

X-59 Crossword Puzzle



Figure 1. NASA's X-59 quiet supersonic research aircraft completed its first supersonic flight.

Background Information

NASA is leading the way with new aircraft technology to change supersonic flight. The X-59 aircraft has been built to dramatically reduce loud sonic booms and is a part of the Quesst mission.

The Quesst mission has two goals:

1. Design and build a piloted, large-scale supersonic X-plane with technology that reduces the loudness of a sonic boom to that of a gentle thump.
2. Fly the X-plane over select U.S. communities to gather data on human responses to the low-boom flights and deliver that data set to U.S. and international regulators.



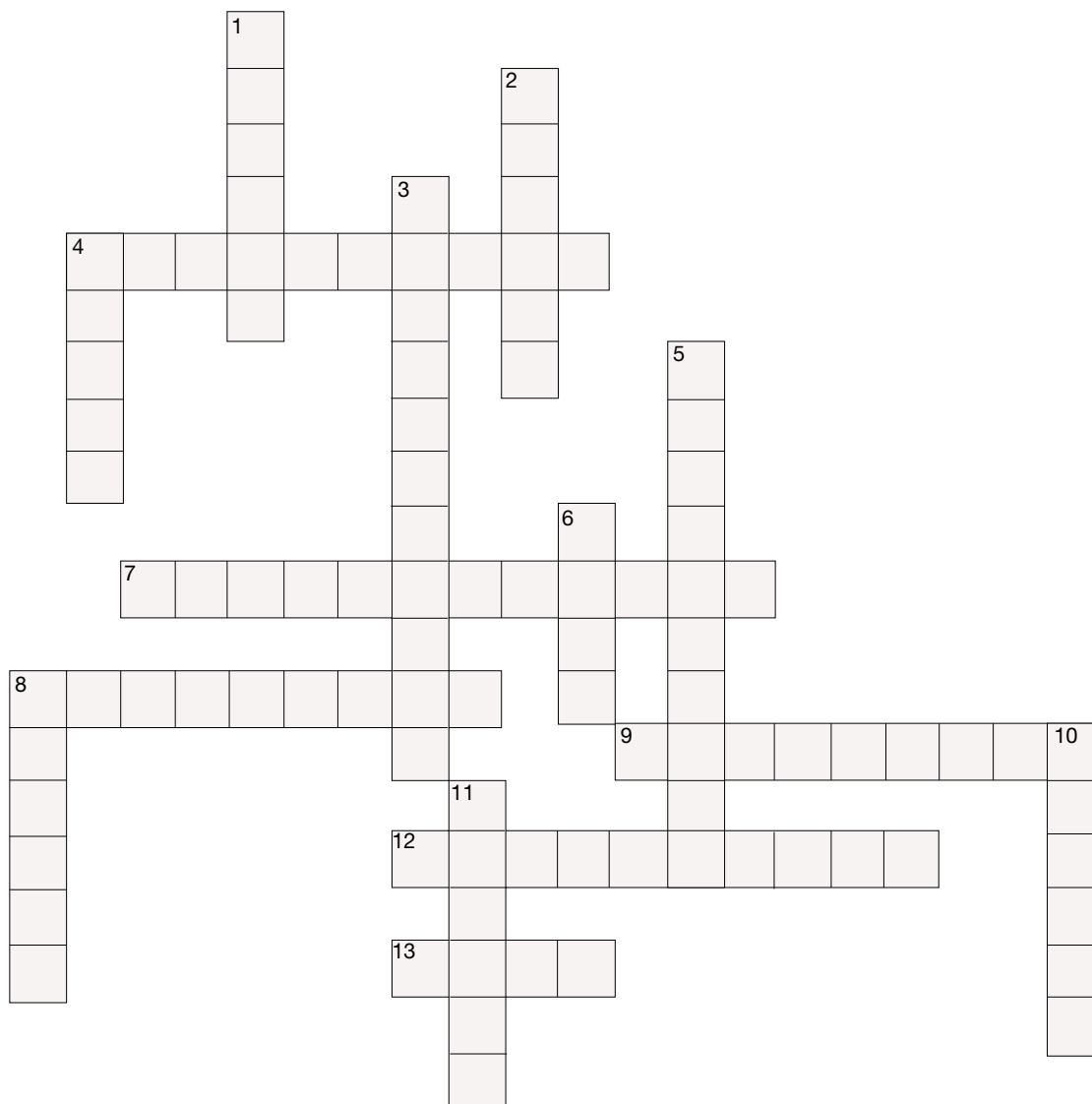
Figure 2. The X-59's unique design reduces the sonic boom to a quieter sonic thump.

In 2025 the X-59 completed its first flight, followed by validation flights in 2026. These paved the way for the next phase of the Quesst mission, which is using the aircraft to gather data. The flights and data the flights generate will help shape the next generation of commercial supersonic flights.

NASA's Quesst mission is the culmination of decades of research on supersonic flight, sonic booms, and noise reduction that started with NASA's X-1 in the 1940s.

Learn about the X-59 by visiting <https://www.nasa.gov/quesst-the-mission/>, read the background information, and also check out the Quesst STEM toolkit: <https://www.nasa.gov/directorates/armd/quesst-supersonic-stem-toolkit/> for other activities that help learn more about the mission and supersonic flight.





