Kienamatics and the Microbit	Grade 11 and 12 Physics
Worksheet	

Define the following terms in your own words:

a. Displacement

1. Velocity

1. Acceleration

What is the difference between velocity and speed?

Why is it important to consider direction when measuring displacement and velocity?

Using CreateAI, you trained a model to recognize two types of motion (e.g., walking vs. jumping)
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a. What features did you use to distinguish between the motions?

b. How many samples did you collect for each motion?

c. How accurate was your model in recognizing the motions? What could improve its accuracy?

Graph the acceleration data for one of your motions.

Graph:

Use the following grid, to plot your acceleration data. Place time (seconds) on the horizontal axis (x-axis) and acceleration (m/s^2) on the vertical axis (y-axis). Fill in the cells with your data points and connect them to visualize how acceleration changes over time.

	0	1	2	3	4	5	6	7	8	9	10
20											
15											
10											
5											
0											
-5											
-10											
-15											
-20											

a. What patterns do you notice?

b. How does the graph reflect changes in velocity?

What real-world applications can you think of for this kind of motion detection?