

Mission 2: Katherine Johnson & Math in Code

□ **Goal:** Explore how Katherine Johnson used math to send astronauts into space—and write your own space-themed code!

□ Who Was Katherine Johnson?

Katherine Johnson was a brilliant mathematician at NASA. She calculated launch and return paths for space missions, including the first trip to the moon! Her work helped astronauts stay safe and return home.

Fun Fact: When NASA switched to using computers, John Glenn asked her to double-check the results by hand. He trusted her math more than the machine!

“Girls are capable of doing everything men are capable of doing.” – Katherine Johnson

□ [Read Her Bio \(NASA\)](#)

□ Learn to Code: Distance & Speed with Python

Let's write a program that shows how far a spaceship travels!

The formula is:

$\text{distance} = \text{speed} \times \text{time}$

Let's use Python to calculate it:

```
speed = 25000 # miles per hour
hours = 2
```

```
distance = speed * hours
print("The spaceship traveled", distance, "miles.")
```

□ Try changing the speed or time to see different distances!

□ Reflect:

- Why was it important that Katherine Johnson double-checked computer work?
 - How does math help us solve real-world problems like space travel?
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□ Try It Yourself Challenge:

Ask the user how long their trip is!

```
speed = 17000
hours = int(input("How many hours will the trip take? "))

print("At", speed, "mph, you'll travel", speed * hours, "miles!")
```

Test this in:

- [Trinket](#)

☐ Bonus Mission:

Can you make a “moon trip calculator”?

- The moon is 238,855 miles away.
- Use code to figure out how long it would take to get there at different speeds!

```
moon_distance = 238855
speed = int(input("Enter your rocket speed in mph: "))

time = moon_distance / speed
print("It will take", time, "hours to reach the moon.")
```

☐ **You’ve completed Mission 2!** Keep track of your space miles and prepare for the next coding adventure!

Trinket Guide

Teacher instructions when visiting Trinket:

No registration necessary.

1. Delete existing code.
2. Copy and paste desired code
3. Hit play button