



ANSWER KEY: Birth of the Space Shuttle

Directions:

After reading *Birth of the Space Shuttle*, answer each question below. Be sure to answer in complete sentences and summarize using your own words.

- Why did NASA believe the creation of a reusable launch vehicle was so important?
To lower total launch cost and speed up processing and turnaround time to allow the vehicle to be launched again.
- What was the project cost of the first reusable spacecraft designed in 1971?
\$10.5 billion
- Based on a new design, the projected cost was roughly \$5 billion dollars less than the 1971 estimates. What made this design so extraordinary?
The vehicle would be launched like a rocket, maneuver like a spacecraft, land like an airplane, and be able to be reused again and again.
- What parts of this new design were to be reused, and what parts were expendable (not designed to be used again)?
**SRBs and orbiter
ET**
- What did Congress call the project to create a new reusable launch vehicle?
Space Transport System or STS
- What year did the first orbiter come out of assembly, and what was its name?
**1976
Enterprise**
- Name the one major system not tested in Enterprise.
Space Shuttle main engines (SSMEs)
- Why is the date April 12, 1981, important to NASA?
Columbia became the first reusable launch vehicle to be launched into space.

Exploring Further

- The Space Shuttle Columbia had a 15' X 60' cargo bay. What was the cargo bay's area?
900 sq. ft.
- STS1 launched April 12, 1981, at 7:00:03 a.m. EST. Its duration was 2 days, 6 hours, 20 minutes, and 53 seconds. When did it land (date, hour, seconds, and a.m. or p.m.)? Show your work.
April 14, 1981 at 1:20:56 p.m.

3. On the back of this sheet, draw a timeline based on the important dates mentioned in this article.

