Working with Strings in Java

String representation

By the end of this video you will be able to...

- Describe how Strings are represented in Java
- Perform basic operations with Strings in Java

$$Flesch\ score = 206.858 - 1.015 \left(\frac{\#\ words}{\#\ sentences}\right) - 84.6 \left(\frac{\#\ syllables}{\#\ words}\right)$$

Requires the ability to manipulate Strings!

String Basics

```
String text = new String("Hello World!");
```

text ☐

String Basics

Strings are objects

`String text = ` `new String("Hello World!");`
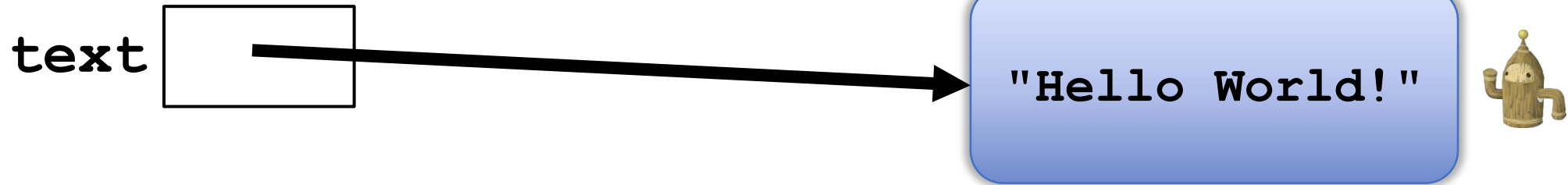
The heap

text

"Hello World!"

String Basics

Strings are objects

`String text = new String("Hello World!");`
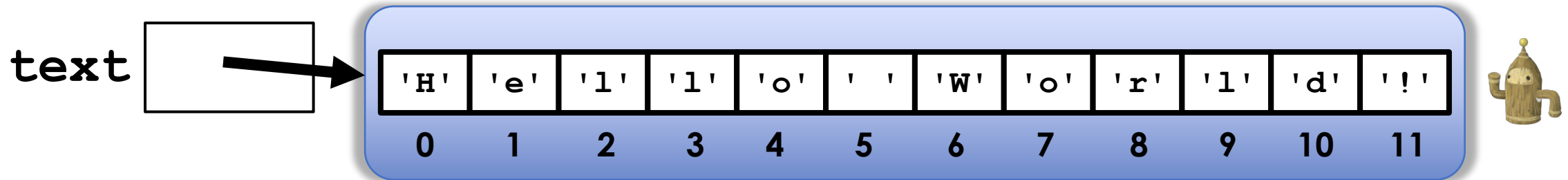
The heap

```
text  →  "Hello World!"
```

String Basics

Strings are represented as arrays of chars.
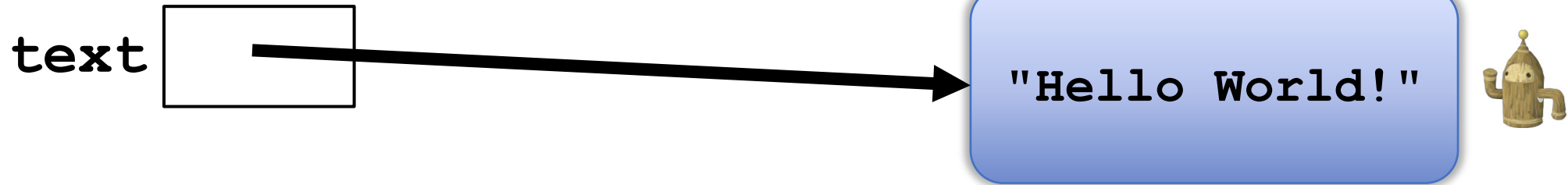
```
String text = new String("Hello World!");
```

The heap

text

'H'	'e'	'l'	'l'	'o'	' '	'W'	'o'	'r'	'l'	'd'	'!'
0	1	2	3	4	5	6	7	8	9	10	11

String Basics

`String text = new String("Hello World!");`

The heap

text

"Hello World!"

