

Video Quiz: Apollo 13.....Mr. Mathras.....Space Science

Make no marks on this paper.



1. What name was given to the primary spacecraft or command module (CM)?
2. What name was given to the LEM?
3. For what does "LEM" stand?
4. True or False: Apollo 13 was launched on April 13th, 1970.
5. Five and one-half minutes after liftoff the center engine in the S-II stage shut down two minutes early. With this loss of thrust, how was Apollo 13 put into orbit?
6. What routine task was Jack Swigert performing when the "explosion" occurred?
7. What was it that actually exploded on board that blew out the side of the module?
8. What gas was being vented into space as a result of the explosion?
9. At what stage in the mission did the lack of reserve oxygen supplies become a foremost problem for the survival of the crew?
10. The build-up of what gas in the LEM required immediate attention to prevent the "poisoning" of the crew?
11. Why was this gas building up in LEM, but wasn't a problem in the command module?
12. What chemical was used to remove this gas from the breathable air supply on board?
13. Why do you suppose this chemical was used to remove the poisonous gas from the air as compared to a much cheaper chemical such as $\text{Ca}(\text{OH})_2$? (Hint: Look at the elements' location on the periodic table. Which is more reactive?)
14. Name three common items that were used to assemble a makeshift adapter on board to be able to use the canister from the CM in the LEM.
15. Balance the following equation: $\text{LiOH} + \text{CO}_2 \uparrow \rightarrow \text{Li}_2\text{CO}_3 \downarrow + \text{H}_2\text{O}$
16. In which phase of matter is the CO_2 in the equation above?
17. From where on board did the CO_2 come?
18. If we breathe this gas all the time, why was it considered "poisonous" to the Apollo 13 crew?
19. In what state of matter is the Li_2CO_3 in the above reaction?
20. Considering all that went wrong with the Apollo 13 mission, how could it be considered a "successful failure?"

URL: <http://www.ksc.nasa.gov/history/apollo/apollo-13/apollo-13.html> gives mission overview.