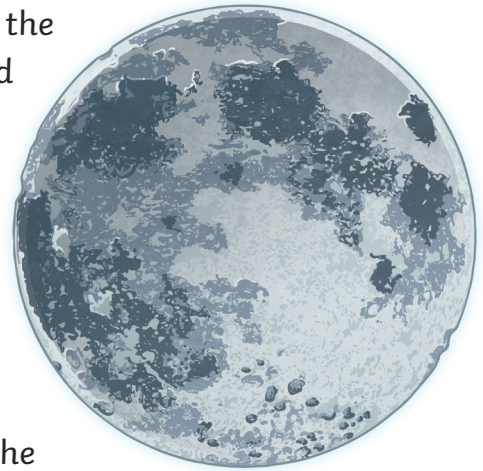


# Apollo 13

The mission of NASA's Apollo 13 was to reach the moon. The mission failed, but it taught NASA and the world important lessons about team work and never giving up.

## Blast Off

On April 11<sup>th</sup> 1970, Apollo 13 blasted off from the Kennedy Space Centre in Florida, USA. There were three crew onboard, James Lovell, Fred Haise and John Swigert. Lovell had already been to the moon. He was the most experienced of all the crew.



There was bad luck from the beginning. One of the original pilots was replaced only two days before blast-off. This was because he had been exposed to a virus. NASA couldn't risk any of the crew getting ill in space.

The Apollo 13 was made up of two different spacecraft, the Odyssey and the Aquarius. They were connected by a tunnel. Odyssey was the main spacecraft and where the crew lived. The Aquarius was much smaller. It was for landing on the moon.

Apollo 13's mission was to investigate the surface of the moon by taking photographs and getting samples of the moon's surface. The crew were also going to film videos for television. Everything went well at first.

## An Explosion

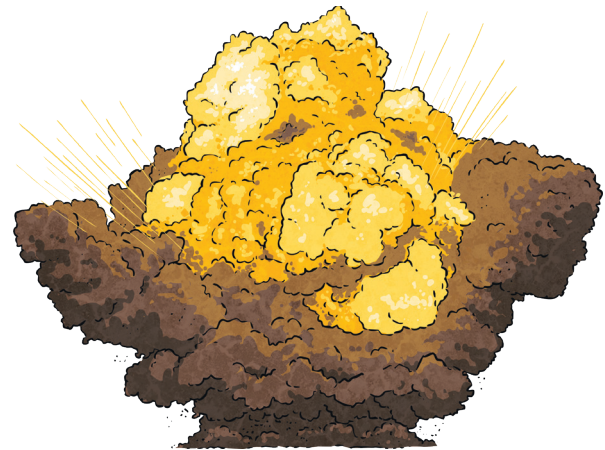
On the evening of 13<sup>th</sup> April, disaster struck. An explosion rocked the spacecraft. Swigert reported the explosion to mission control in Houston, exclaiming, "Houston, we've had a problem here."

An oxygen tank had exploded and caused serious damage. From the window, the astronauts could see gas escaping into the atmosphere. This gas was oxygen.

Apollo 13 was in great danger. The crew were stranded in space with a damaged spacecraft.

It would take a huge amount of teamwork and bravery to get the crew safely home.

The crew moved into the smaller Aquarius. It became their lifeboat. Odyssey was shut down to try and save as much power as possible for the journey home to Earth.



### Life Onboard

Life in space was very difficult for the crew. All power was turned off, except for the essential systems. This made the spacecraft extremely cold. Water and food were rationed. The crew were cramped and couldn't sleep.

The crew felt anxious, but they were supported by mission control, who were working hard to rescue them. They had to work as a team, despite the distance between them.

To get back to Earth, the crew had to return to Odyssey. They hoped there was enough power left to get them home.

### Returning Home

On 17<sup>th</sup> April, the Apollo 13 crew splashed into the Pacific Ocean. Millions of people watched on television as they landed. The whole world celebrated the crew's safe return.

Apollo 13 is thought of as a 'successful failure' for NASA.

Although the mission failed to reach the moon, the crew returned home safely.

Apollo 13 showed the world that by working together, even when miles apart, any problem can be solved.



