

Base Running

Activity	Time	Description
Activity 1	45 minutes	On a baseball field, you will run from home plate around the bases in a straight line as fast as possible. Then you will try it with the circular path and compare running times. Results will be plotted on a line plot.
Activity 2	15 minutes	You will learn about how the brain changes when you learn something new.



Base Running



“Don’t be afraid to take advice, there is always something new to learn.”
– Babe Ruth

What does this quote mean to you?

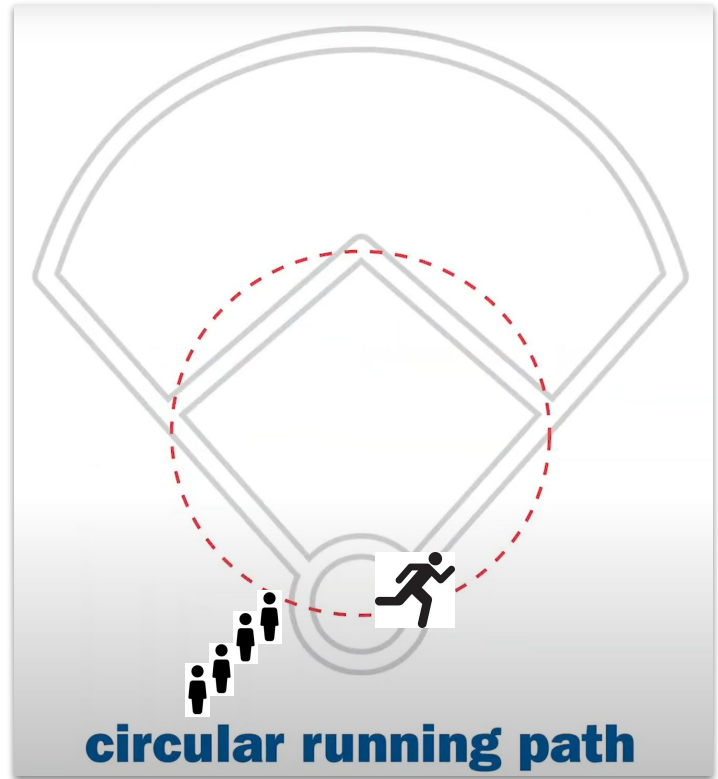
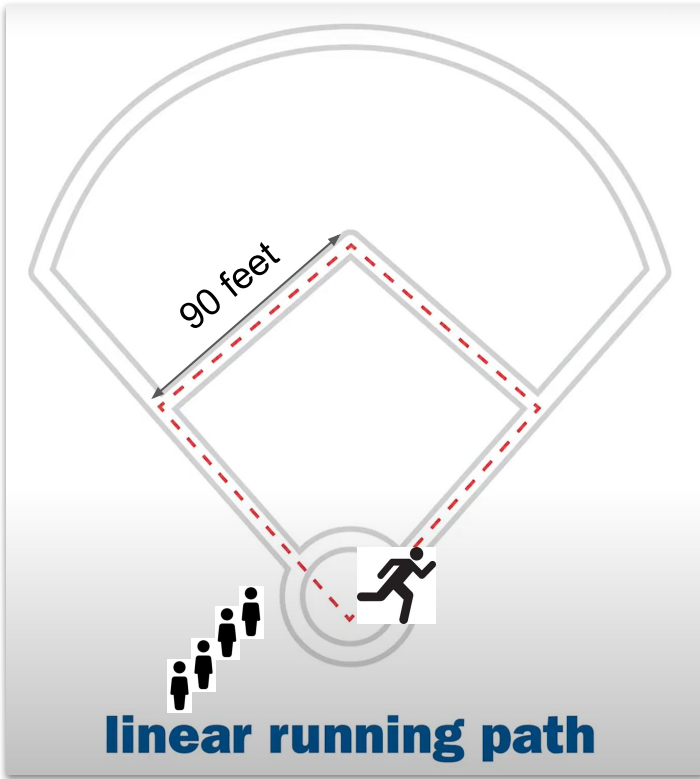
What message is Babe Ruth trying to send?

