From the Earth to the Moon Part 6: Apollo 13 – The Movie

Name	
Date	Pd

Important information from the beginning of this true story (some of which we will have skipped in the interest of time):

- Jim Lovell, Ken Mattingly, and Fred Haise, backup crew for the historic Apollo 11 mission, are bumped up to be the main crew for Apollo 13 after Alan Shepherd (first U.S. astronaut in space) is deemed unfit to command the mission due to an inner ear disorder.
- Command Module Pilot Mattingly demonstrates in Command Module Simulator (the CMS) over and over that he is a perfectionist and a very reliable pilot.
- During photo session, Lovell announces that Apollo 13 will end his astronautical career (having already been on Gemini 7 and 12 and around the moon 10 times during Apollo 8); also, the crew makes fun of #13 superstitions during the same photo session.
- Just 2 days before the launch, blood tests indicate that the crew has been exposed to the measles, eliminating Mattingly from the mission since he has never had them before. Lovell fights for Mattingly at first but is told by NASA officials that he either takes on CMP Jack Swigart from the backup crew or he will also be replaced.
- 1. What ominous thing happens to Marilyn Lovell's wedding ring on the day of the launch (it really happened!)?
- 2. What is the LEM extraction that is Swigart's first test?
- 3. What action by Swigart triggers the loud bang the astronauts hear?
- 4. Why is flight director Gene Kranz reluctant at first to have the astronauts close the reactant valves of the leaking fuel cells?
- 5. What must the astronauts do before shutting down the CM and moving into the LEM?
- 6. What are the mission's 2 choices for ways to get back to Earth?

7. Why do you think Lovell doesn't want to look down at the moon at first, especially at the mountain he named after his wife on the Apollo 8 mission?

- 8. What does John the engineer reveal they have totally miscalculated about the crew's return home?
- 9. What is Mattingly trying to find out in the Lunar Module Simulator back in Houston?
- 10. What did Lovell mean when he said "we just put Isaac Newton in the driver's seat"?
- 11. Why must the NASA engineers figure out how to put a "square peg in a round hole"?
- 12. Why is another burn of the LEM's engines required (hint: Swigart's suspicions were correct)?
- 13. To fire the rockets to fix the above problem, what does Lovell use instead of the computer's assistance?
- 14. Where do they get extra electrical energy from to successfully restart the command module for re-entry?
- 15. Why is the command module underweight as they approach Earth?

16. As they prepare for re-entry, what does NASA fear may have also been damaged by the explosion on the service module and how does this add to the drama of the story?