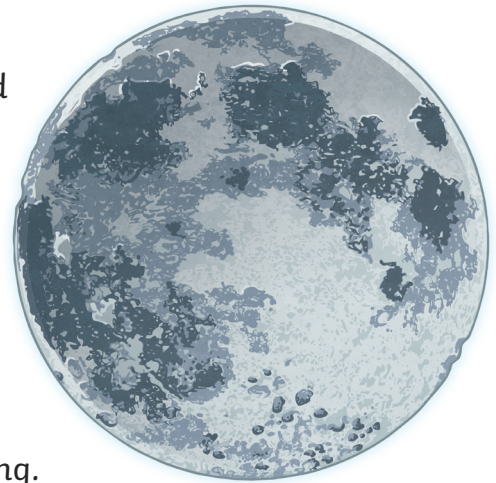
# Apollo 13

## Blast Off

On April 11<sup>th</sup> 1970, three astronauts climbed onboard the Apollo 13. They blasted off from the Kennedy Space Centre in Florida, USA.

The crew was made up of mission commander James Lovell and pilots, Fred Haise and John Swigert. Lovell had already been to the moon and was the most experienced on board.

The mission suffered bad luck from the beginning. One of the original pilots was replaced by Swigert just two days before blast-off. This was because he had been exposed to a virus. NASA couldn't risk any of the crew getting ill in space, so Swigert had only a couple of days to be ready for the mission.



## Odyssey and Aquarius

The Apollo 13 was made up of two different spacecraft, the Odyssey and the Aquarius. They were connected to each other by a tunnel. Odyssey was where the crew lived. The Aquarius was designed for landing on the moon.

The mission was to explore the surface of the moon by taking photographs and getting samples of the moon's surface. The crew were also going to film videos in space for television.

## An Explosion

On the evening of 13<sup>th</sup> April, disaster struck. An explosion rocked the spacecraft. Swigert reported the explosion to mission control in Houston. He exclaimed, "Houston, we've had a problem here."

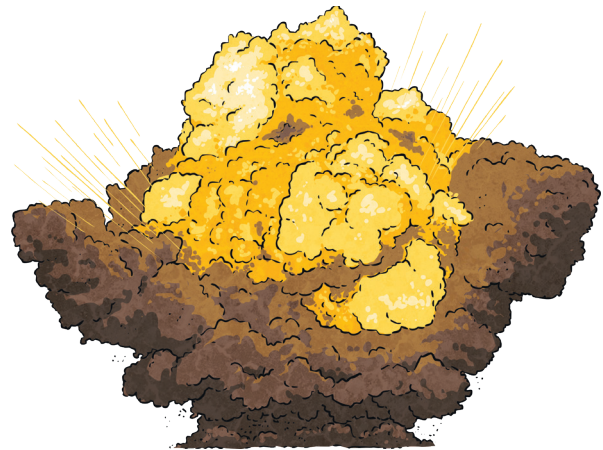
An oxygen tank had exploded and caused serious damage. From the window, the astronauts could see oxygen escaping into the atmosphere.

The astronauts would need to be calm and brave even if they were scared.

They would need to not give up and be resilient. They would also need to be able to work in a team and help each other.

### **Difficult Conditions Aboard**

Life in space was very difficult for the crew. All power was turned off, except for the radio to mission control. This made the spacecraft extremely cold and caused condensation.



Water and food were strictly rationed. The cramped conditions made it hard for the crew to sleep as they couldn't lie down.

The crew were anxious but they felt supported by mission control. Mission control worked hard to rescue them.

Sadly, it was discovered that the spacecraft had too much carbon dioxide. Mission control helped the crew to build a special filter to fix the problem. They used some of the items they had onboard, including plastic bags, cardboard and a sock.

### **Returning Home**

To return to Earth, the crew had to return to the Odyssey. They hoped there was enough power to get them home.

On 17<sup>th</sup> April, the Apollo 13 crew splashed into the Pacific Ocean, near Samoa. Millions of people followed the Apollo 13's journey and watched on television as the crew landed. The whole world celebrated their safe return.

