## **CLASSES**

### **Introduction**

JavaScript does *not* have classes in the same sense as other Object Oriented languages like Java or Ruby. ES6, however, *did* introduce a syntax for object creation that uses the class keyword. It is basically a new syntax that does the *exact* same thing as the object constructors and prototypes we learned about in the constructor lesson.

There is a bit of controversy about using the class syntax, however. Opponents argue that class is basically just *syntactic sugar* over the existing prototype-based constructors and that it’s dangerous and/or misleading to obscure what’s *really* going on with these objects. Despite the controversy, classes are beginning to crop up in real code bases that you are almost certainly going to encounter such as frameworks like React.

Since we’ve already gone fairly in-depth with Constructors, you don’t have too much left to learn here beyond the new syntax. If you choose to use classes in your code (that’s fine!) you can use them much the same way as object constructors.

### **Learning Outcomes**

After this lesson and completing the assignments, you will be able to:

* Describe the pros and cons of using classes in JavaScript.
* Briefly discuss how JavaScript’s object creation differs from a language like Java or Ruby.
* Explain the differences between using a class to define a constructor and other prototype methods.
* Explain what “getters” & “setters” are.
* Understand what computed names and class fields are.
* Describe function binding.
* Be able to use inheritance with classes.
* Briefly talk about the conflict in JS with functional programming and classes.

### **Assignment**

1. [This article](https://javascript.info/class) is probably just about all you need to start using class syntax confidently. “Getters and Setters” are a useful feature!
2. [The MDN docs](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Classes) are, as usual, a great resource for going a little deeper. Look especially at the ‘extends’ and ‘Mixins’ sections. React (and other frameworks) uses classes in this way. You create your components and make them extend the core React component which gives you access to all their built-in functionality.
3. [This article](https://medium.com/@rajaraodv/is-class-in-es6-the-new-bad-part-6c4e6fe1ee65) provides some pros and cons for classes. There are many people who think that class syntax is misleading for Javascript, and thus Factory Functions (from the previous lesson) are inherently better. WE are not saying that classes are bad! We just want you to be informed on the opinions of both sides.

### **Practice**

Go back to your “Library” example and refactor it to use class instead of plain constructors.

### **Additional Resources**

This section contains helpful links to other content. It isn’t required, so consider it supplemental if you need to dive deeper into something.

* [This playlist](https://www.youtube.com/playlist?list=PLtwj5TTsiP7uTKfTQbcmb59mWXosLP_7S) from Stephen Mayeux, explains ES6 Classes and some of their methods with easy to follow examples.