String Basics

```
String text = new String("Hello World!");
String text2 = text;
```

The heap

Two references to the same object

text
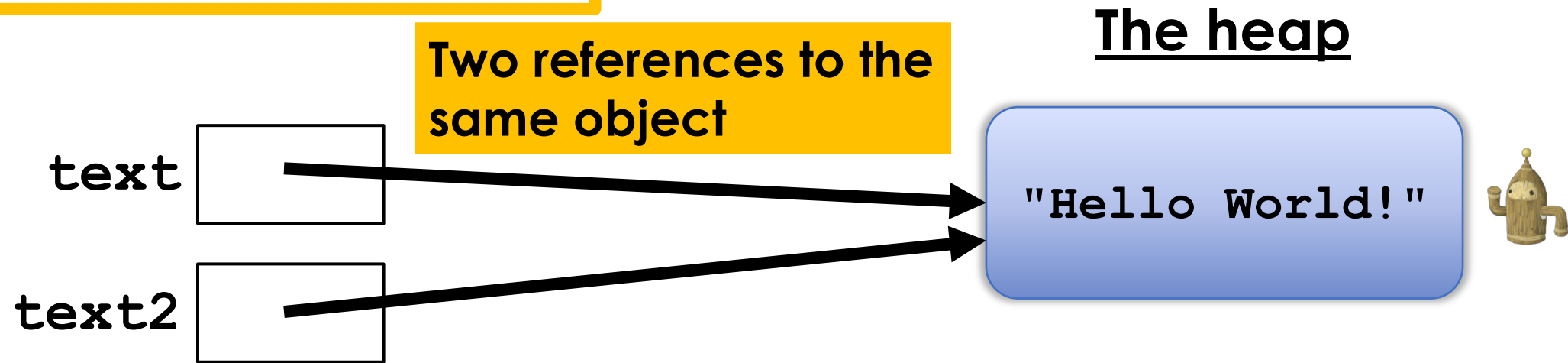
text2

"Hello World!"

Strings are immutable

```
String text = new String("Hello World!");
String text2 = text;
```

The heap

text

text2

"Hello World!"