Apollo 13 is thought of as a 'successful failure' for NASA.

Although the mission failed to reach the moon, the crew returned home safely, making it a huge success.

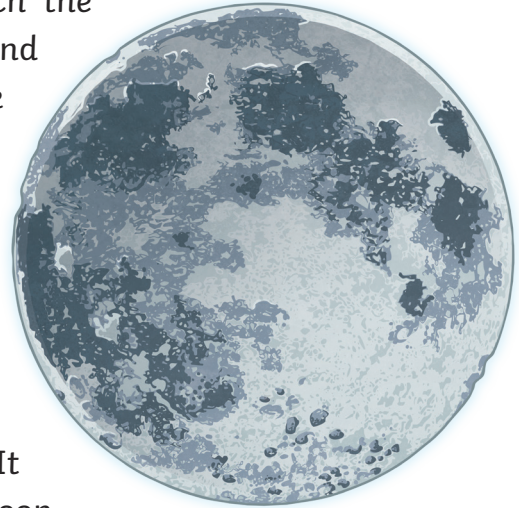
Apollo 13 showed the world that by working together, even when miles apart, any problem can be solved.

# Apollo 13

The mission of NASA's Apollo 13 was to reach the moon. The mission failed, but it taught NASA and the world important lessons about team work and never giving up.

## Blast Off

On April 11<sup>th</sup> 1970, three astronauts climbed onboard the Apollo 13, blasting off from the Kennedy Space Centre in Florida, USA. The crew was mission commander James Lovell, as well as pilots Fred Haise and John Swigert. It was Haise and Swigert's first mission to the moon, whereas the experienced Lovell had been once before.



The mission suffered bad luck even before Apollo 13 was launched. One of the original pilots was replaced by Swigert just two days before blast-off. This was because he had been exposed to a virus. NASA couldn't risk any of the crew getting ill in space, so Swigert had only a couple of days to be ready for the mission.

The Apollo 13 was made up of two different spacecraft, the Odyssey and the Aquarius. They were connected by a tunnel. Odyssey was the spacecraft with the crew's living area and the main controls. The Aquarius was smaller. It was designed for two crew members to land on the moon.

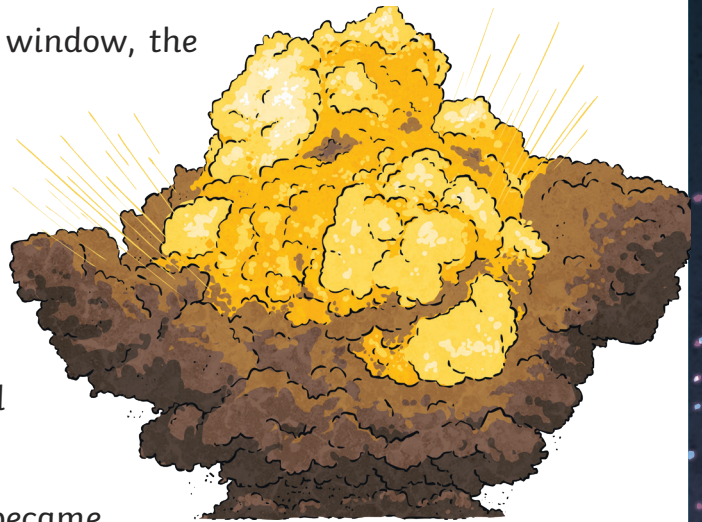
After launch, the Apollo 13's journey seemed to be progressing perfectly. Their mission was to explore the surface of the moon by taking photographs and getting samples of the moon's surface. The crew were also going to film videos for television.

## An Explosion

On the evening of 13<sup>th</sup> April, disaster hit the Apollo 13. An explosion rocked the spacecraft. Swigert reported the explosion to mission control in Houston, exclaiming, "Houston, we've had a problem here." An oxygen tank had exploded

and caused serious damage. From the window, the astronauts could see gas escaping into the atmosphere. This gas was oxygen.

The explosion changed Apollo 13's story into a rescue mission. The crew were stranded in space with a damaged spacecraft. It would take an immense amount of teamwork and resilience to get the crew safely home.