Share your experience with running bases

(In Baseball, Kickball, or Softball)



- What strategies do you use to run as fast as possible around the bases?
- What helps you go faster?
- What slows you down?



2 different paths for running the bases.

What do you notice?

Which do you think is **shorter**? Which do you think is **faster**?

VIDEO: Running bases



Introductory video (2:51):

https://www.youtube.com/watch?v=pUD4eLXrKT8&ab_channel=ScienceofSport

Leaning towards the pitcher's mound while running is like a motorcyclist leaning in at high speeds.



Groups of 3:

One person is the “RUNNER”

One person is the “TIMER”

One person is the “DATA RECORDER”

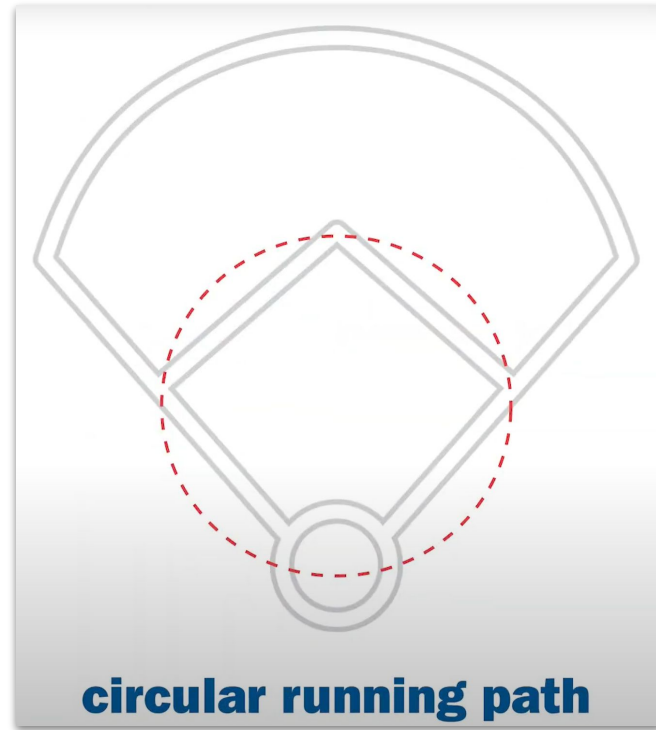
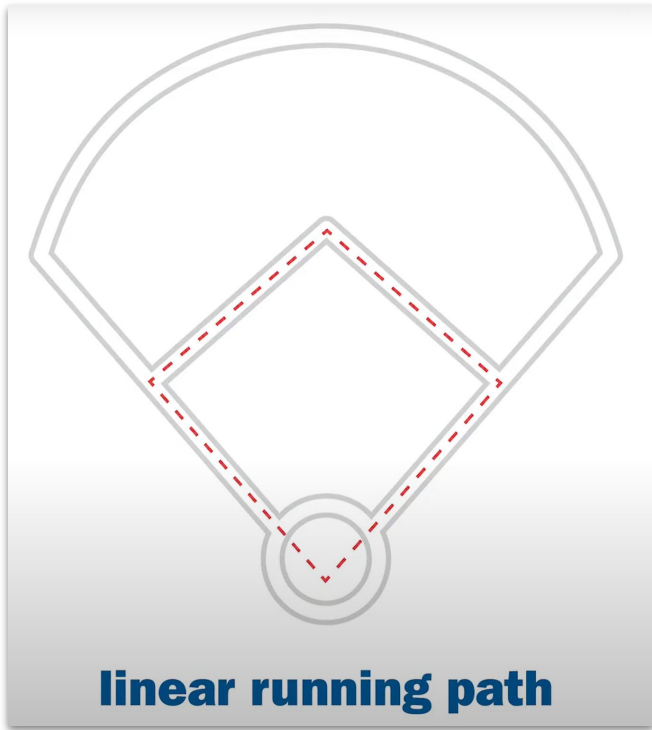
1. First, the “RUNNER” will run the bases, with a STRAIGHT LINE path.
2. Second, the “RUNNER” will run the bases, with a CIRCULAR path.
3. The “TIMER” will use a stopwatch to time the runner.
4. Third, the recorder notes running times on the worksheet.

