

a WOW Lab

BLUEPRINT

Pulleys and Mechanical Advantage

Student Handout

In the following handout, students will be required to:

- Make predictions
- Sketch the pulley system
- Reach conclusions

Provided in this document are sample answers (pages 2-3) and a blank handout (pages 4-5). The blank handout should be made available to each student prior to the activity.

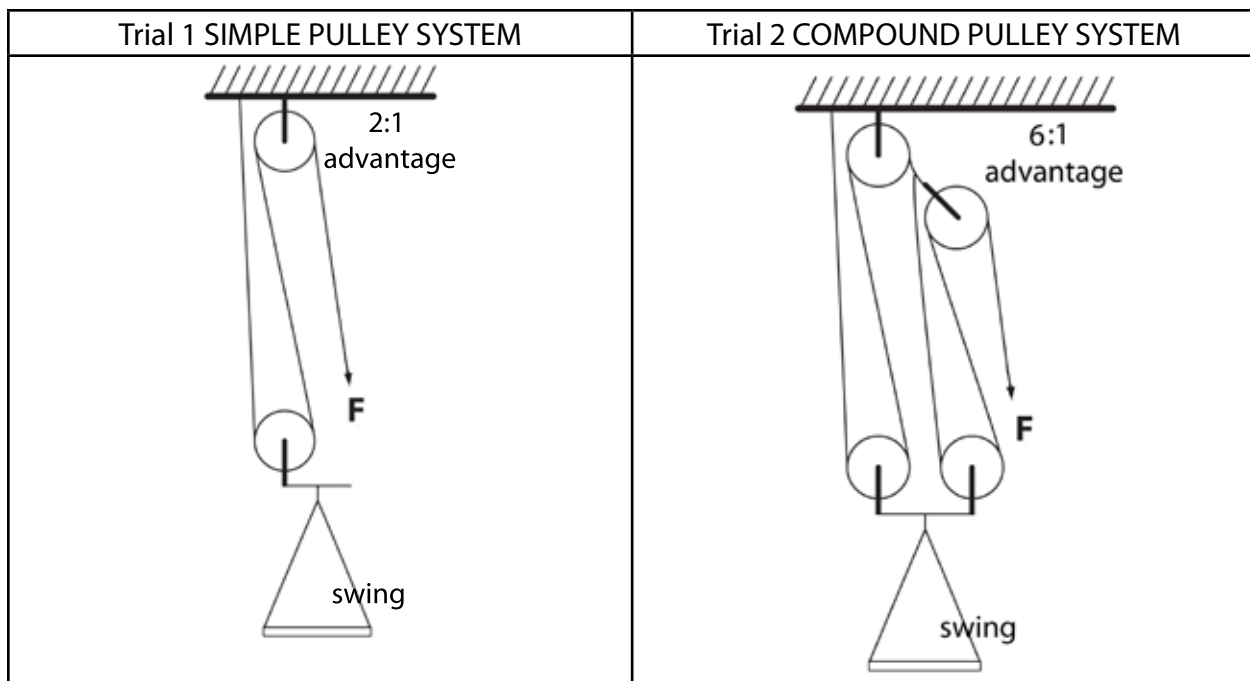
Student Handout - Answers

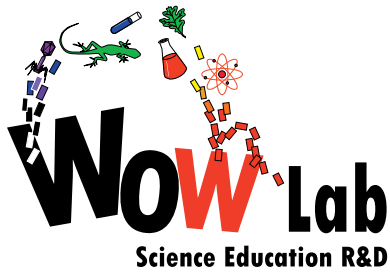
PROBLEM:

Which student in your class do you think can lift the teacher using the pulley system?

Student	Hypothesis	Explanation
Suzy	YES <input type="radio"/> NO <input checked="" type="radio"/>	Because she's the smallest in the class.
Bobby	<input checked="" type="radio"/> YES <input type="radio"/> NO	Because he plays rugby.

Draw a sketch of each pulley system.





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Pulleys and Mechanical Advantage - Handout Answers

RESULTS:

Student	Trial 1	Trial 2	Observations
	YES NO	YES NO	
	YES NO	YES NO	

CONCLUSIONS:

#1. Was your hypothesis correct? Explain why or why not.

Answers will vary.

#2. What is mechanical advantage?

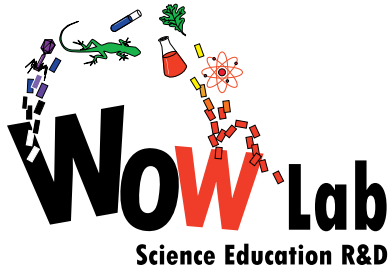
Mechanical advantage is the calculation of resistance force divided by the effort force. It makes work easier.

#3. Give an example of how mechanical advantage is important in your life.

Mechanical advantage helps with many things, such as rock climbing, building using cranes and lifting many heavy objects.

#4. Write down questions you have about the activity.

Questions will vary.



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Pulleys and Mechanical Advantage - Student Handout

Student Handout

PROBLEM:

Which student in your class do you think can lift the teacher using the pulley system?

Student	Hypothesis	Explanation
	YES NO	
	YES NO	

Draw a sketch of each pulley system.

Trial 1 SIMPLE PULLEY SYSTEM	Trial 2 COMPOUND PULLEY SYSTEM



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Pulleys and Mechanical Advantage - Student Handout

RESULTS:

Student	Trial 1	Trial 2	Observations
	YES NO	YES NO	
	YES NO	YES NO	

CONCLUSIONS:

#1. Was your hypothesis correct? Explain why or why not.

#2. What is mechanical advantage?

#3. Give an example of how mechanical advantage is important in your life.

#4. Write down questions you have about the activity.
