

ROV Simulation Student Hand Out

Name: _____

Directions: Use the space below to diagram what your ROV tool will look like. Remember it should be designed so that it can acquire as many different materials as possible.

Materials needed:

Sketch of your design:

ROV Piloting Simulation

Directions: You will have 10 minutes to successfully pilot your ROV to the ocean floor, acquire your samples, and return your ROV to the surface. You may return to the surface early if you've acquired all you can. Before you start your simulation, determine who will be in what role for the simulation.

ROV Pilot Name	ROV Name

ROV First Simulation

Time Used		Number Of Materials Acquired	
Number Of Rocks Acquired		Number Of Screws Acquired	
Number Of Balls Acquired		Number Of Nuts Acquired	
Number Of Bolts Acquired		Number Of Nails Acquired	

ROV Second Simulation:

Performing 3D operations based off of a 2D view

Time Used		Number Of Materials Acquired	
Number Of Rocks Acquired		Number Of Screws Acquired	
Number Of Balls Acquired		Number Of Nuts Acquired	
Number Of Bolts Acquired		Number Of Nails Acquired	
Number Of Positions Landed On		Time It Took To Complete The Maneuvering Task	

ROV Third Simulation: 3D Mapping

Time Used		Number Of Materials Acquired	
Number Of Rocks Acquired		Number Of Screws Acquired	
Number Of Balls Acquired		Number Of Nuts Acquired	
Number Of Bolts Acquired		Number Of Nails Acquired	
Number Of Ocean Floor Mapping Images Taken			

Directions: Using the images taken and some type of image editing software such as Google Draw, Microsoft Paint, etc., combine the images to create your ocean floor map and place the image created below.

ROV Fourth Simulation: Delicate Touch

Time Used		Number Of Materials Acquired	
Number Of Rocks Acquired		Number Of Screws Acquired	
Number Of Balls Acquired		Number Of Nuts Acquired	
Number Of Bolts Acquired		Number Of Nails Acquired	
Number Of Chips Acquired		Number Of Spaghetti Noodles Acquired	

ROV Fifth Simulation: Niskin Bottles

Time Used		Number Of Materials Acquired	
Number Of Rocks Acquired		Number Of Screws Acquired	
Number Of Balls Acquired		Number Of Nuts Acquired	
Number Of Bolts Acquired		Number Of Nails Acquired	
Milliliters Of Liquid Returned Using Your Niskin Bottle			

ROV Fifth Simulation: Total Simulation

Time Used		Number Of Materials Acquired	
Number Of Rocks Acquired		Number Of Screws Acquired	
Number Of Balls Acquired		Number Of Nuts Acquired	
Number Of Bolts Acquired		Number Of Nails Acquired	
Number Of Chips Acquired		Number Of Spaghetti Noodles Acquired	
Number Of Positions Landed On		Time It Took To Complete The Maneuvering Task	
Number Of Ocean Floor Mapping Images Taken			
Milliliters Of Liquid Returned Using Your Niskin Bottle			

Reflection:

As an experienced ROV who completed all of the previous missions before attempting this final simulation, do you feel the experience you had previously made this simulation easier even when you had to perform every operation? Why or why not? Cite specific examples from this final simulation as well as previous simulations to support your claim.

Completed Ocean Floor Map From The Final Simulation