Switch roles so everyone gets to be the RUNNER, TIMER, and RECORDER.

Base Running

Worksheet 1 - Base Running Results

Runner Name	Straight Line Path (seconds)	Circular Path (seconds)
Vanessa	22.5	18.8



What did you notice about our running times with each running path?
Which running path was the **shortest distance**?
Which running path was **faster**?

Group Line Plot of our Running Times

How should we label our line plot?

o = circular path
x = linear path

What do we notice about the data?

What patterns do you see?



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Line Plot to Represent Running Times Around the Bases

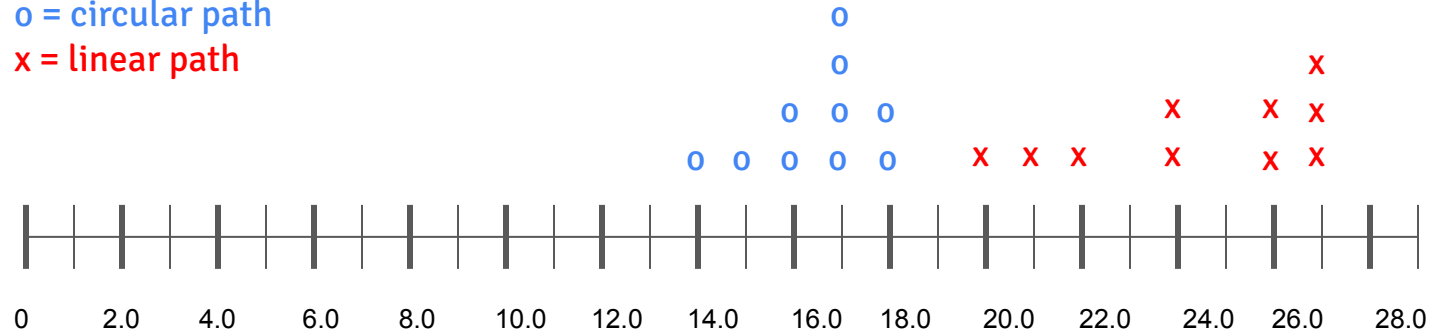
Group Line Plot of our Running Times

FOR FACILITATORS ONLY:

Sample Completed Line Plot to Represent Running Times Around the Bases

o = circular path

x = linear path

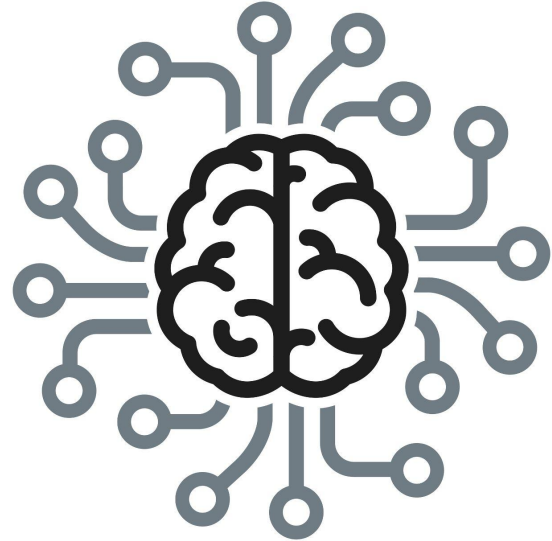




- What is a typical running time for a linear path? Circular path?
- How does a line plot help us to interpret data?

