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**Discussion Topic**


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In preparation for the "Hit the Target" challenge using lasers, every team had its own share of problems on Monday, October 3, 2005. As scientists and engineers, we are innate problem solvers. After COPYING & PASTING any three benchmarks from the three columns; lines of reasoning, failure, and interacting parts, one from each column, write down one example from your experience that illustrates what you have learned so far (in your own words). Each example you use will carry 5 points and this assignment is worth a total of 15 points. [To copy something from a table or anywhere, select what you want to copy, use Ctrl + C to COPY and Ctrl + V to PASTE into your "Compose your Reply" box].

Created By Nathan Balasubramanian  
10/04/05 05:19PM

**Messages**

<b>Hunter H.</b>	Posted 10/05/05 09:41AM Insist that the critical assumptions behind any line of reasoning be made explicit so that the validity of the position being taken - whether one's own or that of others - can be judged. 12E/H4 (SKILL) To reduce the chance of system failure, performance testing is often conducted using small scale models, computer simulations, analogous systems, or just the parts of the system thought to be least reliable. 3B/H6 Understanding how things work and designing solutions to problems of almost any kind can be facilitated by systems analysis. In defining a system, it is important to specify the boundaries and subsystems, indicate its relation to the other systems, and identify what its input and output are expected to be. 11A/H2  i have learned that when you put the batteries in wrong, the laser wont work. the laser willalso not work if the cap is not on for the batteries.
<b>Pearce C.</b>	Posted 10/05/05 09:42AM Something may not work if some of its parts are missing. 11A/P2 your flashlight will not work if there is no batteries in it.
<b>Andrew S.</b>	Posted 10/05/05 09:45AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL) Something may not work if some of its parts are missing. 11A/P2 When parts are put together, they can do things that they couldn't do by themselves. 11A/P3 I learned that you have to make sure you hold the laser still when you turn it on or you will lose your measurements.
<b>Michael P.</b>	Posted 10/05/05 09:45AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL) How do i know that the mirrors will reflect to the taget? The string is the answer. If you aim the laser along the string the laser will follow and hit the mirror you do the same thing to get the laser to bounce off the mirror to the taget.
<b>Anthony H.</b>	Posted 10/05/05 09:46AM Something may not work if sButtress their statements with facts found in books, articles, and databases, and identify the sources used and expect others to do the saThinking about things as systems means looking for how every part relates to others. 11A/M2 . . . me. 12E/E1 (SKILL)ome of its parts are missing. 11A/P2Understanding how things work and designing solutions to problems of almost any kind can be facilitated by systems analysis. In defining a system, it is important to specify the boundaries and subsystems, indicate its relation to the other systems, and identify what its input and output are expected to be. 11A/H2  the project will not work if people will not listin to you.
<b>Ryan E.</b>	Posted 10/05/05 09:46AM Offer reasons for their findings and consider reasons suggested by others.  We knew that the laser would hit the target because we used a string to show how the laser would move and lined the laser up on top of it.  Something may not work as well (or at all) if a part of it is missing, broken, worn out, or misconnected.  The laser sometimes wouldn't work for us because we didn't screw the battery cap on tight or we didn't put the batteries in the right.  When parts are put together, they can do things that they couldn't do by themselves.  We could make the lasers go in places that they weren't even pointing by using mirrors to bounce it around.
<b>Jazziel R.</b>	Posted 10/05/05 09:47AM To reduce the chance of system failure, performance testing is often conducted using small scale models, computer simulations, analogous systems, or just the parts of the system thought to be least reliable. 3B/H6 Insist that the critical assumptions behind any line of reasoning be made explicit so that the validity of the position being taken - whether one's own or that of others - can be judged. Understanding how things work and designing solutions to problems of almost any kind can be facilitated by systems analysis. In defining a system, it is important to specify the boundaries and subsystems, indicate its relation to the other systems, and identify what its input and output are expected to be.
<b>Cody C.</b>	Posted 10/05/05 09:47AM Insist that the critical assumptions behind any line of reasoning be made explicit so that the validity of the position being taken - whether one's own or that of others - can be judged.To reduce the chance of system failure, performance testing is often conducted using small scale models, computer simulations, analogous systems, or just the parts of the system thought to be least reliable. Understanding how things work and designing solutions to problems of almost any kind can be facilitated by systems analysis. In defining a system, it is important to specify the boundaries and subsystems, indicate its relation to the other systems, and identify what its input and output are expected to be. I've learned that you can't always make things you don't know about do waht you want without hard work and hard determination.
