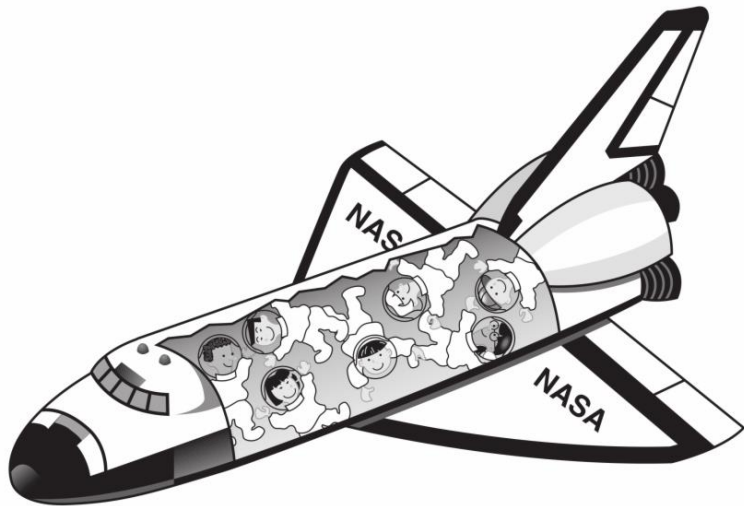


All About the Space Shuttle





On April 12, 1981, the first NASA space shuttle flight took off.

It continued transporting astronauts and supplies into space for over 30 years. During that time, the space shuttle was launched on 35 missions.

Over 350 people flew to space on the space shuttle! It could carry up to 7 astronauts at a time.



Challenger
Crew

There were many types of missions flown by the Space Shuttle. Satellites were launched, science experiments were performed, and various spacecrafts were repaired including the Hubble Space Telescope and the International Space Station.

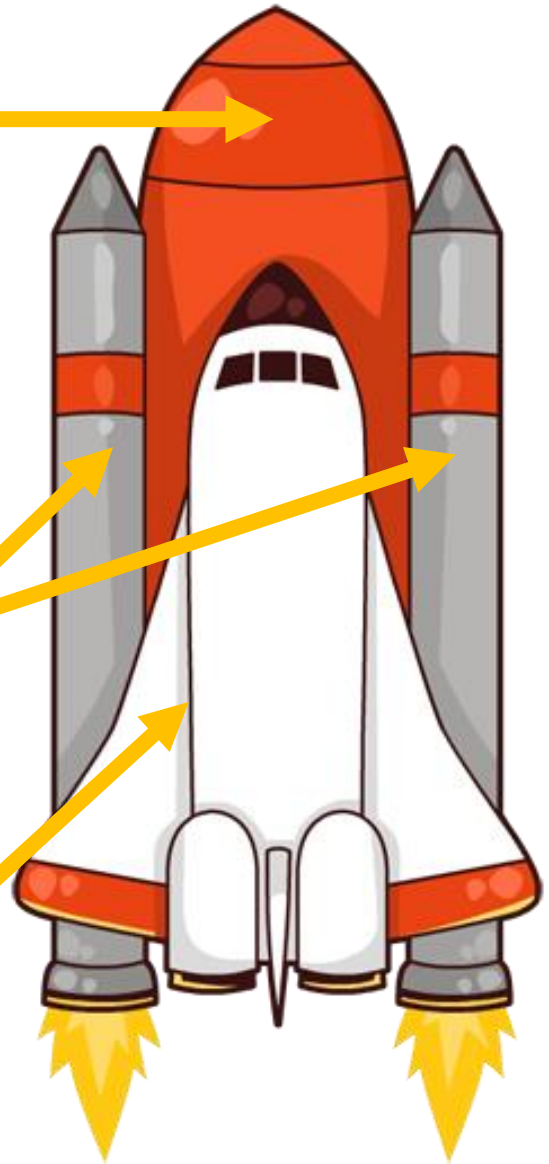
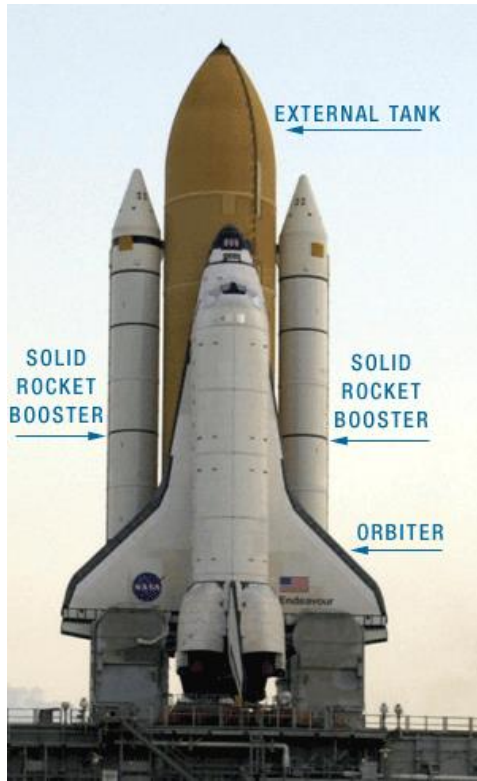