ACROSS

4. Type of wave where the disturbance moves perpendicular to the direction of the wave
7. Type of wave where the disturbance moves in the same direction as the wave
8. The number of waves that pass a point in a certain amount of time
9. Very loud sound created when aircraft besides the X-59 fly faster than the speed of sound
12. Faster than the speed of sound
13. Data collected about the X-59 will allow supersonic flight over _____.

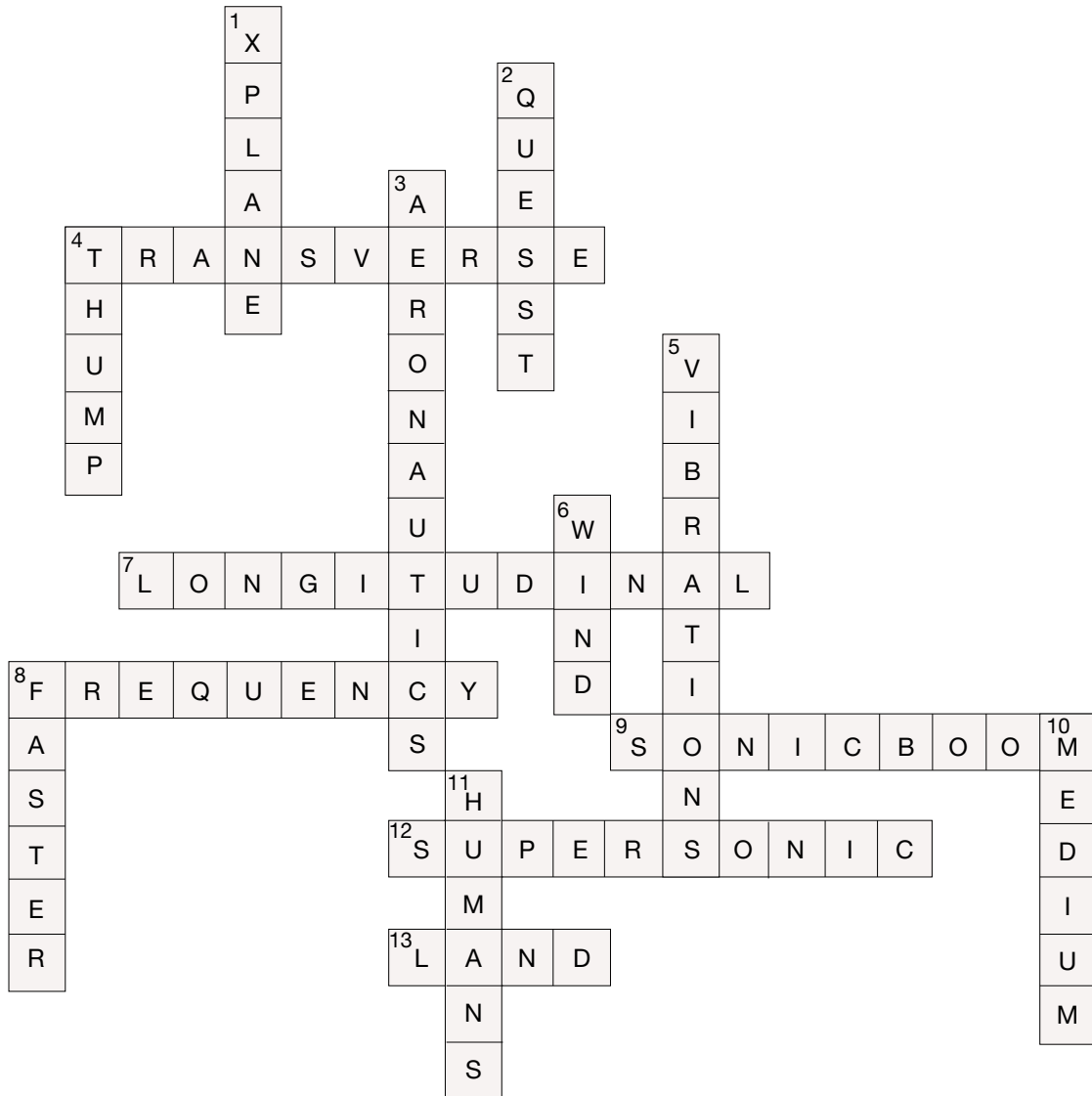
DOWN

1. An experimental airplane made by NASA
2. The full name of the X-59
3. The first "A" in NASA
4. The X-59 is designed to lower the noise associated with supersonic flight to a quieter "sonic _____."
5. Every sound is produced by _____.
6. Scientists use _____ tunnels to test how models of aircraft will perform in flight.
8. The X-59 will test the technology to fly _____, quieter and more efficiently.
10. The material through which a sound wave moves
11. The X-59 will fly over several U.S. cities to help NASA collect data on sound levels and the reaction of _____.

CROSSWORD PUZZLE WORD LIST

- | | | | | |
|---------------|----------------|--------------|--------------|--------------|
| • Aeronautics | • Humans | • Medium | • Supersonic | • Vibrations |
| • Faster | • Land | • Quesst | • Thump | • Wind |
| • Frequency | • Longitudinal | • Sonic boom | • Transverse | • X-plane |

ANSWER SHEET



National Aeronautics and Space Administration

NASA Headquarters
 300 E. Street, SW
 Washington, DC 20546

www.nasa.gov