<b>Mariah G.</b>	Posted 10/05/05 09:48AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)  I asked "how do we know if the lazer will hit the target?" Then I decided that the lazer will hit the target if it followed the string. So we needed to aline the lazer directly with the string
<b>Christina G.</b>	Posted 10/05/05 09:48AM Something may not work if some of its parts are missing. 11A/P2 it was hard to aim the laser at the target because we didn't have any batteries so we weren't sure where it would hit
<b>Alahna N.</b>	Posted 10/05/05 09:48AM Something may not work as well (or at all) if a part of it is missing, broken, worn out, or misconnected. 11A/E2  our mirror wasnt put on the rihgt way so every time we tried to test it would come out all messed up
<b>Jason P.</b>	Posted 10/05/05 09:49AM Proficient Notice and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence given. 12E/M5. . . (SKILL) Systems fail because they have faulty or poorly matched parts, are used in ways that exceed what was intended by the design, or were poorly designed to begin with. 3B/M4. . . Thinking about things as systems means looking for how every part relates to others. 11A/M2 . . .  i think we failed because our string wasnt straight enough and the LAZER wasnt leveled well enough to hit the mirror in the right direction
<b>Harutyun P.</b>	Posted 10/05/05 09:51AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. Offer reasons for their findings and consider reasons suggested by others.Notice and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence given.Insist that the critical assumptions behind any line of reasoning be made explicit so that the validity of the position being taken - whether one's own or that of others - can be judged.  I have learned that sometimes if you put two things together they might work better.
<b>Adrian E.</b>	Posted 10/05/05 09:51AM When stuff is mey not work because it needs the certain part. for example if you use a tv remot control and if it doseent change the channel that means that it needs batery's.
<b>Alahna N.</b>	Posted 10/05/05 09:52AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)  I asked how do you if the laser will hit the target. then we realized that you can look on top of the laser and see if the sting lines up right.
<b>Tynan C.</b>	Posted 10/05/05 09:52AM In something that consists of many parts, the parts usually influence one another. 11A/E1 In an electricity lab the copper wires work with the batteries to make the bulb light up. Something may not work if some of its parts are missing. 11A/P2 My playstation 2 will not work if the power cord is missing. Something may not work as well (or at all) if a part of it is missing, broken, worn out, or misconnected. 11A/E2 A flashlight will not work if the bulb is missing or broken
<b>Joseph B.</b>	Posted 10/05/05 09:52AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)  I asked "how do we know that the lazer is going to hit the target?" Then i realized that if the lazer is perfectly aligned with the string that it would most likely hit the target or close to it.
<b>Bryan D.</b>	Posted 10/05/05 09:53AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. My team lined up the laser and the mirror with string and a protractor. Also, we looked right down the laser to see if it is lined up with the target right.  Something may not work if some of its parts are missing. If you did not have the switch to complete the flow of energy (in this case, batteries) the laser would not work.  When parts are put together, they can do things that they couldn't do by themselves. If you had two batteries, one switch, and one laser, they could not do much. But, if you put the batteries and the swith in the laser, the laser could shine a powerful beam of light.
<b>Michael P.</b>	Posted 10/05/05 09:53AM Something may not work if some of its parts are missing. 11A/P2 IF I DO NOT HAVE BATTORIES I CAN NOT DO MY PROJECT BECAUSE I WILL NOT BE ABLE TO AIM IT WITH THE STRING SO I HAVE TO TRAY HARDER.
<b>Christina G.</b>	Posted 10/05/05 09:53AM In something that consists of many parts, the parts usually influence one another. 11A/E1 In something that consists of many parts, the parts usually influence one another. 11A/E1 the different targets at different angles
<b>Alahna N.</b>	Posted 10/05/05 09:54AM When parts are put together, they can do things that they couldn't do by themselves. 11A/P3  the laser wouldnt be able to hit the target if you didnt have a mirror
<b>Sarah H.</b>	Posted 10/05/05 09:54AM Lines of reasoning: Notice and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence given. 12E/M5 . . . (SKILL) Example: when I researched information about my debate I had to write down where I found the information so they couldn't say that I made up the information or cheated.  Failure: To reduce the chance of system failure, performance testing is often conducted using small-scale models, computer simulations, analogous systems, or just the parts of the system thought to be least reliable. 3B/H6 Example: When I was in Science Club I used a bridge simulator and I made a bridge out of straws to test my bridge design.  Interacting parts: Thinking about things as systems means looking for how every part relates to others. 11A/M2 . . . Example: If your laser isn't hitting the mirrors then it wont hit the target, or if it isn't at the right angle.