The Space Shuttle had 3 main parts.

External Tank

Solid Rocket Boosters

Orbiter

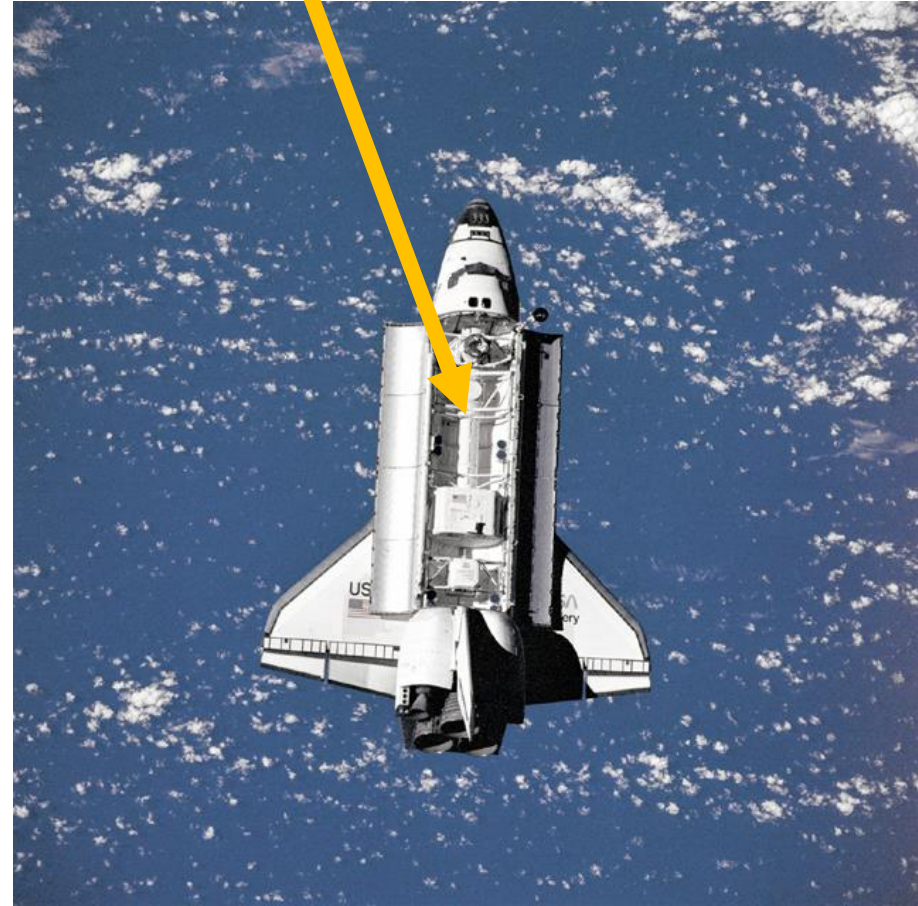


When we think of the space shuttle, we usually think of the orbiter. The *orbiter* was the large, white plane where the crew would live and work while in space. It was the only part of the shuttle that flew into orbit.



Did you know that there were 6 orbiters?

This opened area was for cargo.



The crew stayed in the nose of the shuttle. Can you see their faces?