No way to change
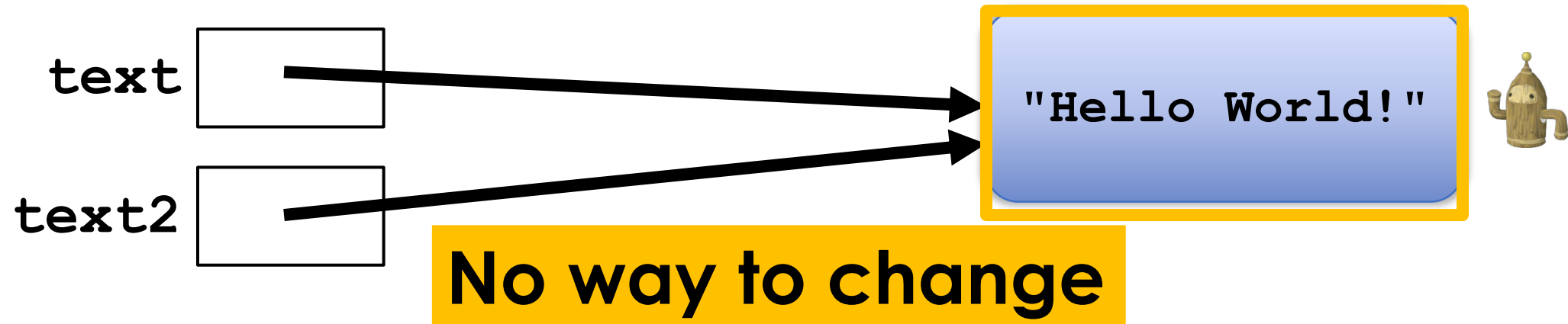
String append

```
String text = new String("Hello World!");
String text2 = text.append(" It's a great day.");
```
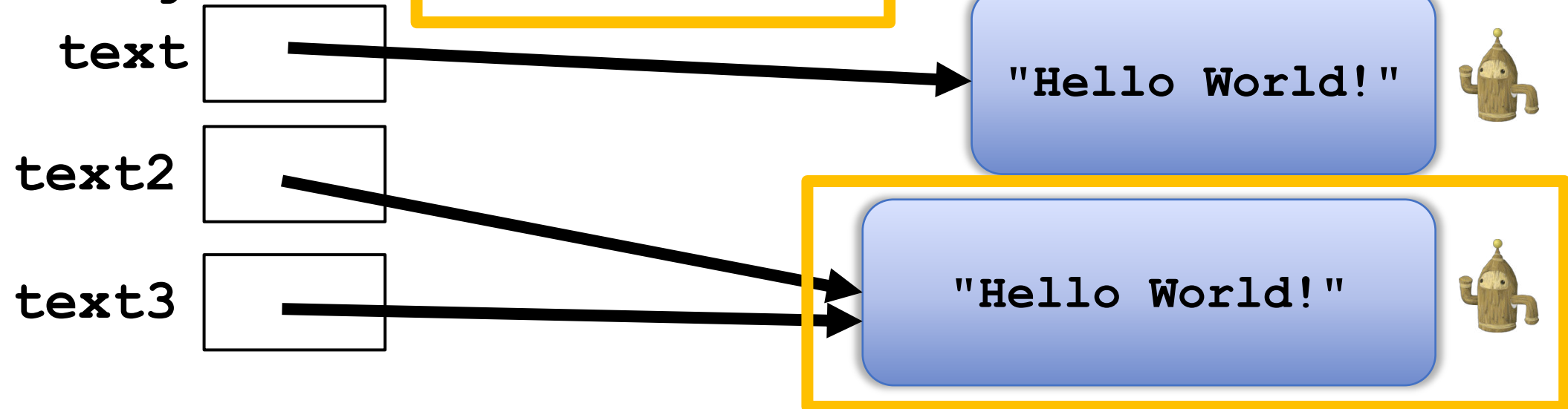
text

"Hello World!"

text2

Makes another object

"Hello World! It's a great day."
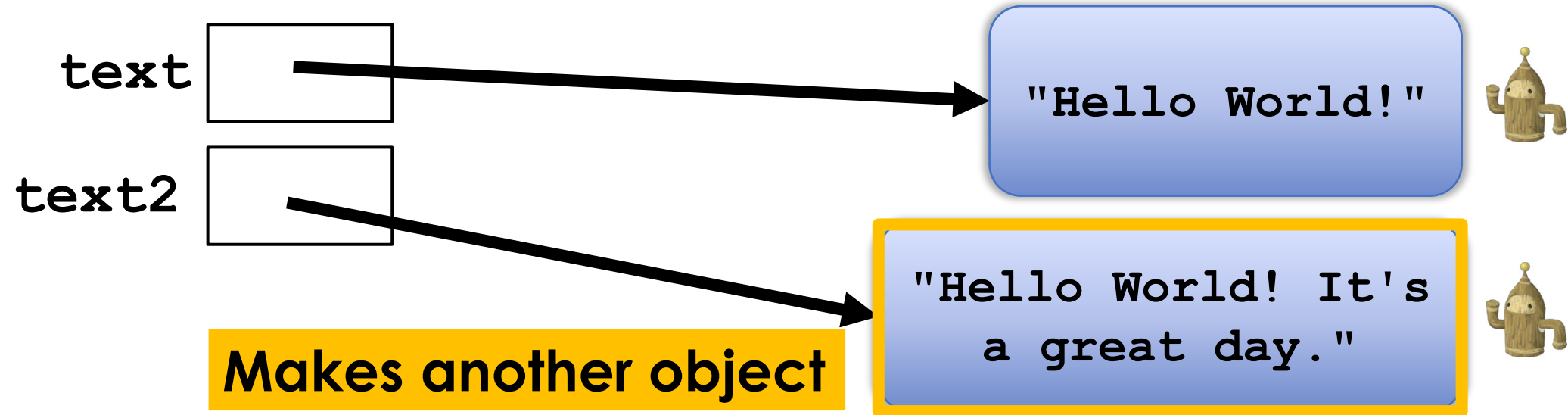
+ operator also does append

```
String text = new String("Hello World!");
String text2 = text + " It's a great day.";
```