The crew moved into Aquarius, which became a lifeboat for them. Odyssey was shut down to try and conserve as much power as possible for the journey home to Earth.

To return home, the crew had to run the spacecraft for just enough time to direct it to Earth. The timing had been carefully calculated by both mission control and the crew. If they were even a few seconds wrong, Apollo 13 would miss the Earth by thousands of miles. Everyone was relieved when the plan worked.

### **Difficult Conditions Onboard**

Life in space was very difficult for the crew. All power was turned off, except for vital systems, which made the spacecraft extremely cold and caused condensation. Water and food were strictly rationed. It was so cramped and cold that it was difficult for the crew to sleep.

The crew were anxious, but felt supported by mission control, who were working hard to rescue them.

Unfortunately, soon there was another problem. Too much carbon dioxide had built up and the spare filters that they had were not the right shape. Mission control helped the crew build a new filter to fix the problem, using things available on board, including plastic bags, cardboard and a sock.

To return into the Earth's atmosphere the crew moved back into Odyssey. They hoped there was enough power to get them home.

### **Returning Home**

On 17<sup>th</sup> April, the Apollo 13 crew splashed into the Pacific Ocean, near to Samoa. Millions of people around the world watched the Apollo 13's journey and saw the crew land on television. The world celebrated the crew's safe return.

Apollo 13 is regarded as a 'successful failure' for NASA. The mission failed to reach the moon, but the crew returned home safely, making it a huge success. Apollo 13 showed the world that by working together, even when miles apart, any problem can be solved.



# Apollo 13 Questions

1. Where did the Apollo 13 blast off from? Tick one.

- Kennedy Space Centre
- Houston Space Centre
- Washington Space Centre
- New York Space Centre

2. Number the events below to show the order in which they happened to the Apollo 13.

- There was an explosion in an oxygen tank
- Apollo 13 blasts off on April 11<sup>th</sup> 1970
- The crew land in the Pacific Ocean
- The crew radios mission control to report a problem
- The astronauts are stranded in space

3. Three crew members were onboard Apollo 13. Which had already been to the moon?

- Fred Haise
- John Swigert
- James Lovell

4. Where was Aquarius meant to land in space?

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5. What did the crew radio to mission control when the explosion happened?

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6. Find and copy one word that shows someone is feeling worried.

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7. People have many different qualities, for example, they might be tall, short, serious or cowardly. What qualities do you think the astronauts needed to help them through the scary situation onboard the Apollo 13? Explain why the qualities you have chosen would have been helpful.

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# Apollo 13 Answers

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- John Swigert
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4. Where was Aquarius meant to land in space?

**On the moon**

5. What did the crew radio to mission control when the explosion happened?

**"Houston, we've had a problem here."**

6. Find and copy one word that shows someone is feeling worried.

**anxious**

7. People have many different qualities, for example, they might be tall, short, serious or cowardly. What qualities do you think the astronauts needed to help them through the scary situation onboard the Apollo 13? Explain why the qualities you have chosen would have been helpful.

**The astronauts would need to be calm and brave, even if they were scared. They would need to not give up and be resilient. They would also need to be able to work well in a team and help each other.**

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- The crew splash land in the Pacific Ocean
- The crew radios, "Houston, we've had a problem here."
- The astronauts have to crawl into Aquarius

3. What were conditions like on board Aquarius? Tick two

- warm
- cold
- luxurious
- cramped

4. Match up the sentences

The Apollo 13 ●

Mission control ●

The astronauts ●

● were in touch with the crew from Earth

● could see oxygen escaping into space

● was a mission to the moon

5. Fill in the missing words.

Apollo 13 is thought of as a successful \_\_\_\_\_ for \_\_\_\_\_.

6. Where is NASA's mission control based?

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7. How do you think the crew felt when they saw oxygen escaping into space?