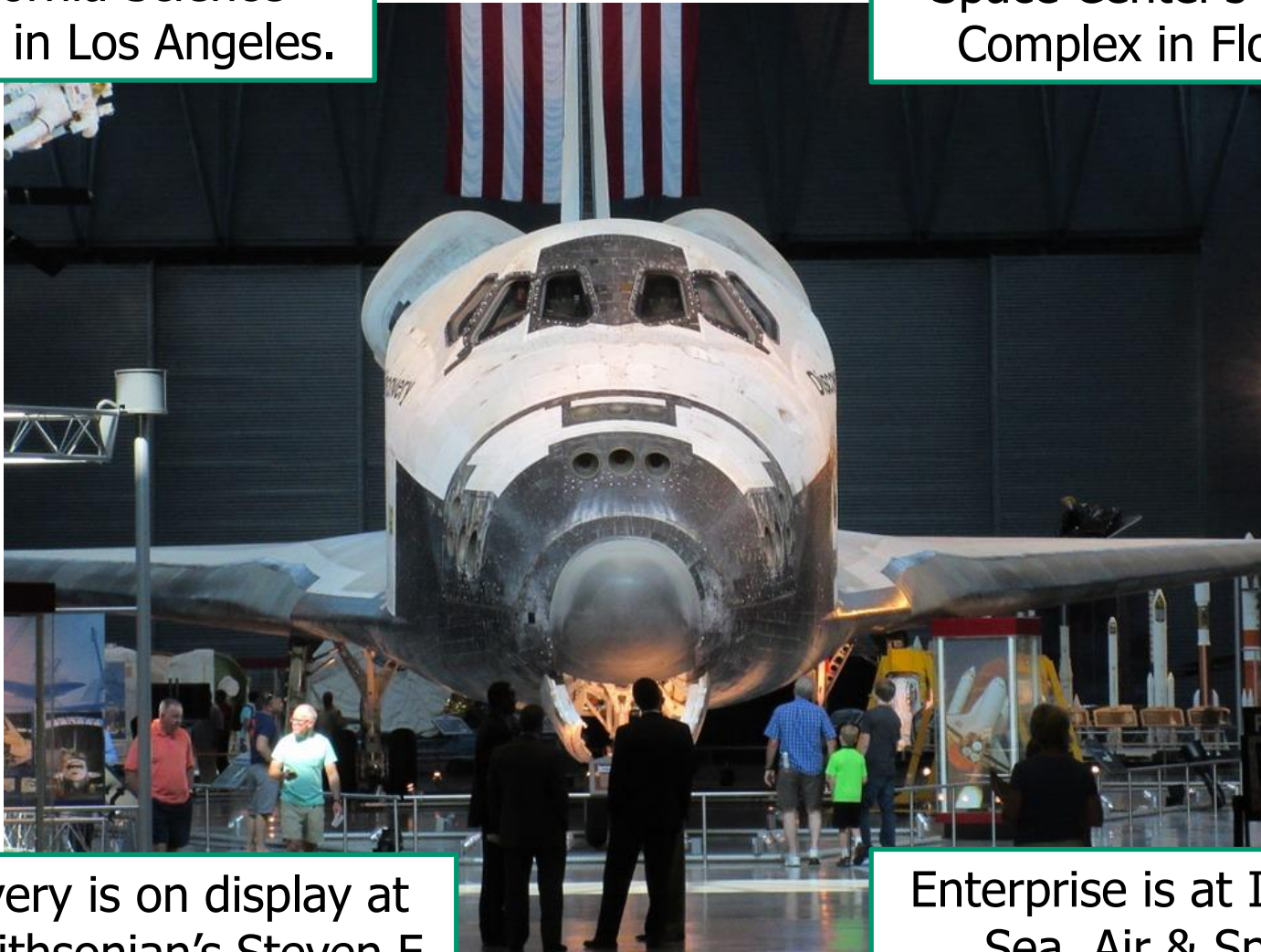


3 of the 6 orbiters, Discovery, Atlantis, and Endeavour, were all in working order when the space shuttle program ceased. Orbiters, Columbia and Challenger, were lost due to accidents. The 6th orbiter, Enterprise, was used for testing, but never flew into space. The remaining orbiters are now on display in museums.



Endeavour is at the California Science Center in Los Angeles.

Atlantis is at Kennedy Space Center's Visitor Complex in Florida.



