

a WOW Lab

BLUEPRINT

Pulleys and Mechanical Advantage

Shopping List

Many components for this activity will need to be purchased from a climbing store. A swing base can be purchased from a toy store or can be constructed from plywood. The length of the 10 mm static cord needed corresponds to the formula on page 2. The listed initial cost assumes that the activity has never been performed before and that all of the materials must be purchased. The legend below provides details of where the materials can be found:

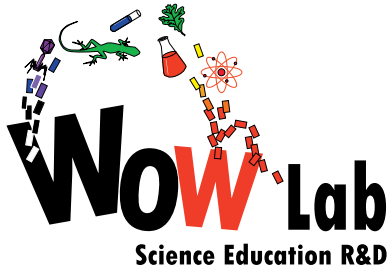
A = Arts and Crafts Store
 D = Dollar Store
 E = Educational Supplier

G = Grocery Store
 H = Hardware Store
 O = Online

P = Pharmacy
 S = Specialty Store
 U = University

REUSABLE ITEMS			
Item	Amount Required	Purchase Code	Total Cost
7 mm static cord	1.2 m	S	\$4.00
rock climbing pulley	4	S	\$40.00
load-bearing carabiner	2	S	\$20.00
1 in. webbing	enough to cover the top anchor	S	\$6.00
screw gate carabiner (quicklinks)	3	S	\$20.00
10 mm static cord	(see formula on page 2)	S	\$20.00 - \$30.00
swing base or piece of plywood and 7 mm static cord	1	S	\$20.00 - \$30.00
	1 ft. x 2 ft. x 1 in.	H	\$8.00
	2 pieces (2 m each)	S	\$4.00
scrap wood	6 in. x 2.5 in.	H	\$2.00
COST OF REUSABLE ITEMS:			\$144.00 - \$164.00

INITIAL COST: \$144.00 - \$164.00



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Tools

- drill
- ladder or step stool
- work gloves

How much rope do I need?

at least (for knots)
 $4 \times a + h + 2$
 (measured in metres)

Measurements

h – the distance from the ground to your chosen top anchor (e.g. a tree branch; should be at least 3-4 m high).

a – the length of the pulley system. Larger a means more WOW but also more rope will be needed.

b – the distance between the seat and the pulley system (about 1 m is a good estimate).

