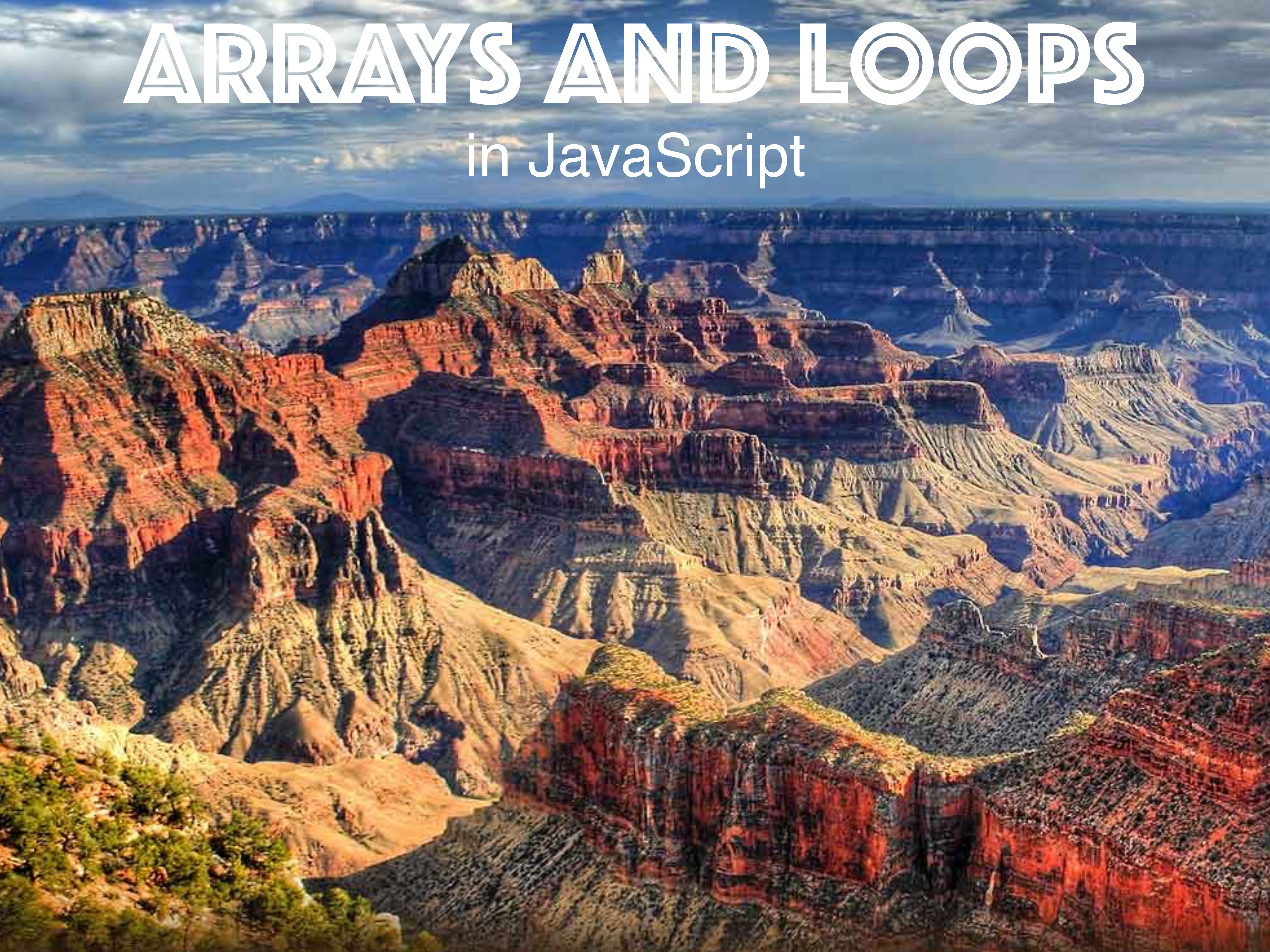
ARRAYS AND LOOPS

in JavaScript



ARRAYS

```
var fruits = [‘banana’, ‘orange’, ‘apple’ ];
```

-Ordered collection of data combined into one variable.

-Each item in an array gets assigned an index value.

ARRAYS

```
var fruits = [‘banana’, ‘orange’, ‘apple’ ];

fruits[0]; // will output ‘banana’
fruits[1]; // will output ‘orange’
fruits[2]; // will output ‘apple’
```

-You call array variables using square brackets and putting their index value into the brackets. Notice anything weird?

[0]

The index value arrays always start with 0,
no exceptions.
It is never 1.

ARRAYS

Setting values at a given index

```
var fruits = [‘banana’, ‘orange’, ‘apple’ ];

fruits[0] = ‘grapes’;

// fruits will now be:
// [‘grapes’, ‘orange’, ‘apple’]
```

This will override any value that was there before

CODEALONG

Let's make some arrays and access their values

Array - **Index** - length - indexOf() - pop()

push() - join() - Loop - Iteration - for

.LENGTH

```
var fruits = [‘banana’, ‘orange’, ‘apple’];

fruits.length; // will output 3
```

-Use length to figure out how many items are in your array

.INDEXOF()

```
var fruits = [‘banana’, ‘orange’, ‘apple’];

fruits.indexOf(‘orange’);
// will output 1
```

-Use indexOf() to see what index value any item in the array has

.pop() = Remove Last

```
var fruits = ["banana", "orange", "apple"];

fruits.pop();
// fruits = ["banana", "orange"];
```

-Pop method takes off the LAST item in the array. Can you hear the sound effect when you pop an item off? [BINK]

.PUSH() = ADD TO END

```
var fruits = ["orange"];

fruits.push("kiwi");
// fruits = ["orange", "kiwi"];
```

-Push method takes whatever item you have within the method parenthesis and adds it to the END of the array, creating a new item.