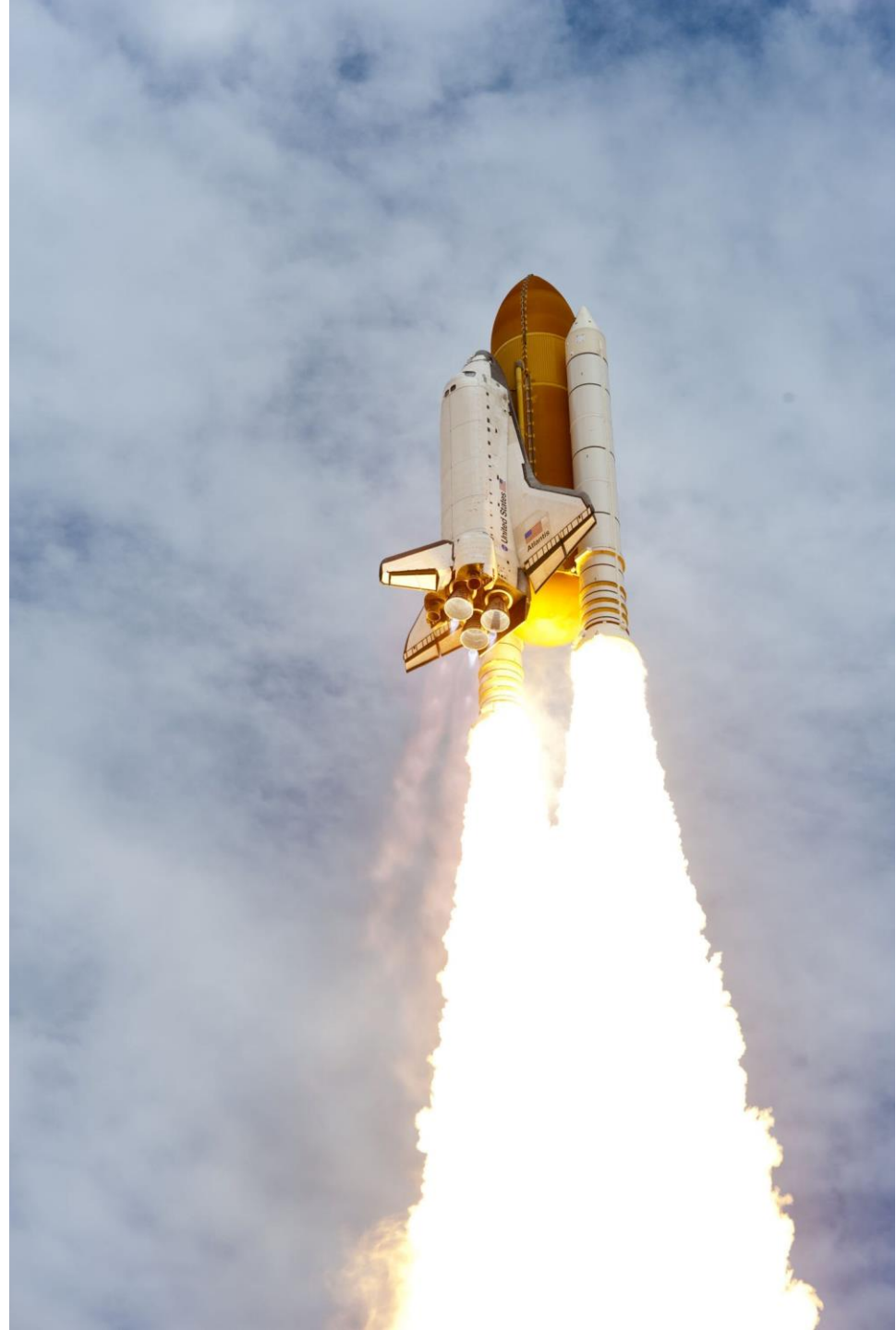
Discovery is on display at the Smithsonian's Steven F. Udvar-Hazy Center, in Chantilly, Va.

Enterprise is at Intrepid Sea, Air & Space Museum, NYC.

A dramatic night-time photograph of a space shuttle launch. The shuttle is positioned vertically on the launch pad, with a massive, bright plume of fire and white smoke trailing behind it as it ascends. The launch pad's service structure is visible to the left. The entire scene is reflected in a body of water in the foreground, creating a symmetrical effect. The background is dark, making the bright light of the launch stand out.

**The space
shuttle
launched at a
"comfortable"
3 Gs.**

The space shuttle took off like a rocket but landed like a plane. *The solid rocket boosters provided most of the push, or thrust, needed to launch the shuttle.* The thin and long solid rocket boosters burned for about 2 minutes.