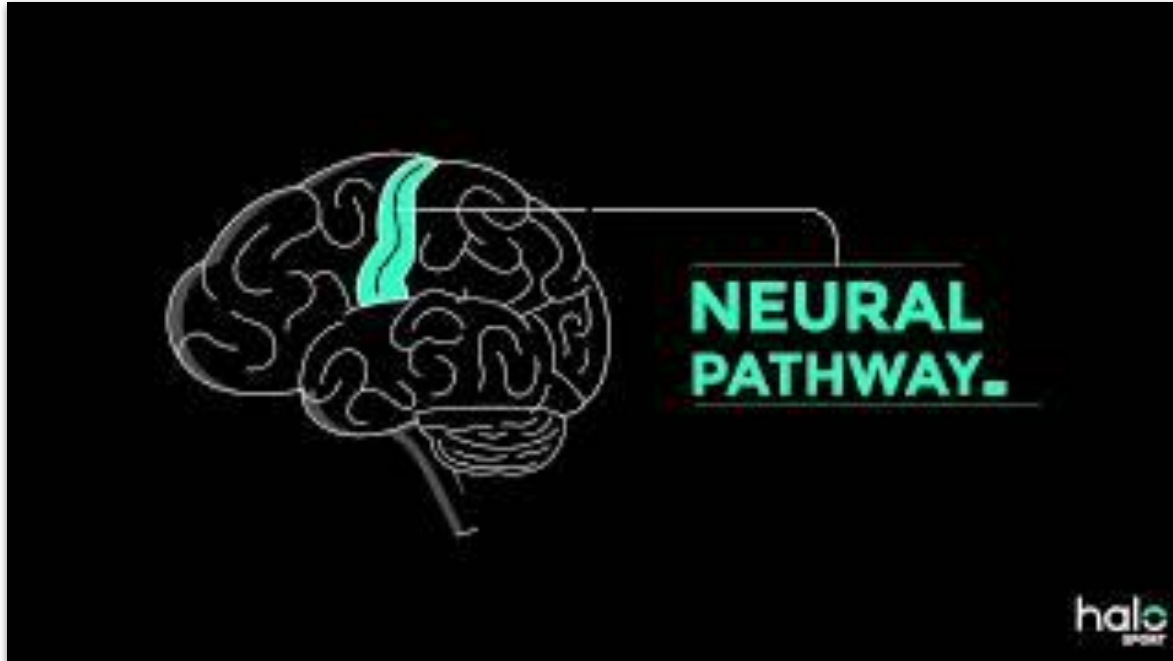
Neuroplasticity: the brain's ability to adapt and change.

When we try new things (like new running paths), the neurons in our brains continually develop and make new pathways.



What happens in our brains when we learn something new?

The Neuroscience of Learning

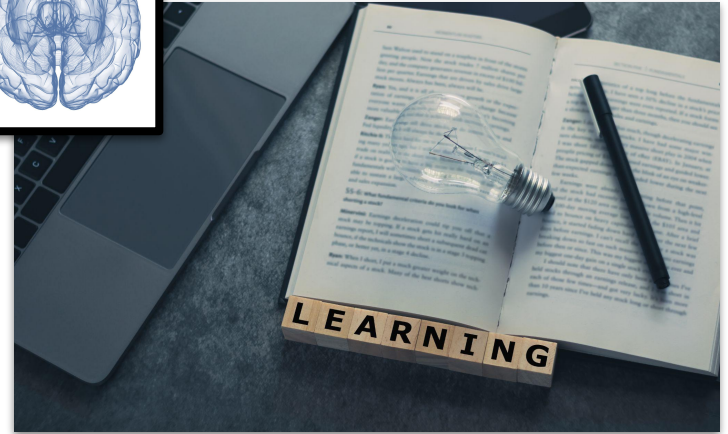
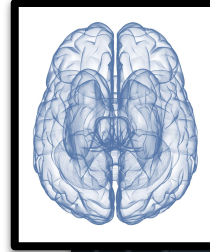


What did you discover about how our brains learn new things?

What helps you learn new things?

Think about something you had to learn to do in a new way, or a new skill you developed or a new habit you developed. What did you do to help you learn?

Draw a picture to show three things you do to help you learn new things or to help you make adjustments or changes to things that you already know. Be creative!





- Did you learn a new way to run the bases?
- How do new habits change your brain?