

## >>> FOUR Components of a For-Loop <<<

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July 11, 2023

Your name: \_\_\_\_\_

### >>> Learning Objectives <<<

Define the four components of a for-loop.

- \* Initial value
- \* Termination condition
- \* Increment
- \* Actions within the loop

Being able to construct a for-loop.

### >>> Definitions <<<

```
for(let i=0; i<3; i=i+1){  
  draw a circle  
}
```

\* An initial value is where we start counting. In the example above, we start counting at 0.

\* A termination condition is where we stop counting. In the example above, we stop counting when the number is larger than or equal to 3.

\* An increment tells how much we add to the count every round. In the example above, we can add 1 to the count every round.

\* A loop is where you do things repeatedly. In the example above, you draw a circle in every repetition.

What should be the output of the code above? (Draw below.)

>>> Learning Activities <<<

Modify the actions within the loop.

```
for(let i=0; i<3; i=i+1){  
  draw an apple  
  draw a pear  
}
```

Draw what the modified code does.

Tweak the actions within the loops.

```
for(let i=0; i<3; i=i+1){  
  action 1: _____  
  action 2: _____  
}
```

What's your right neighbor's name? \_\_\_\_\_

Pass your tweaked code to your right neighbor.

Draw what the code does.

Change the termination condition.

```
for(let i=0; i<5; i=i+1){  
  draw an eye  
}
```

Draw what the code does.

Change the **initial value**.

```
for(let i=1; i<3; i=i+1){  
    draw a heart  
}
```

Draw what the code does.

Changed the **increment**.

```
for(let i=0; i<3; i=i+2){  
    draw a fish  
}
```

Draw what the code does.

Remove the **increment**.

```
for(let i=0; i<3; i=i+1){  
    draw a star  
}
```

What happens when the **increment** is removed?

**>>> Creative Exercise <<<**

What's your name? \_\_\_\_\_

What's your right neighbor's name? \_\_\_\_\_

Come up with a program that contains a for-loop. Think:

- \* What's your for-loop's initial value?
- \* What's your for-loop's termination condition?
- \* What's your for-loop's increment?
- \* What are the two actions in your for-loop?

(Write your program here:)

Pass your program for your right neighbor to draw.

(Draw here:)

After completing drawing, pass your drawing to your left neighbor.

After reviewing the drawing, hand in your worksheets to T.C.