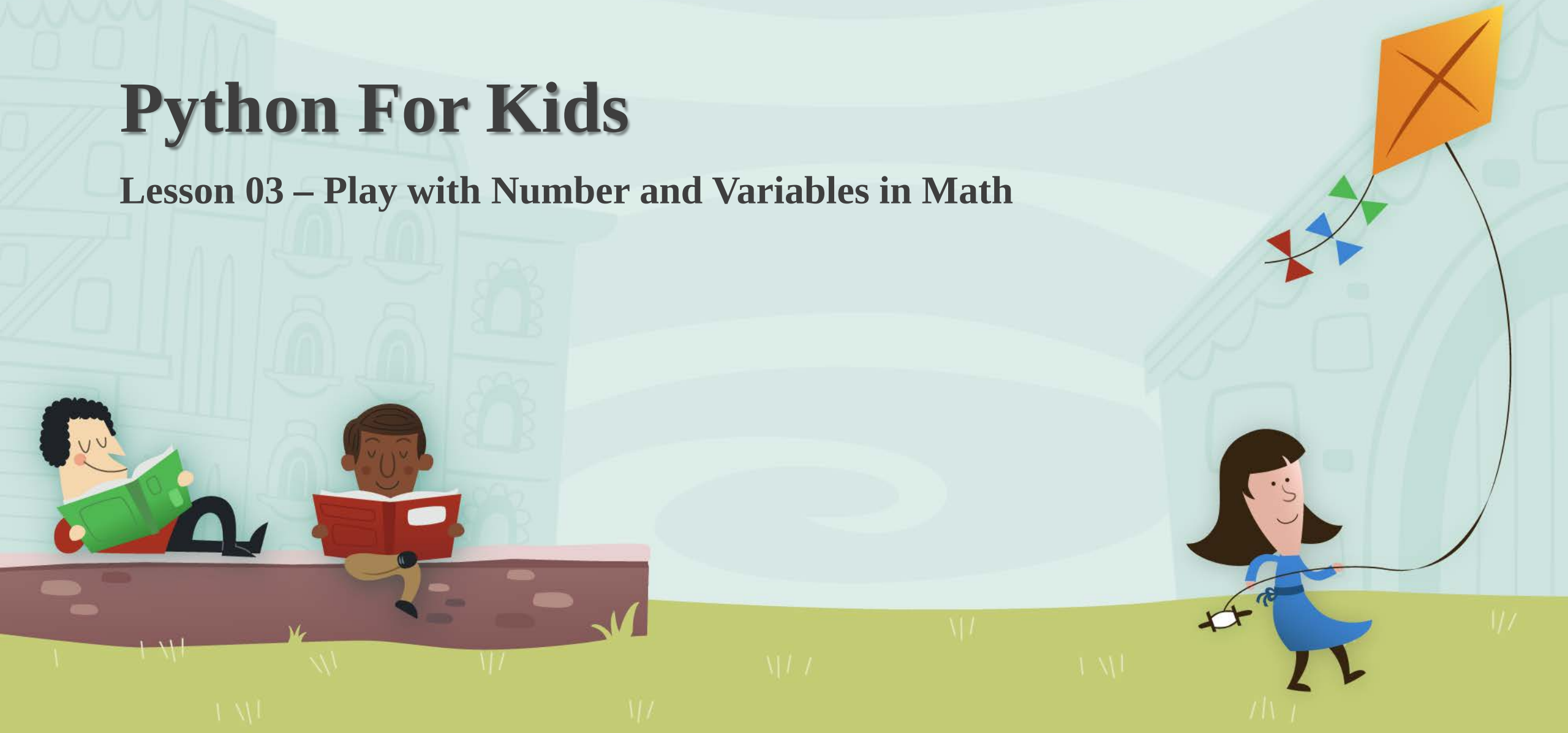
Python For Kids

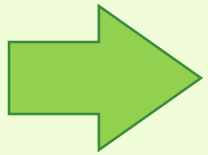
Lesson 03 – Play with Number and Variables in Math



Variables—Example: Just like in your math class

```
x = 3
y = 4

answerPlus = x+y
answerMinus = x-y
answerMutipl = x*y
answerDivid = x/y
answerWhatEver = (x*y)+(x-y)/x
print(x)
print(y)
print(answerPlus)
print(answerMinus)
print(answerMutipl)
print(answerDivid)
print(answerWhatEver)
```



```
3
4
7
-1
12
0.75
11.666666666666666
```

Variables—Assign a Number to a variable and print it

```
x=3
print(x)

print ("x="+x) # not work, will get error

print ("x="+str(x))
```

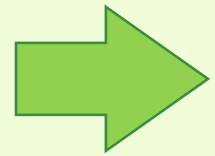
We'll explain the expression str(a) later in the course

```
    print ("x="+x) # not work, will get error
TypeError: must be str, not int
```

Variables—Assign more Numbers to more variables

```
x = 3
y = x+2

# this call chain
assignment
a = b = x*(y+x)
print("a = " + str(a))
print("b = " + str(b))
```



```
a = 24
b = 24

Process finished
```

Basic Math Operators in Python

Math	Python Syntax	Operation	Example	Result
+	+	Addition	3 + 2	5
-	-	Subtraction	3 – 2	1
×	*	Multiplication	3 * 2	6
÷	/	Division	3 / 2	1.5
()	()	Parentheses	(3 + 2) * 2	10
mod	%	Modulo	3 % 2	1
|a|	abs(a)	Absolute	abs(-3)	3
a^b	a ** b	Exponent	2 ** 3	8
$\sqrt[2]{a}$	math.sqrt(2)	Square root	math.sqrt(2)	1.4142

Do some excise: try it your self

1. Use python get the answer of below math

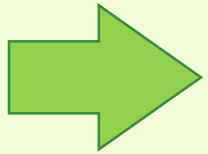
   3 + 8 × 9 ÷ 7 × (5 +6)

2. Update your previous turtle drawing project, using some math to change the graphic.

Advance Learning: Number Types: Integer and float number

```
number = 9
print(type(number))
# print type of
variable "number"

float_number = 9.0
print(type(float_numb
er))
```



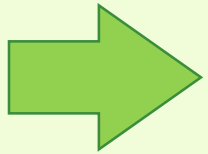
```
<class 'int'>


<class 'float'>
```

Advance Leaning: Number Types conversion

```
number = 9
print(type(number))
# print type of
variable "number"

print(number)
print(float(number))
```



```
<class 'int'>
9
9.0
```

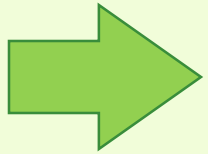
Advanced learning: Number Augmented assignment

```
number = 9.0
print("number = " + str(number))

number -= 2
print("number = " + str(number))

number += 5

print("number = " + str(number))
```



```
number = 9.0
number = 7.0
number = 12.0
```

a -= 2

a = a - 2

a *= 2

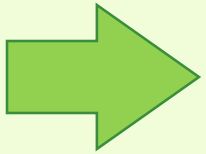
a = a * 2

Advanced learning: Boolean operators

```
two = 2
three = 3

is_equal = (two ==
three)

print(is_equal)
```



False

2 == 2

True

2 < 2

False

2 > 2

False

2 != 2

False