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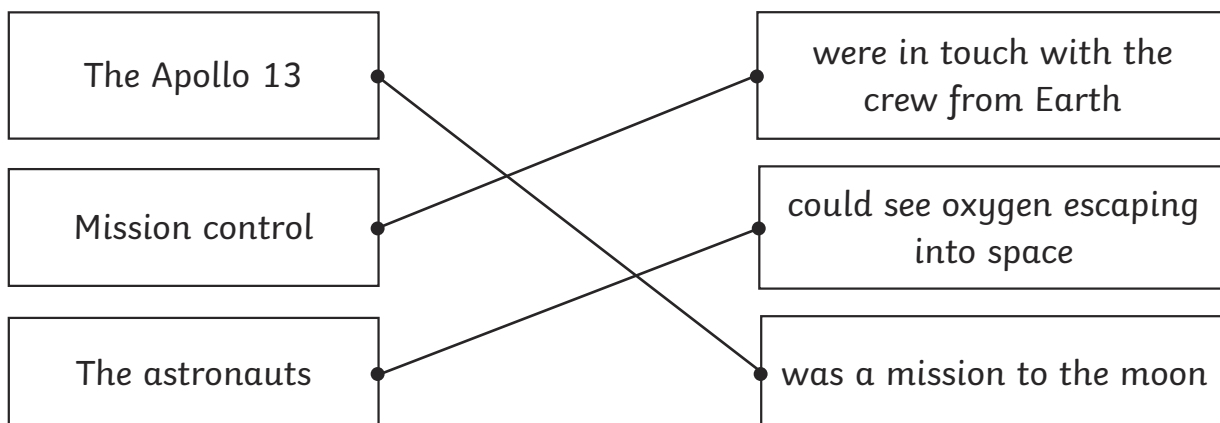
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5. Fill in the missing words.

Apollo 13 is thought of as a successful **failure** for **NASA**.

6. Where is NASA's mission control based?

**Houston, USA**

7. How do you think the crew felt when they saw oxygen escaping into space?

**They felt very frightened because humans need oxygen to survive. There is no oxygen in space, so the crew needed the oxygen in the tanks.**

8. People have many different qualities, for example, they might be tall, short, serious or cowardly. What qualities do you think the astronauts needed to help them through the scary situation onboard the Apollo 13? Explain why the qualities you have chosen would have been helpful.

**The astronauts would need to be calm and brave even if they were scared. They would need to not give up and be resilient. They would also need to work well in a team and help each other.**

# Apollo 13 Questions

1. Number the events below to show the order in which they happened to the Apollo 13.

- There was a sudden explosion in one of the oxygen tanks
- The astronauts have to crawl into Aquarius
- Apollo 13 blasts off on April 11<sup>th</sup> 1970
- The crew splash land in the Pacific Ocean, near Samoa
- Oxygen is seen escaping into space
- The crew radios mission control to report a problem

2. Where did NASA launch the Apollo 13 from? Tick one.

- Kennedy Space Centre, Florida
- Houston Space Centre, Florida
- Washington Space Centre, Florida
- New York Space Centre, Florida

3. Name the two different spacecraft that made up Apollo 13.

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4. Find and copy one word that means something is essential.

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5. What did the crew radio to mission control at the time of the explosion?

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6. How do you think the crew felt when they saw oxygen escaping into space outside their window? Explain your answer.

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7. Millions of people watched the Apollo 13 splash land in the Pacific Ocean on television. Why do you think they were so interested in the Apollo 13 story? Explain your answer.

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- New York Space Centre, Florida

3. Name the two different spacecraft that made up Apollo 13.

**Odyssey and Aquarius**

4. Find and copy one word that means something is essential.

**vital**

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6. How do you think the crew felt when they saw oxygen escaping into space outside their window? Explain your answer.

**They felt very frightened because humans need oxygen to survive. There is no oxygen in space, so the crew needed the oxygen in the tanks.**

7. Millions of people watched the Apollo 13 splash land in the Pacific Ocean on television. Why do you think they were so interested in the Apollo 13 story? Explain your answer.

**People might have been worried about the crew as they were stranded in space. Space travel is very exciting and people would want to watch and make sure the crew made it home safely.**

8. People have many different qualities, for example, they might be tall, short, serious or cowardly. What qualities do you think the astronauts needed to help them through the scary situation onboard the Apollo 13? Explain why the qualities you have chosen would have been helpful.

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