Form with validation and localStorage