What Holds an Airplane Up

*Bernoulli’s principle states that as the speed of a fluid increases, the pressure exerted by that fluid decreases.*

An airplane’s wings have an airfoil shape to make the air flow faster on the upper side than on the lower side. The upper side is curved upward, but the lower side is quite flat.

As the airplane moves, air flows past it. Air slows down when it hits the front of the wing. Some of the air flows along the top part of the wing. Some of it flows along the bottom part of the wing.

The curved top of the wing takes up more space than the bottom of the wing. When the air gets to the wing it is forced to move up and is squeezed between the wing and the other air in the sky. That air on the top of the wing moves more quickly than air under the wing.

Whenever air moves faster, air pressure is lower. Whenever air moves slower, air pressure is higher. The slow moving air under the wing has a high air pressure. This high air pressure pushes against the underside of the wing, resulting in lift.

**Draw a diagram of the airflow around an airfoil-shaped airplane wing. Make sure to label where the air is moving the fastest and the slowest, and identify areas of low air pressure and high air pressure.**

