

## Apollo 13 Study Guide

The opening scene of movie Apollo 13 is where what movie (released in 1983) ends?

What famous newscaster—whose nickname was “Uncle Walt” who was voted the most trusted man in the USA numerous time--does everyone choose to watch at Neil Armstrong walk on the moon at Jim Lovell’s moon-walk party?

What does Ken Mattingly say to Fred Haise about their chances of getting to the moon at the party?

What does Marilyn Lovell suggest they do instead of cleaning up the house?

What was Jim Lovell doing when he was holding up his thumb eclipsing the moon?

What does Jim Lovell mean by the statement, “It’s not a miracle, we just decided to go.”

How many times had Jim Lovell flown? What flights?

Who said, “Give me a lever long enough, and I’ll move the world”?

While giving a senator a tour of the VAB, Jim Lovell replies he’s scheduled for Apollo 14. When is the senator’s response to this?

What is the one of the most frequently asked questions of astronauts about their space flights?

Deke Slayton, who was in charge of flight assignments, was one of the original 7 astronauts called the \_\_\_\_\_.

What caused Jim Lovell’s crew to get bumped up into Apollo 13?

While explaining how they are going to get to and land on the moon, Jim Lovell’s young son asks his dad if he knew the astronauts in the fire. Why?

What does Jim Lovell say went wrong with the fire?

What was the sports car of choice of the Mercury 7 astronauts?

Marilyn Lovell has anxieties about the flight, not all of which are superstitious in nature. When she intimates she is thinking of not attending the launch because of the kid’s school schedule, what is Jim Lovell’s response?

What does Jim Lovell do to taunt his wife’s imagination to motivate her to go to the launch?

During the pre-launch interview/photo session, the astronaut team jokes around making light of the situation until a reporter asks Jim Lovell “Does it bother you that public regards the mission as routine?” How does Jim Lovell respond?

Why was Jack Swigert bumped up from the backup to the prime crew days before the launch?

Who is Gunter Wendt?

Ron Howard was lambasted by film critics for including a scene where Marilyn Lovell drops her wedding ring down the shower drain as cheap dramatization. Was their criticism valid?

What are the silver cases the astronauts carry from the van on their way to rocket?

What tradition does Gene Kranz have before the launch?

The movie shows Ken Mattingly getting out of his yellow Corvette to watch the launch. What is unrealistic about this scene?

What does Jim Lovell mean when he says “A few bumps, and we’re hauling the mail!”

The movie shows the swing arms of the launch tower releasing their grip arm by arm. Is this authentic?

The flame of the launch appears to be sucked back into the launch pad as the rocket lifts off the pad. Why?

The movie shows the clock running on the rocket with green LED’s. What’s not authentic about that?

Bits of ice fall off the rocket as it clears the tower. What causes so much ice to form on the surface of the rocket before launch?

Although not shown in the movie, huge amounts of water are sprayed on the flames as the rocket launches from the pad. Why do you think this is done?

The Saturn V rocket is 351 feet tall and assembled in the Vertical Assembly Building (VAB) and then transported to the umbilical tower via a crawler-transporter. What holds the rocket to the crawler?

Shortly after launch the rocket begins to pitch sideways as it rises. Why?

During the launch, Lovell admonishes his fellow astronauts for “al little jolt”. What causes the jolt?

What is the purpose of “LES Motor Fire”?

What happens to the center engine (#5)? Was this common?

When does weightlessness begin after launch?

Why do the astronauts remove their helmets as soon as they are in orbit?  
How did the moviemakers create the illusion of “zero g”?

What did Fred Haise's young son have to say about the launch?

Marilyn Lovell has been through this before—this is her 4<sup>th</sup> launch and she knows the importance of telling the press what they want to hear. What words of advice does Marilyn Lovell give Mrs. Haise?

What happens to Fred Haise's breakfast shortly after being orbit?

What is a BarBQ roll? Why is it necessary?

What famous rock group broke up at this period of time?

Why was the broadcast of Apollo 13 not aired on networks TV?

When Jim Lovell's mother can't find her son on TV, she blames it on the \_\_\_\_\_.

When \_\_\_\_\_ comments "That's no joke—they'll jump on him—" what governmental agency is he referring to?

Who is asked by ground control to stir the oxygen tanks?

What does an instrument failure mean?

What do the bangs and shimmy's indicate to ground control?

One possible explanation for the malfunctioning craft is that it was hit by a meteor. Why did Lovell *immediately* rule out that possibility?

Of all their problems their controls and switches indicated they had, nothing compared to "something venting into space . . ."

What is the consequence of shutting down the fuel cells?

How long does it take to power-up the LEM by the book? How long will their oxygen last in the Command Module?

What is a slide rule?

When her young son asks why there are so many people at their house, she tells him something has gone wrong with his daddy's spaceship. He immediately asks, "Is it the \_\_\_\_\_?"

What was the name of the LEM?

What was the name of the Command Module?

Why was the name for the Command Module chosen?

Since the Command Module had to be shut down, they had to use the LEM as a life raft. Even so, it was necessary to conserve enough power to make it back home and had to cut

back power consumption on the LEM to the bare minimum. They even had to shut down their computer. What did Jim Lovell mean when he said “We just put Sir Isaac Newton in the driver’s seat.”

