

NASA PROJECT
(DETAILS FOR EACH CHALLENGE and GRADING RUBRIC)

LAUNCH IT: The rocket will be launched from one work bench to another. The target will be a copy paper box on the second work bench. Each team will launch their rocket 5 times. The team with the most hits on target wins.

TOUCHDOWN: Ping Pong ball must sit freely in plastic cup. They cannot be secured in any way or covered so that they do not fall out. Drops will begin at 1' and move up in 1' increments until the "astronauts" fall out. The team that has the highest drop distance will be the winner.

ROVING ON THE MOON: The rover must travel a distance of 5'. A one point penalty will be applied if it does not travel the 5'. It must be powered by a rubber band. The wheels do not have to be square. There may or may not be a small obstacle for it to travel over. The team that travels the farthest will be the winner.

HEAVY LIFTING: The crane must be able to lift the weight off the workbench without breaking. The crane that can lift the most weight will be the winner.

ON TARGET: The Zip line will be fishing line. The top end will be 5½' above the floor and the low end will be on the ground. The target will be a copy paper box approximately 5' from the top end along the floor. The zip line will be approximately 10' long. Each team will make 5 drops. The team with the most hits on target wins.

FEEL THE HEAT: The solar heater will use the sun as a light/heat source. This will be done on a sunny day during testing. Temperature change will be measured as soon as all the water is out of the tube. You need to design a way to have the water stay in the upper reservoir until testing begins. The team highest temperature change wins.

GRADING

COMPLETION OF EACH INDIVIDUAL CHALLENGE	12 POINTS
COMPLETION OF ALL CHALLENGES ON TIME	<u>4 POINTS</u>
	76 POINTS

POINTS FOR PLACE WINNERS

Place	Number of teams		
	5	4	3
1	4	4	4
2	3	3	2
3	2	2	1
4	2	1	X
5	1	X	X

Grading Example for a class with 4 teams:

All challenges completed (6 challenges x 12 points each)	72
On time (4 points)	4

Launch it	(1 st place) 4				
Touch down	(3 rd place) 2				
Roving on the moon	(2 nd place) 3				
Heavy lifting	(4 th place) 1				
On Target	(1 st place) 4				
Feel the Heat	(2 nd place) 3				
Total (Final Grade)					93

There will also be a participation grade given by the teacher that will count as a test grade. You should be working at all times in order to receive full credit. A quiz grade for participation will be given by your group members to you.