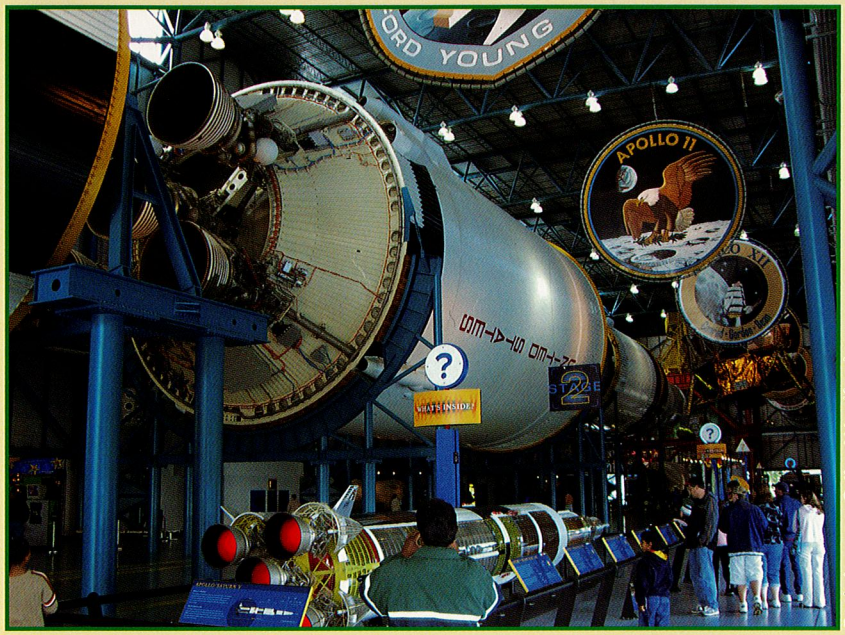
Moon Missions

On display at the Kennedy Space Centre in Florida, USA, you can see various sections of the Saturn V rocket used by the National Aeronautics and Space Administration (NASA) to power the Apollo moon missions. The photographs show a first stage that was used for tests and the second and third stages of a rocket.

In order to escape the Earth's gravity, the thrust provided by the Saturn V was enormous. The engines of the first stage burned 2000 tonnes of fuel for 2.5 minutes to lift the rocket to an altitude of 61 kilometres. By this time it was travelling at 8600 kilometres per hour. The second stage then took over. Its engines burned for six minutes, increasing the altitude to 185 kilometres and the speed to 24 600 kilometres per hour.



Both images © Jim Woolford

The final stage took the spacecraft into orbit after another burn that lasted 2.5 minutes. The craft was then ready to approach the moon.

DO IT

1. What does the 'V' stand for in Saturn V?
2. How many engines are used to power the first stage of the Saturn V?
3. What is the shape of each of the engines?
4. Describe the shape in which the five engines are arranged.
5. From the information above, approximately how long did it take to put the spacecraft into Earth's orbit?
6. In Greek Mythology, who was Apollo?

Identifies and constructs 3D objects from photographs and descriptions

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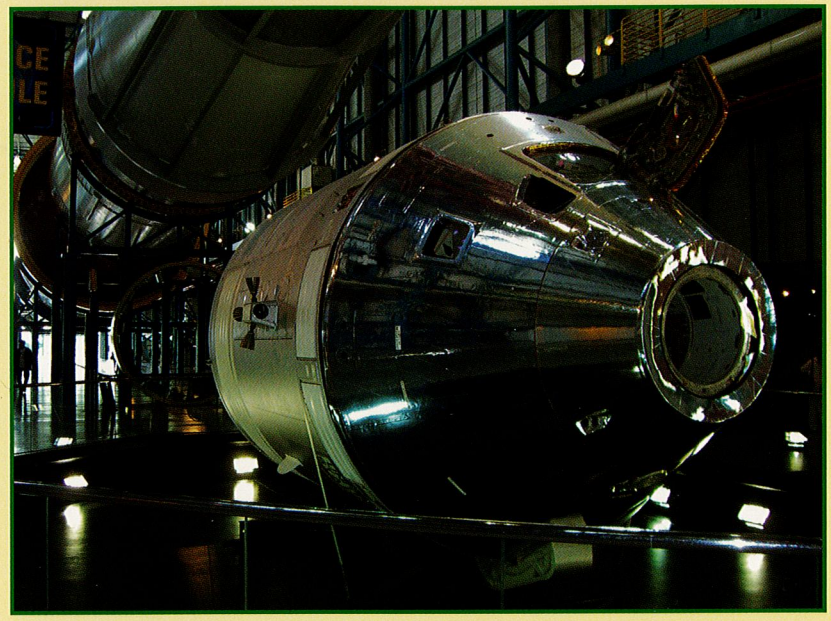
WORKING MATHEMATICALLY



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The photograph above shows the Service Module and the Command Module that were attached to the third stage of the rocket. The Command Module is on top.

1. Describe the shape of the Command Module and the Service Module.
2. Use the library and the Internet to find out more information about the design of the Saturn V rocket and Apollo modules, including the Lunar Excursion Module.
3. Why is the Command Module particularly important?
4. Make a sketch of the main features of the Saturn V rocket, or any of the modules.

INVESTIGATION

1. Collect cardboard tubes, paper, wire, wood, aluminium foil and other construction materials.
2. Construct a model of the Saturn V rocket, or any of the modules.
3. Place your model on display.

RESEARCH

- What was the date of the first moon landing? Which Apollo craft was involved?
- Why is the mission of Apollo 13 remembered?
- Which other space missions are currently being planned?
- Do you think space travel is important? Why? Why not? Conduct a debate with your classmates.

Identifies and constructs 3D objects from photographs and descriptions