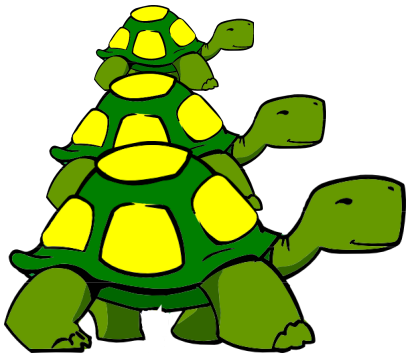
Turtles Way Down

A Teknowledge Activity



Go to tinyurl.com/pythonTek in your internet browser.
After each challenge, run your code so you can see what it does!

Student Learning Goals:

- ***Learn about***: Calling functions (write, forward, right, left, etc.)

1.0 Turtles!!!

Look at the code under Challenge 1.

```
turtle.color("blue")
turtle.shape("turtle")
```

- Change the turtle color to any color you want!
- Change the turtle shape to any of the following: “arrow”, “circle”, “triangle”.
- **Press the play button to run your code and see the changes!**

2.0 Let’s Get Moving

Under challenge 1, write the following code to tell the turtle to go forward and backward a certain number of pixels.

```
turtle.forward(50)
turtle.backward(100)
```

- The number you put in the parenthesis is the number of pixels the turtle moves.
- Think about what this will do before you run your code!

2.1 Hide Me

Write code that does the following under Challenge 2.

- Move the turtle off the screen forwards.
- Then off the screen backwards.
- Then back to the original spot.

3.0 Turning

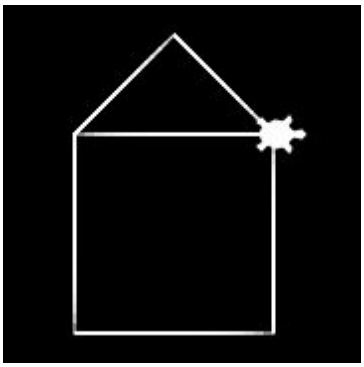
We can also tell the turtle to turn by a certain number of degrees.
Copy the following code to see what turning will do.

```
turtle.right(160)
turtle.forward(50)
turtle.left(45)
```

- After you completely understand how turning right and left, and moving forward and backwards work, **comment out any line of code that starts with right, left, forward or backward and move onto the next challenge.**
- **<u>Comment by putting a # at the beginning of the line you want to comment.</u>**

3.1 House Time

Under Challenge 3, write code to draw the following house.



- What angles do you think you will have to turn at?
- If you are having trouble, break this into smaller steps.
- First make a square, then make a triangle on top!
- **It doesn't have to be perfect! Approximate it!**

4.0 Texting

Copy the following code to write text on the screen.

```
turtle.write("YEAH", font=("arial", 40, "bold"))
turtle.forward(150)
turtle.write("KID", font=("times", 20, "italic"))
```

- Where do you think that the words will be printed in relation to one another?
- What fonts and sizes do you think each line will print?
- How large do you think each text will be?

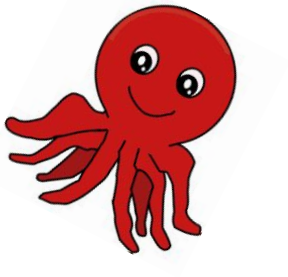
Make an account!

Before you leave, make an account on Trinket.io so you can save your work! Your mentors will ask for the email and password you used, just in case you don't remember next time!

5.0 Advanced Drawings!

Draw whatever images you can think of with the tools you learned above!

- Draw a diamond!
- Draw an octagon!
- Draw a star!
- Draw an octopus!
- Draw your favorite animal!



Circles

If you are interested in circles, try copying the following code:

```
turtle.circle(50)
turtle.left(30)
turtle.circle(50)
turtle.left(30)
turtle.circle(50)
turtle.left(30)
```

- What do you think this will draw?