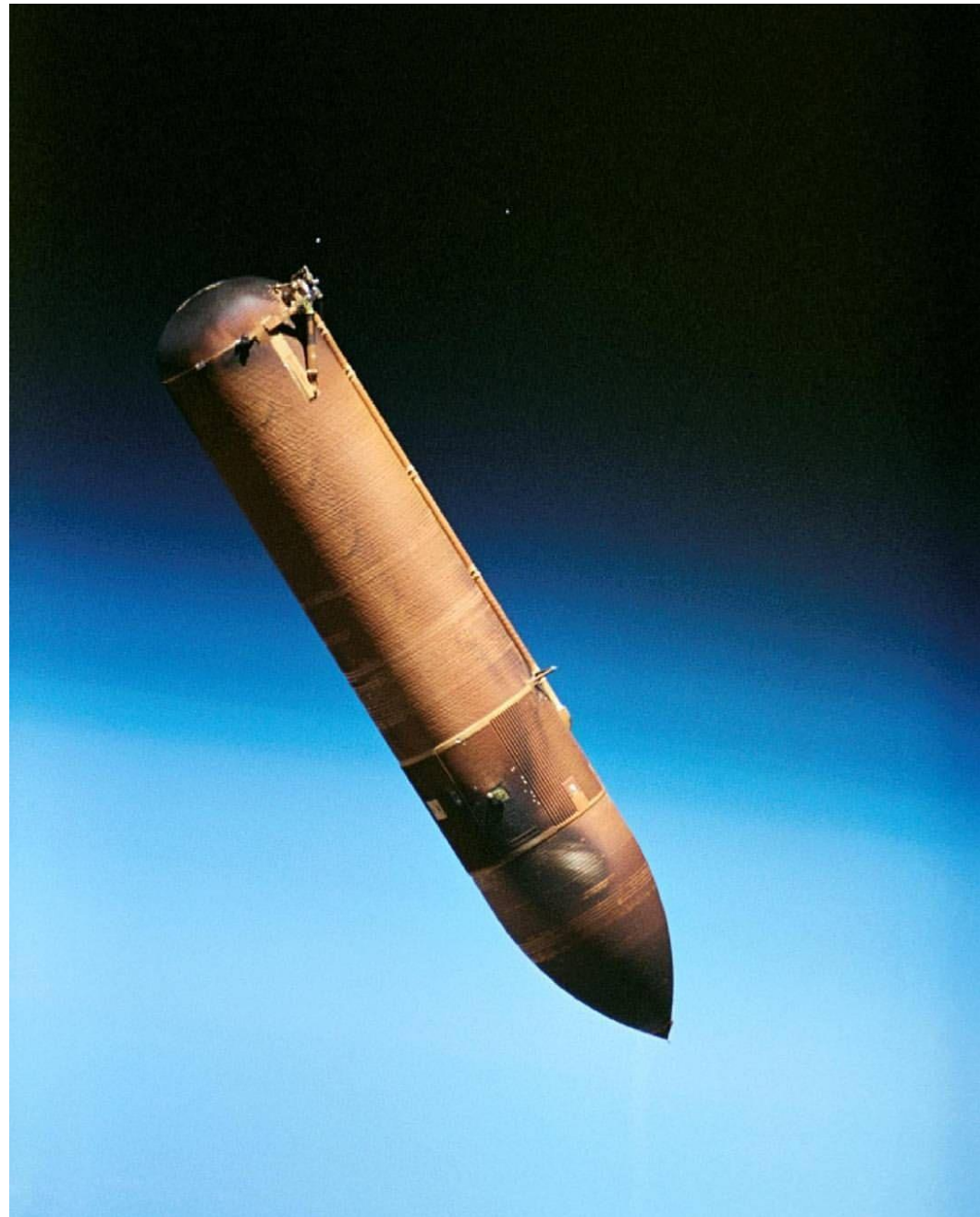


Next, the boosters were dropped from the shuttle. With parachutes, the rocket boosters would fall to the ocean where they would be retrieved by special boats.



Did you know that the solid rocket boosters could be reused?

After the orbiter's main engines fired for another 6 minutes, the shuttle would break through the atmosphere into space. The external fuel tank would then be released to burn up in the Earth's atmosphere.

