Do not write your name below this line.

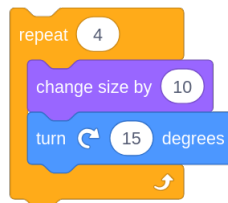# **Loops**

Scratch Username: _____

....

```
repeat 9
    move 10 steps
    wait 5 secs
    play sound woof until done
```
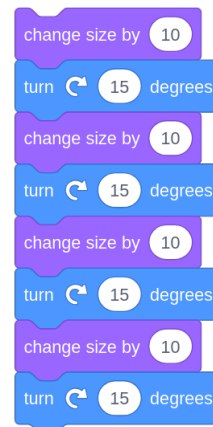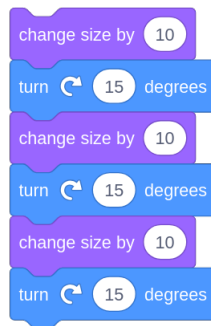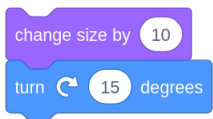
1. How many times will the blocks in the loop repeat?

....
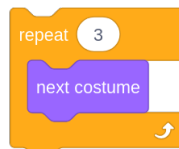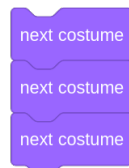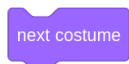
```
repeat 4
    change size by 10
    turn ↻ 15 degrees
```

2. **Circle** the script that makes the sprite do the same thing as the loop above:

```
change size by 10
turn ↻ 15 degrees
```

```
change size by 10
turn ↻ 15 degrees
change size by 10
turn ↻ 15 degrees
```

```
change size by 10
turn ↻ 15 degrees
change size by 10
turn ↻ 15 degrees
change size by 10
turn ↻ 15 degrees
```

```
change size by 10
turn ↻ 15 degrees
change size by 10
turn ↻ 15 degrees
change size by 10
turn ↻ 15 degrees
```

....

3. **Circle __ALL__** the scripts that make the sprite change costumes **exactly** 3 times.

```
next costume
```

```
next costume
next costume
next costume
```

```
repeat 3
    next costume
```

```
repeat 3
    next costume
    next costume
    next costume
```

....

```
repeat 3
  play sound drum until done
  change color effect by 25
```
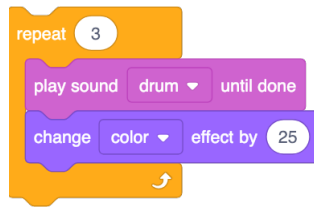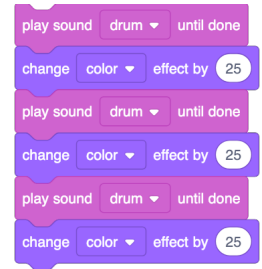
4. **Circle** the script that makes the sprite do the same thing as the loop above:

```
play sound drum until done
change color effect by 25
```
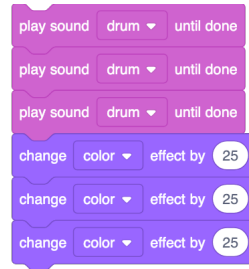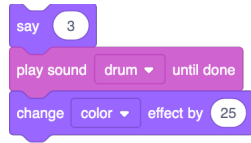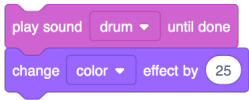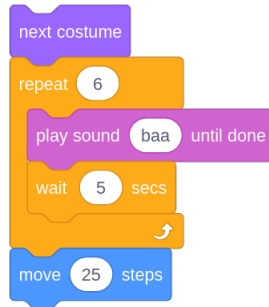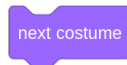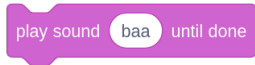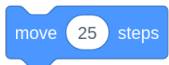
```
say 3
play sound drum until done
change color effect by 25
```

```
play sound drum until done
play sound drum until done
play sound drum until done
change color effect by 25
change color effect by 25
change color effect by 25
```

```
play sound drum until done
change color effect by 25
play sound drum until done
change color effect by 25
play sound drum until done
change color effect by 25
```

....

```
next costume
repeat 6
  play sound baa until done
  wait 5 secs
move 25 steps
```

5a. **Circle ALL** the blocks that run <u>6 times</u> in the script above.

```
move 25 steps          play sound baa until done          next costume          wait 5 secs
```

5b. **Circle ALL** the blocks that run <u>before</u> the repeat loop in the script above.

```
move 25 steps          play sound baa until done          next costume          wait 5 secs
```
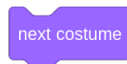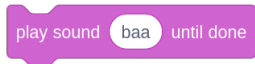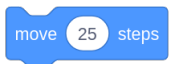
5c. **Circle ALL** the blocks that run <u>after</u> the repeat loop in the script above.

```
move 25 steps          play sound baa until done          next costume          wait 5 secs
```

....

2

Cat's Code	Dog's Code

Cat's Code

```
when [flag] clicked
repeat 7
    say meow for 5 secs
    wait 1 secs
repeat 4
    next costume
    wait 1 secs
```

Dog's Code

```
when [flag] clicked
repeat 7
    say woof for 5 secs
    wait 1 secs
```

```
when [flag] clicked
repeat 4
    next costume
    wait 1 secs
```
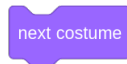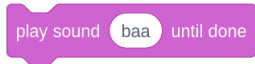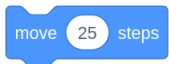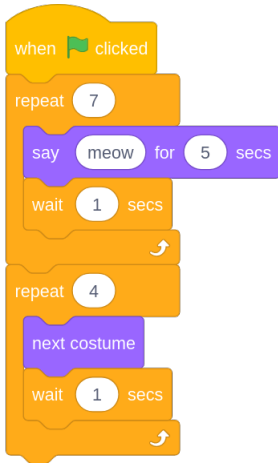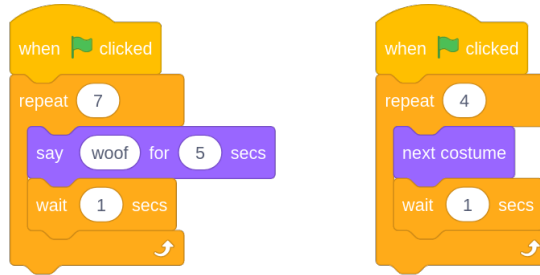
6a. **Circle**: When the green flag is clicked, what will Cat do?

    A. Cat says "meow" 7 times **then** changes costumes 4 times.

    B. Cat says "meow" and changes costumes **at the same time**.

6b. **Circle**: When the green flag is clicked, what will Dog do?

    A. Dog says "woof" 7 times **then** changes costumes 4 times.

    B. Dog says "woof" and changes costumes **at the same time**.

. . . .

```
repeat 8
    next costume
    move 15 steps
    play sound moo until done
```

7. Explain what this script will make the sprite do.

Each time the loop runs:

    First _____.

    Next, _____.

    Last, _____.

It does this all _____ times.

More questions on the next page! . . . .

8. How do you know that you should use a loop?

_____

_____

_____

. . . .


```
repeat 2
    move 15 steps
    repeat 10
        play sound quack until done
        wait 1 secs
```

Extra Challenge: How many times will "quack" sound play?