



[All Wiki Articles](#) [Create Wiki Article](#)

#Programming #JavaScript #math #random #ceil #floor [1 more ...](#)

[\[Edit\]](#) EN

## JavaScript Math.random() explain the difference between Math.ceil() vs Math.floor() vs Math.round()

★  
17 points

1 contributors 2 contributions 0 discussions



Created by: [AnnLen](#) ☆ 12400

### 1. Random number [Edit](#)

In JavaScript to generate random number we use Math.random() and it returns number between 0 and 1.

```
1 console.log(Math.random()); // 0.587777376294869
2 console.log(Math.random()); // 0.2197126264732836
3 console.log(Math.random()); // 0.9785932144070053
```

Run

Auto running

[Reset](#)

### 2. Random number between 0 and 10 - floating point [Edit](#)

If we want to get random number between 0 and 10 we just need to multiply the result of Math.random() by 10 and round the result.

```
1 console.log(Math.random() * 10); // 9.357923991790457
2 console.log(Math.random() * 10); // 3.5154493888867466
3 console.log(Math.random() * 10); // 5.1469888802577035
```

Run

Auto running

[Reset](#)

### 3. Random number between 0 and 10 - integer [Edit](#)

Still as we can see the numbers are floating point and usually we want to have integers. Solution is pretty simple and now with help comes 3 methods how we can achieve it:

- Math.round()
- Math.floor()
- Math.ceil()

Below we have explanation points with code examples.

### 4. Using Math.round() [Edit](#)

Math.round() - round to the nearest number (integer eg 1,5,10)

eg:

- 1.23 will be rounded to 1
- 5.92 will be rounded to 6

Example how to generate random number between 0 and 10 with Math.round()

```
1 console.log(Math.round(1.23)); // 1
2 console.log(Math.round(5.92)); // 6
3
4 console.log(Math.round(Math.random() * 10)); // 2
5 console.log(Math.round(Math.random() * 10)); // 9
6 console.log(Math.round(Math.random() * 10)); // 5
```

Run

Auto running

[Reset](#)

### 5. Using Math.floor() [Edit](#)

Math.floor() - round DOWN to the nearest number

eg:

- 1.23 will be rounded to 1
- 5.92 will be rounded to 5

Example how to generate random number between 0 and 10 with Math.floor()

```
1 console.log(Math.floor(1.23)); // 1
2 console.log(Math.floor(5.92)); // 5
3
4 console.log(Math.floor(Math.random() * 10)); // 3
5 console.log(Math.floor(Math.random() * 10)); // 1
6 console.log(Math.floor(Math.random() * 10)); // 6
```

Run

Auto running

Reset

## 6. Using Math.ceil() [Edit](#)

Math.ceil() - round UP to the nearest number

eg:

- 1.23 will be rounded to 2
- 5.92 will be rounded to 6

Example how to generate random number between 0 and 10 with Math.ceil()

```
1 console.log(Math.ceil(1.23)); // 2
2 console.log(Math.ceil(5.92)); // 6
3
4 console.log(Math.ceil(Math.random() * 10)); // 5
5 console.log(Math.ceil(Math.random() * 10)); // 7
6 console.log(Math.ceil(Math.random() * 10)); // 3
```

Run

Auto running

Reset