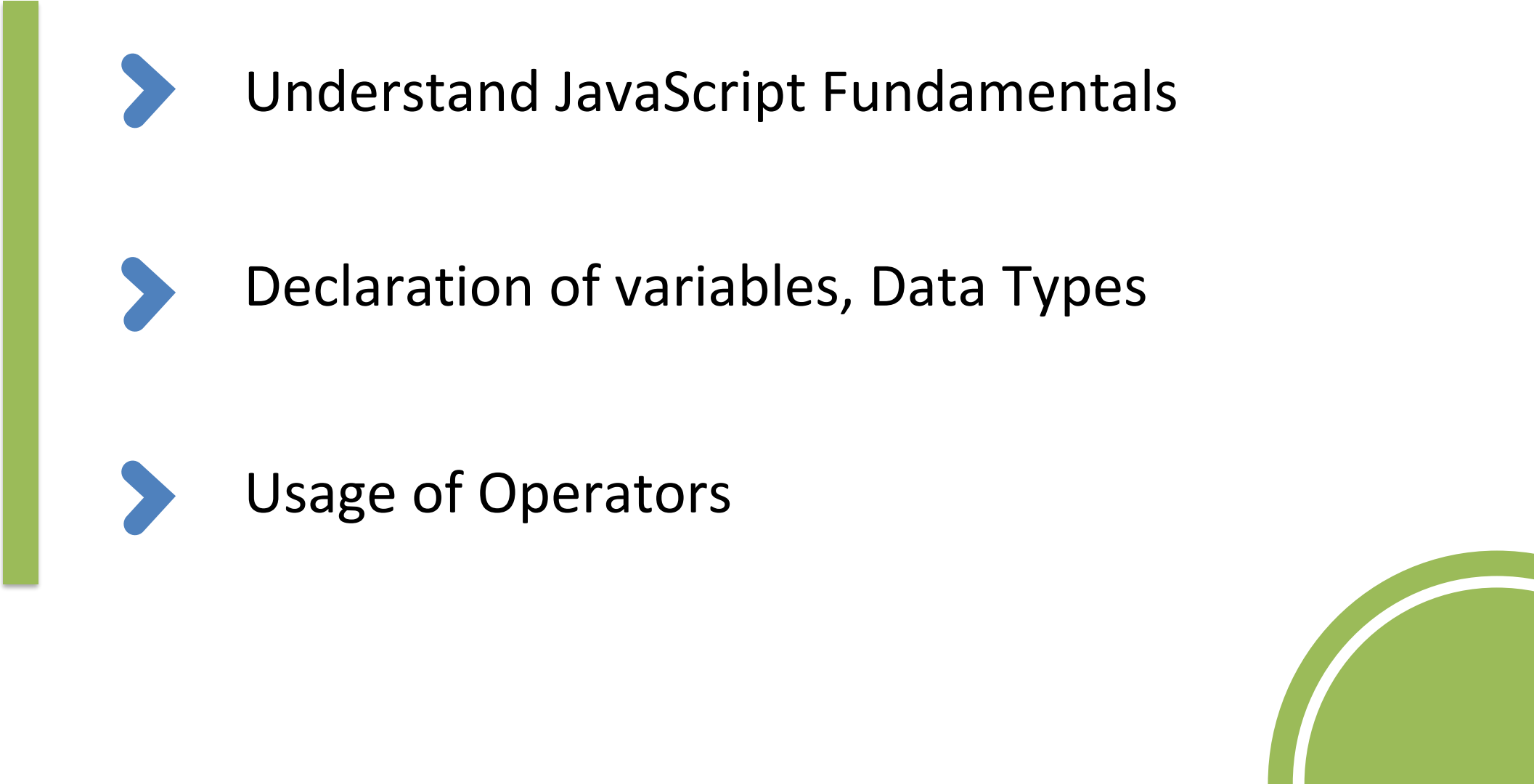# Intro to JavaScript

LESSON OBJECTIVES

> Understand JavaScript Fundamentals

> Declaration of variables, Data Types

> Usage of Operators

What is JavaScript?

- JavaScript is one of the most popular and most used programming languages in the world.
- JavaScript was only used in browsers to build interactive web pages.
- Javascript was originally made to run only in browsers.
- In 2009, some clever people embedded Chrome's V8 engine into a C++ application and called it Node. Node allows us to now use JavaScript outside of the browser, and build the back end of our web and mobile applications.
- ECMAScript is a specification / standard. It describes how JavaScript is supposed to work and function.(Also refers to ES 2015/ES6 or ES2016/ES7)
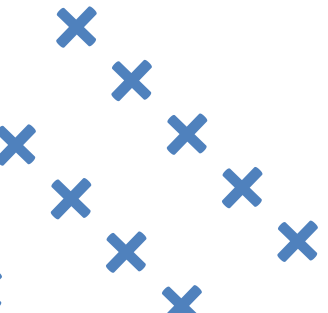- JavaScript is a programming language that conforms to these standards.
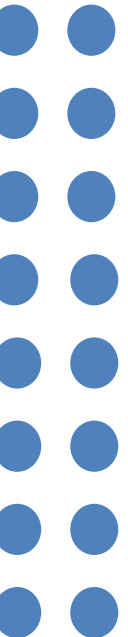
Variables

- We can assign data to our variables using the '=' assignment operator.

- Declaring variables without assigning any data to it, will return undefined

- = (Assignment Operator)

```
let firstName = "Matthew"
```

```
const firstName = "Matthew"
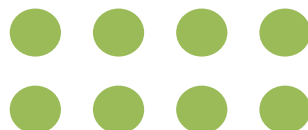```

```
var firstName = "Matthew"
```

Data Types (Primitive)

- Strings (normal text)

- Numbers (integers and decimals)

- Booleans (true/false)

- Undefined (Value was created but value was not assigned to it)

- Null (aka nothing)
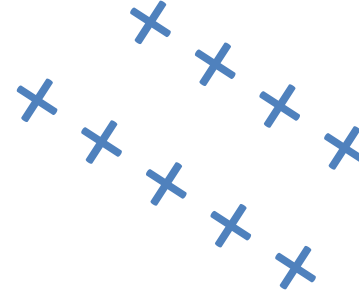
- Symbols (Used and explained later)

# Data Types (Reference)

- Objects

- Arrays

- Functions

Arrays

```
let colors = []
```

- An array is a data structure used to represent a list of objects/items
- Accessed through indexing(code example)

```
let colors = ['red', 'green', 'blue']
```

```
let colors = ['red', 2, {}]
```

Operators (Arithmetic)

- +   (Addition)

- -   (Subtraction)

- *   (Multiplication)

- /   (Division)

- %   (Modulus)

- **   (Exponent ~~ to the power of)

- ++   (Increment)

- –   (Decrement)

Don't forget about BODMAS
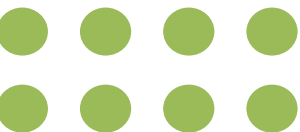
Operators (Comparison)

- > (Greater than)
- < (Less than)
- >= (Greater than or equal)
- <= (Less than or equal)
- == (is equal to, {loose equality operator})
- === (is equal to and data type is the same, {strict equality operator})
- != (not equal)
- !== (not equal and data type isn't)