.JOIN()

```
fruits = ['kiwi', 'pear', 'cherry'];

fruits.join(' and ');
// fruits = 'kiwi and pear and cherry';
```

Join will take the value from within the parentheses and combine it with all values in your array to make one big string.

Multi-Dimensional Arrays

```
var produce = [
  [‘kiwi’, ‘pear’, ‘cherry’],
  [‘broccoli’, ‘celery’, ‘carrots’]
];

produce[1] // => [‘broccoli’, ‘celery’, ‘carrots’];
produce[0][2] // => ‘cherry’;
```

You can put arrays inside of arrays. Access them with a second set of square brackets (first bracket is the array, second bracket is item).

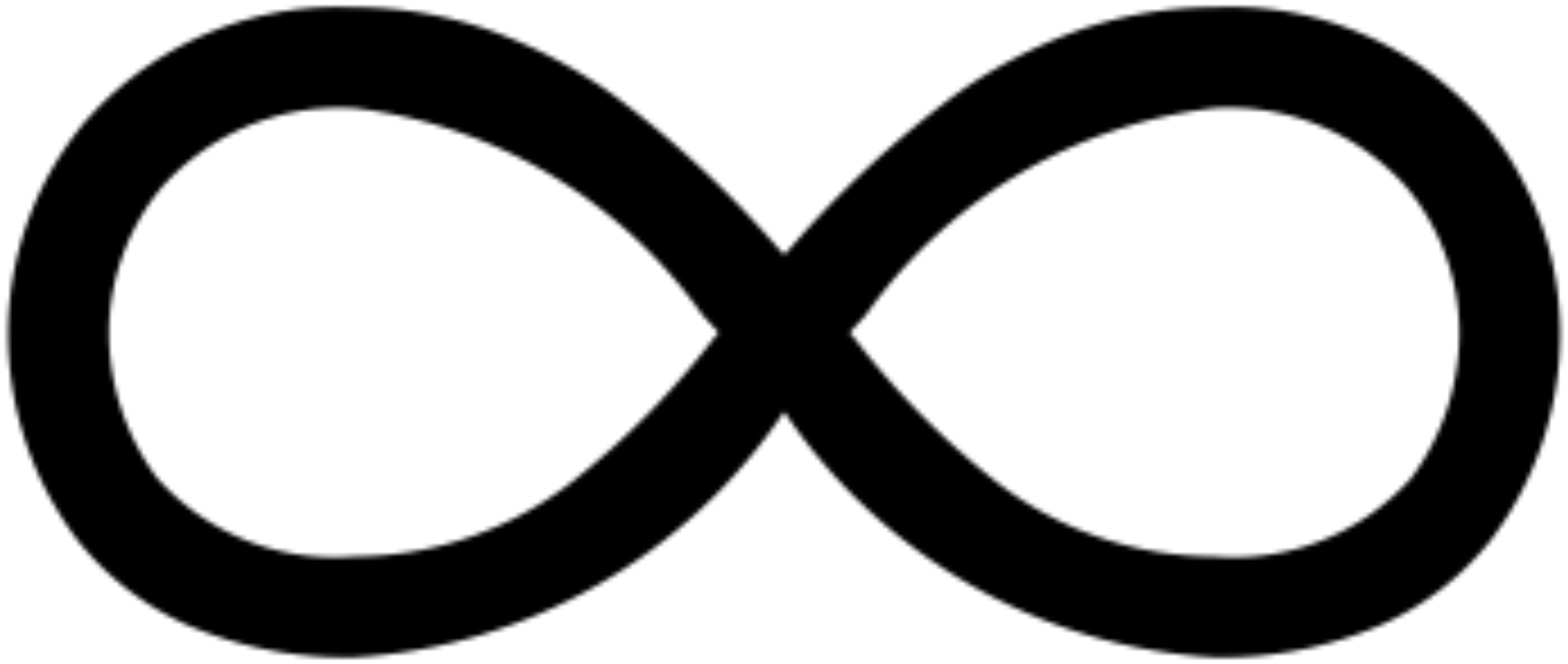
Array - **Index** - **length** - **indexOf()** - **pop()**

push() - **join()** - Loop - Iteration - for

YOUR TURN

Complete the tasks in the repl

LOOPS



LOOP

Repetitious program that runs over a defined range.

WHY LOOPS?

-Loops take advantage of what computers do best: evaluate instructions across organized sets of data very quickly.

-Computers think best in isolated patterns, which is exactly how a loop works.

-Efficient in terms of memory and processor usage

FOR LOOP

Works similar to an if statement but with more conditions. Three declarations:

1- Define variable
2- Establish condition for loop to run
3- Increment variable

```
for (var i = 0; i < 10; i++) {
  console.log(i);
  // outputs 0,1,2,3,4,5,6,7,8,9
}
```

FOR LOOP + ARRAYS

Blending the two concepts, we can create powerful programs that move through large amounts of data very quickly.

The process of looping through an array to preform a task is called iteration

BIG IDEA

The major use case for arrays is to create itemized groups of data computers can manipulate (often with loops).

FOR LOOP + ARRAYS

Same number of declarations but notice the condition in the parenthesis. The array's length limits the amount of loops.

```
var myArray = ["John", "Benjamin", "Victor"];

for (var i = 0; i < myArray.length; i++) {
  console.log(myArray[i]);
  // outputs "John,Benjamin,Victor"
}
```

YOUR TURN

Complete the tasks in the repl

Array - Index - length - indexOf() - pop()

push() - join() - Loop - Iteration - for