<b>Ryan S.</b>	Posted 10/05/05 09:54AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL) We made sure the lazer hit the target by looking in the mirror and see if the lazer is lined up straight so it hit the target in the mirror Something may not work as well (or at all) if a part of it is missing, broken, worn out, or misconnected. 11A/E2 The mirror we had wasnt flat so we put it sideways so the surface of the mirror is flat. also we did level the lazer so we didnt hit the mirror or the target. To reduce the chance of system failure, performance testing is often conducted using small scale models, computer simulations, analogous systems, or just the parts of the system thought to be least reliable. 3B/H6 We used rulers and papers so the string is lined up straight.
<b>Lucas R.</b>	Posted 10/05/05 09:54AM SomeOffer reasons for their findings and consider reasons suggested by others. I helped a group hit the target 12A/EWhen parts are put together, they can do things that they couldn't do by themselves. 11A/P32 (SKILL) the battery cover heled the battery in and the laser turns on thing may not work if some of its parts are missing. The battery need to have the cover to turn on
<b>Michael P.</b>	Posted 10/05/05 09:54AM When parts are put together, they can do things that they couldn't do by themselves. 11A/P3 WITHOUT THE STRING IT WOULD BE HARD TO AIM THE LASER I NED THE RIGHT DIRECTION TO HIT THE TARGET WITHOUT THE MIRRORS HITING THE TARGET WOULDNT BE A PROBLEM.
<b>Dillon P.</b>	Posted 10/05/05 09:55AM Beginner Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL) Something may not work if some of its parts are missing. 11A/P2 When parts are put together, they can do things that they couldn't do by themselves. 11A/P3
<b>Erin K.</b>	Posted 10/05/05 09:55AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)- We were asking each other questions when we got confused and we helped each other.  Something may not work if some of its parts are missing. 11A/P2- Our laser didn't work when it had no batteries, but once we got then the laser worked.  When parts are put together, they can do things that they couldn't do by themselves. 11A/P3- Our laser couldn't work when it didn't have batteries and once we got them we were able to hit the target.
<b>April A.</b>	Posted 10/05/05 09:55AM Something may not work if some of its parts are missing. 11A/P2 Our laser didnt work when we didnt have batterys and so we couldnt see where the laser would go.  When parts are put together, they can do things that they couldn't do by themselves. 11A/P3 Just like when we didnt have batterys but when we got our batterys back we could tell where our laser was pointing more persicely.  Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL) Just like how do you know where the laser will point you need to ask questions or you will get nothing accomplished when you are stuck.
<b>Jason P.</b>	Posted 10/05/05 09:56AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)  i asked my self how do i know and then i knew because everything looked correct but it ended up not being leveled enought of hit the mirror and the target
<b>Christina G.</b>	Posted 10/05/05 09:56AM Notice and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence we thought the mirror would bounce off to a direct angle but reflected horizontile
<b>Joseph B.</b>	Posted 10/05/05 09:56AM Something may not work if some of its parts are missing. 11A/P2  The lazer may not have any batteries
<b>Joshua Seth P.</b>	Posted 10/05/05 09:57AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL) i asked how do you know the lazer will hit the target if you put a string on the ground that would act like the laser to bounce off the mirrior and look in the first mirror to see if the string leads all the way to the target then if you put the laser in the same path as the string the it will hit the target based on the path of the string
<b>Diana A.</b>	Posted 10/05/05 10:00AM Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)  I asked "how do we know that the lazrs going to hit the target?" theni thought that if you perfectly align the lazer with the string that it might hit.
<b>Joseph B.</b>	Posted 10/05/05 10:01AM When parts are put together, they can do things that they couldn't do by themselves. 11A/P3  When the lazer as batteries it can work but if it doesn't cant work.
<b>Jasna H.</b>	Posted 10/05/05 10:01AM Something may not work if some of its parts are missing. 11A/P2  Our lazer didn't work because Mr Bala took all the batteries and so we had to find the measurements without the batteries.  Something may not work as well (or at all) if a part of it is missing, broken, worn out, or misconnected. 11A/E2  If your missing the cap to put the batteries in the laser it won't work because you need to push the batteries in the spring to make it work.  When parts are put together, they can do things that they couldn't do by themselves. 11A/P3  When you don't have the batteries the laser can't do anything. And if you do have the batteries the laser would work and it would bounce off the mirror if you did the measurements correctly.  Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask them the same question. 12E/P1 (SKILL)  I know how to hit the target because my team did the measurements with the protractor and we got to hit the target. Also we used a piece of string to have the line in a stright position and I thought that was helpful.

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