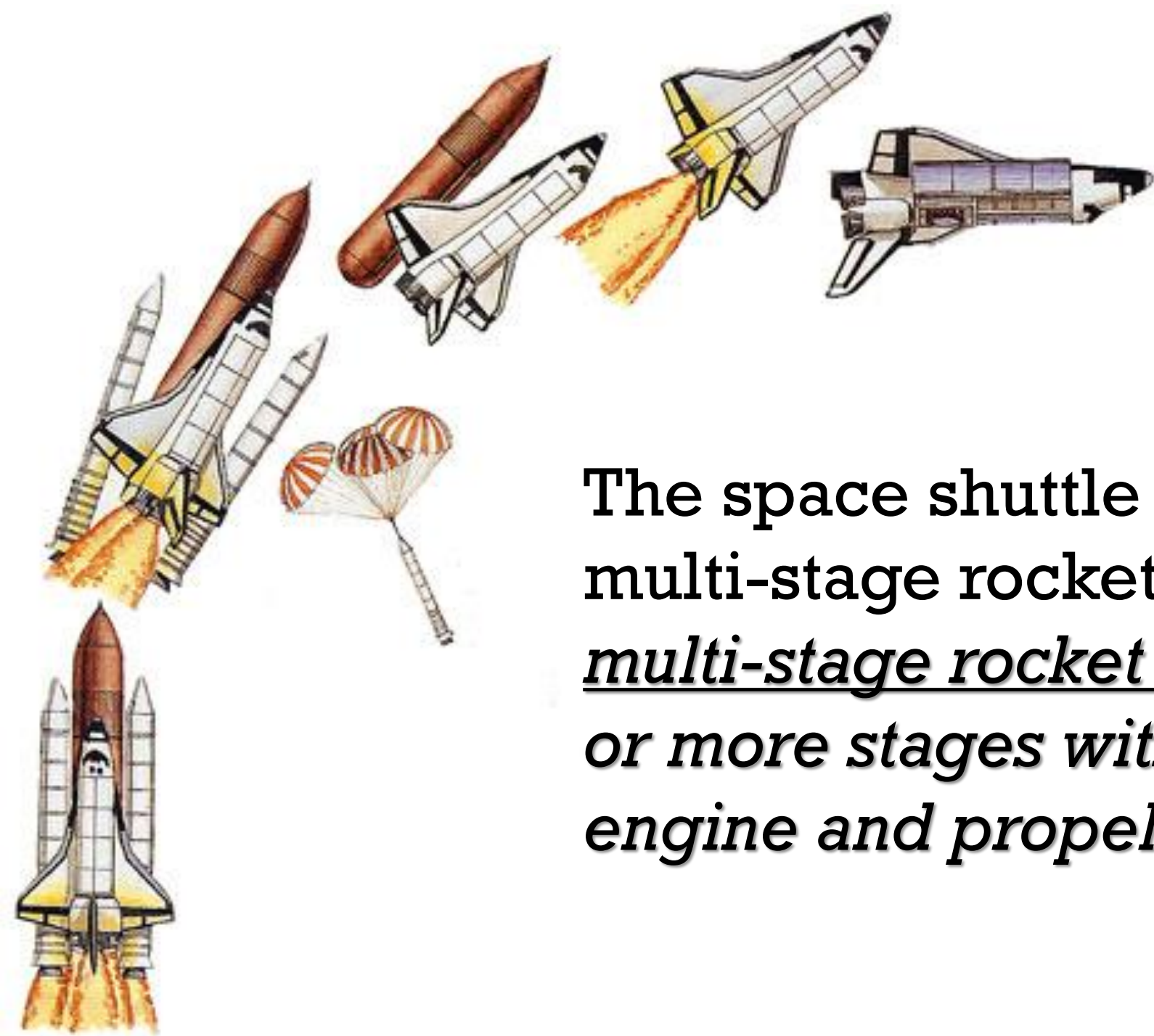


The shuttle and its crew would stay in orbit around the Earth until their mission was completed.



When the crew was ready to come home, small engines on the orbiter were used to position the shuttle for re-entry into the Earth's atmosphere. Once the orbiter re-entered, it would glide toward Earth and land like a plane. While on the runway, a parachute would open to slow the orbiter.





The space shuttle was a multi-stage rocket. A multi-stage rocket uses 2 or more stages with an engine and propellant.

A rocket pushes forward when gases expelled from the rear of the rocket push it in the opposite direction.



**Where
there is an
action,
there is an
equal
reaction.**



The Space Shuttle from launch to landing.



Check out our
other
homeschool
resources at

The
Homeschool
Daily! 😊



Thank you to Pixabay and
Clipart Library for their
phenomenal photos!

Lift up your eyes on high, and behold who hath created these things, that bringeth out their host by number: he calleth them all by names by the greatness of his might, for that he is strong in power; not one faileth. Isaiah 40: 26