Doesn't change

text → "Hello World!"

text2 → "Hello World! It's a great day."
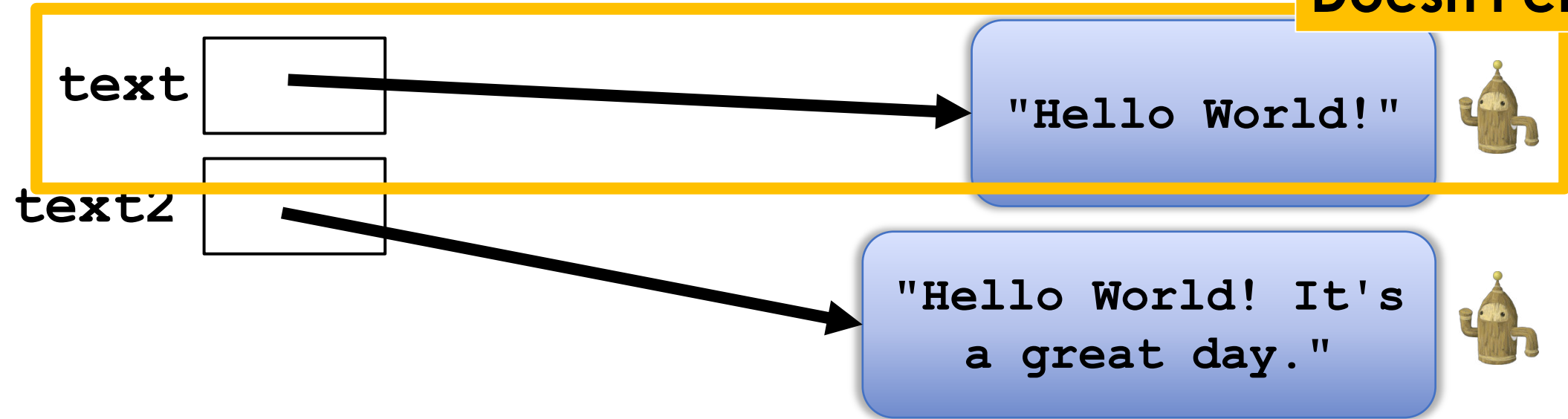
Interned Strings: One object

```
String text = new String("Hello World!");
String text2 = "Hello World!";
String text3 = "Hello World!";
```

text → "Hello World!"

text2 → "Hello World!"

text3 → "Hello World!"

.equals vs ==

```
String text = new String("Hello World!");
String text2 = new String("Hello World!");
text.equals(text2) // Evaluates to true
text == text 2  // Evaluates to false
```

