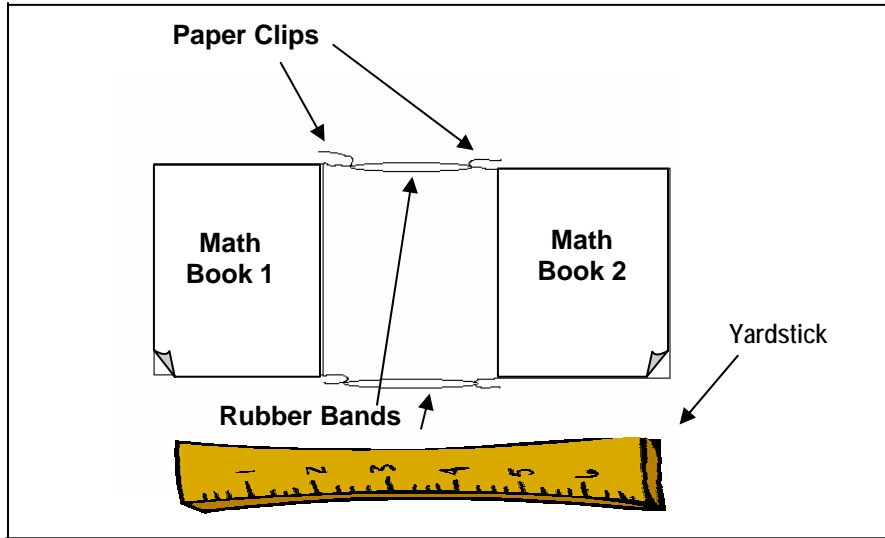


## Physics Tug of War ! Activity – Worksheet

**Newton’s 2nd Law:** The force required to move an object depends on the object’s mass.



Part 1.	One Book vs. One Book					
	Left Book			Right Book		
	Initial Position	Final Position	Distance Traveled	Initial Position	Final Position	Distance Traveled
Trial 1						
Trial 2						
Trial 3						
		Average Distance Traveled =			Average Distance Traveled =	

Part 2.	One Book vs. Two Books					
	Left Book			Right Books		
	Initial Position	Final Position	Distance Traveled	Initial Position	Final Position	Distance Traveled
Trial 1						
Trial 2						
Trial 3						
		Average Distance Traveled =			Average Distance Traveled =	

**Answer the following questions:**

1. In the first part of the activity (One Book vs. One Book), did the books travel the same distance? Why or why not?

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2. In the second part of the activity (One Book vs. Two Books), which book(s) traveled farther? Why?

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3. What does Newton's 2<sup>nd</sup> Law of Motion state?

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4. How does Newton's 2<sup>nd</sup> Law of Motion affect airplanes?

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