

# Build a Model Catapult Worksheet

**Data Table A. Mass of Projectile**

Projectile	Rubber Stopper Mass:	Cork Mass:	Observations
Trial	Distance (m)		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Avg.			

**Data Table B. Length of Lever Arm**

Projectile:	Lever Arm: cm	Lever Arm: cm	Lever Arm: cm
Trial	Distance (m)		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Avg.			

## Post-Lab Questions

1. Consider the model catapult from Part 1.
  - a. What acts as the fulcrum?
  
  
  
  
  
  
  
  
  
  
  - b. When the lever arm is released, what is the load that is being moved?
  
  
  
  
  
  
  
  
  
  
  - c. When the lever arm is released, what provides the applied force that moves the load?
2. How did the mass of the projectile affect the distance it traveled in Part IIA?
3. How did the length of the lever arm affect the distance the projectile traveled in Part IIB?
4. How does the relationship between the fulcrum and the load explain the results from Part IIB?
5. List the modifications made to the model catapult in Part III and the reason for each.
6. Explain why you chose the projectile used for the Design Challenge.
7. Which was more important in redesigning the model catapult—accuracy, precision, or both equally important?
8. Did the redesigned catapult achieve the desired results? If not, what other improvements might be made?