.equals compares characters
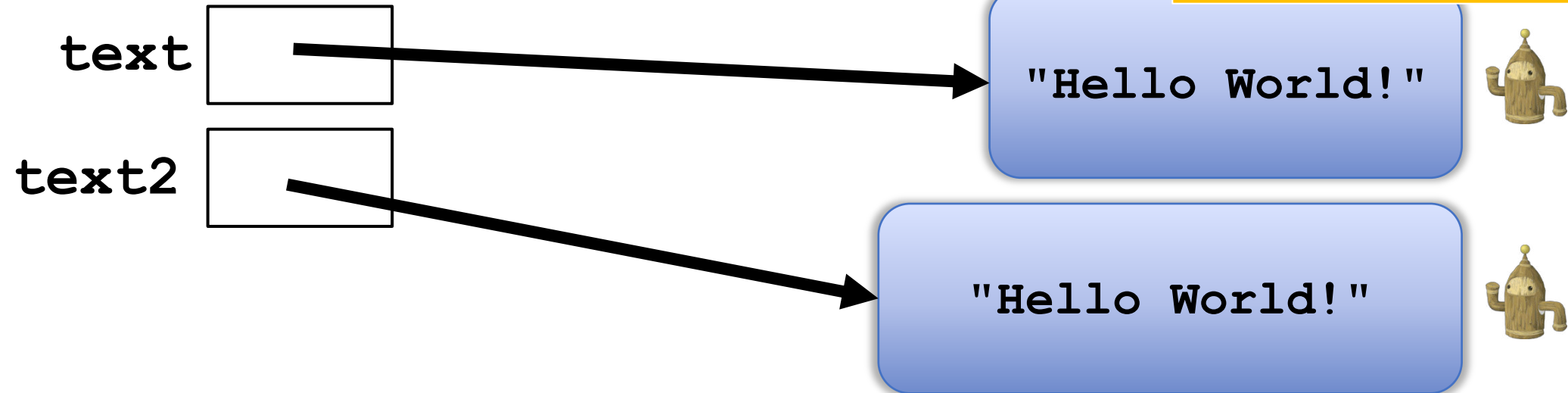
text → "Hello World!"

text2 → "Hello World!"

.equals vs ==

```
String text = new String("Hello World!");
String text2 = new String("Hello World!")
text.equals(text2) // Evaluates to true
text == text2  // Evaluates to false
```
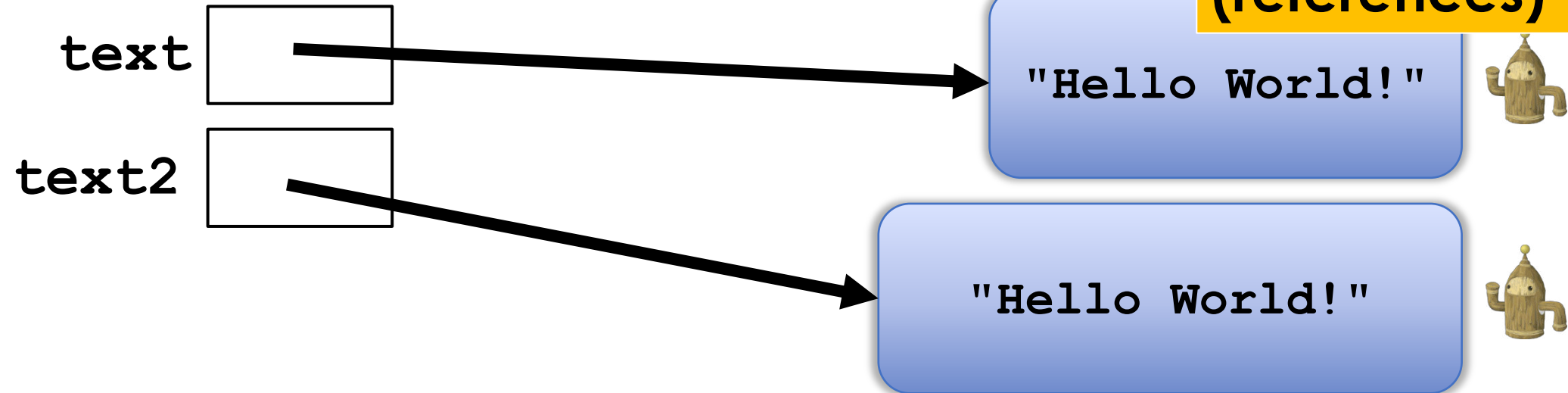
== compares variable values (references)

text

text2

"Hello World!"

"Hello World!"

Strings can do lots of things!

https://docs.oracle.com/javase/8/docs/api/java/lang/String.html