Name: Date: Class:

Rover Scientific Instrumentation Options – Math Worksheet

Instructions

The Mars rover's scientific instrumentation is used to take samples. NASA has given you a budget of $1,350,000 to build your rover. You are required to have all of the parts listed in Table 1; however, you are unable to afford all of the Scientific Instrumentation listed in Table 2. You and your engineering partner must decide what instruments you would like to include on your rover and still remain within given budget.

Table 1: Required Parts

Part	Cost
Mars Rover Body	$125,854
Robotic Arm	$55,612
Solar Panels	$62,780
Batteries	$30,492
Wheels	$42,543
Antennas	$87,345
Temperature Controls	$103,980

Table 2: Optional Scientific Instrumentation

Part	Cost
Pancam (Panoramic Camera located on the head of the Mars rover)	$182,850
Hazcam (Camera located on the front or back of the Mars rover for navigation)	$152,850
Navcam (Camera located on the of the head of Mars rover for navigation)	$152,850
Rock Abrasion Tool	$189,732
Mössbauer Spectrometer	$218,256
X-Ray Spectrometer	$226,456
Microscopic Imager	$175,463

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Budget Worksheet

Required Body Parts

1._____ $_____
2. _____ $_____
3. _____ $_____
4._____ $_____
5._____ $_____
6._____ $_____

Total Cost of Required Parts $_____

Optional Scientific Instrumentation

1._____ $_____
2. _____ $_____
3. _____ $_____
4._____ $_____
5._____ $_____
6._____ $_____

Total Cost Optional Scientific Instrumentation $_____

Total Budget for Rover Project

Total Cost of Required Parts $_____

Total Cost Optional Scientific Instrumentation $_____

Total Budget $_____

Is your Total Budget less than the budget given to you for the rover project?_____