Without power, the spacecraft got pretty cold—about 38 degrees—just a few degrees above freezing. To make matters even worse, Fred Haise developed a \_\_\_\_\_

When their CO<sub>2</sub> levels began to rise to unsafe levels, they had to mate a pair of CO<sub>2</sub> scrubber together. What was the problem mating them?

What did Jim Lovell mean when he asked Ken Mattingly “Are the flowers blooming in Houston?”

What did Jim Lovell’s mother, Blanch, have to say about her son’s ability as a pilot when informed her son and his crew may be in danger?

In order to get back to earth; they had to make a mid-course correction by firing the engine on LEM, which was designed to land on the moon. What did the astronauts use to maintain the correct orientation of the spacecraft during this manual burn?

Jim Lovell’s cockpit lights shorted out on his jet fighter when he was trying to land on an aircraft carrier in the Sea of Japan. The landing lights on the carrier were off. What enabled Lovell to land the jet?

Jack Swigert states powering up the Command Module is “like driving a toaster through a car wash. “ Why caused Swigert to say that?

Just before re-entry the, the astronauts are asked to transfer ballast into the Command Module because a lack of weight was causing them to come in shallow on the entry corridor. What caused the spacecraft to be light?

Where did Lovell’s son, Jay, hold vigil as his dad re-entered the atmosphere?

As if anything that could go wrong did go wrong, what happened to the weather site as they were about to land?

When they jettisoned the Service Module, they saw the one entire side of the spacecraft had been blown off. It was then they realized how fortunate they were. When Jack Swigert was asked to jettison the LEM, Jim Lovell noticed a piece of paper with the word “NO” scribbled on it taped to the switch. Why did Swigert put the note on the switch?

What was the name of the recovery ship?

The entry “interface” is when the space capsule encounters the earth’s atmosphere. The speed at that point entry was 35,245 ft/s. How many miles per hour is that?

What causes the radio blackout during re-entry

Did Fred Haise fly again after Apollo 13?

After the mission, what happened to Jack Swigert?

Did Ken Mattingly ever contract the measles?

Did Ken Mattingly ever fly again?

**Student Response:** What did you like best about the film? The least?

## Extra for Experts

The stars of Apollo 13:

Tom Hanks portrays –

Bill Paxton portrays –

Ed Harris portrays –

Gary Sinise portrays –

Kevin Bacon portrays –

Kathleen Quinlan portrays –

Clint Howard (younger brother of Ron) portrays –

Jim Lovell portrays –

Marilyn Lovell portrays –

Jean Speegle Howard portrays –

Who is the producer of Apollo 13?

Who is the director? (Hint: He portrayed the 12 year-old “Opie” on the Andy Griffith Show.)

What movie was nominated for 9 Academy Awards—more than any other film the director in his (directing) career?

What movie won Best Picture from the Academy Awards that year (1995)?

What Academy awards did Apollo 13 win?

The main theme of the musical score features a trumpet solo. Who is plays the trumpet?

What three astronauts perished in the fire (they were burned alive in 30 seconds) in what then was the plugs-out test and is now known as Apollo 1?

- 1.
- 2.
- 3.

What was the chief complaint registered by Gus Grissom during the test?

Although frayed wiring probably triggered the fire, what made the fire so intense?

How long did the astronauts survive inside the spacecraft once the fire started?

What caused the astronauts to be trapped inside Apollo 1?

How long did it take the ground crew to get the hatch open?

Even if the latch on the hatch door had not been jammed, why would it have been impossible for the crew of Apollo 1 to open it?

What was the ground crew's biggest concern when the fire broke out?

Name at least 5 redesign-improvements that were made to the Apollo Command module by the next manned flight (Apollo 7)?

- 1.
- 2.
- 3.
- 4.
- 5.

What date did the fire occur?

By this time, the Russians (actually the former Soviet Union) had dropped out of the space race. Why?

Many people thought the Apollo 1 fire was the end of the space race itself and that America would never go to the moon. However, manned flights resumed with the launch of Apollo \_\_\_\_\_. The first moon-landing mission was attempted with the launch of Apollo \_\_\_\_\_ just \_\_\_\_\_ months after the fire.

Apollo 11 landed on the moon on July \_\_\_\_\_, \_\_\_\_\_.

The EVA, an acronym for \_\_\_\_\_, took place about 6 hours later on July \_\_\_\_\_, \_\_\_\_\_.

The first man to walk on the moon was \_\_\_\_\_. The second was \_\_\_\_\_.

One of the most famous photographs taken on the first moon-walk was taken of \_\_\_\_\_. This photo was taken by \_\_\_\_\_, who can clearly be seen in the reflection of the sun-visor of the astronaut's helmet.

How many parabolas did it require for the KC-135 to make this film?

About how many flights were required to make this film?

How many does the average astronaut fly training for a space shuttle flight?

Did Marilyn Lovell retrieve her wedding ring (in real life)?

Was any original footage of Apollo 13 used in the movie (excluding newscasts on TV)?

What is CGI?

List the scenes you think used CGI:

