SEE HOW IT'S MADE

BUILDING AN AIRPLANE

BY DANIELLE S. HAMMELEF

BLAZERS

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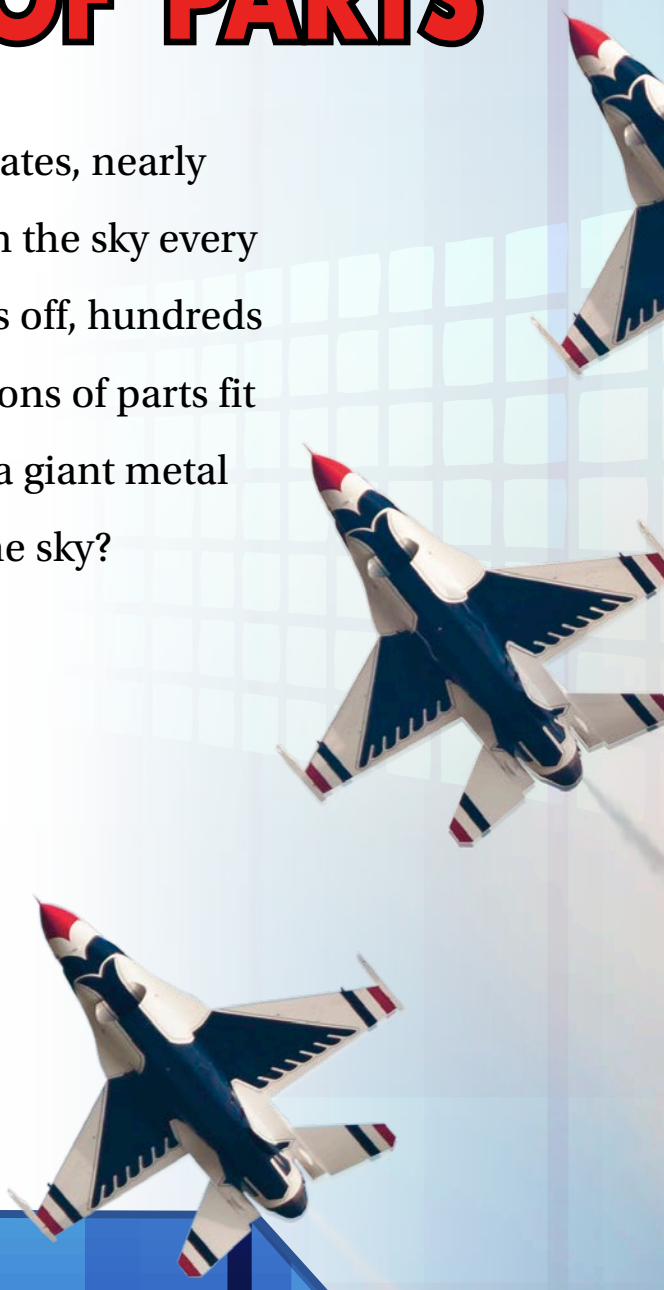
ONE PLANE, MILLIONS OF PARTS

Look up! In the United States, nearly 9 million planes soar through the sky every year. Before an airplane takes off, hundreds of people work to make millions of parts fit together. How do they build a giant metal machine that flies through the sky?



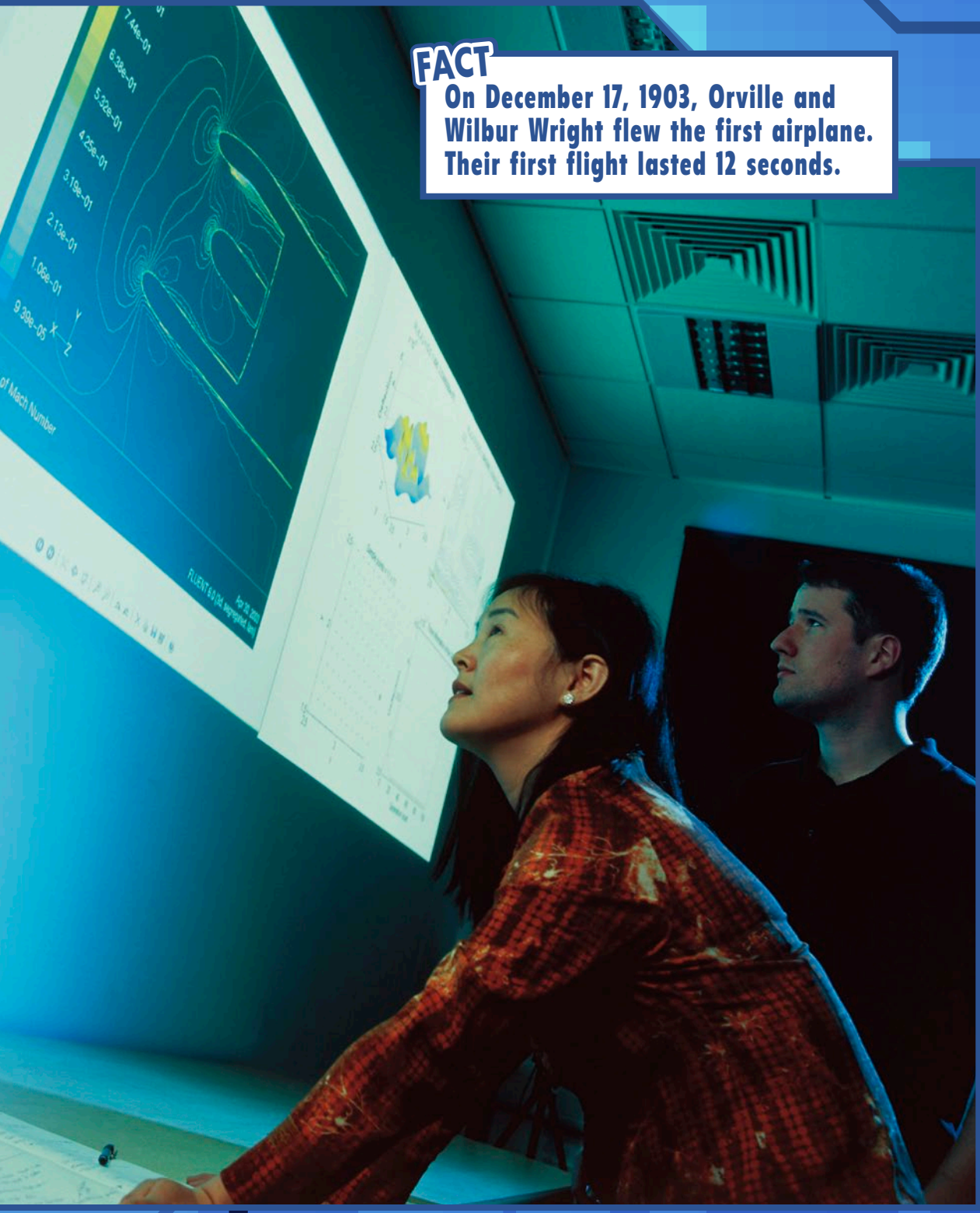
FACT

In 2012 United States airlines carried about 642 million passengers.

DESIGNING AND TESTING PLANES

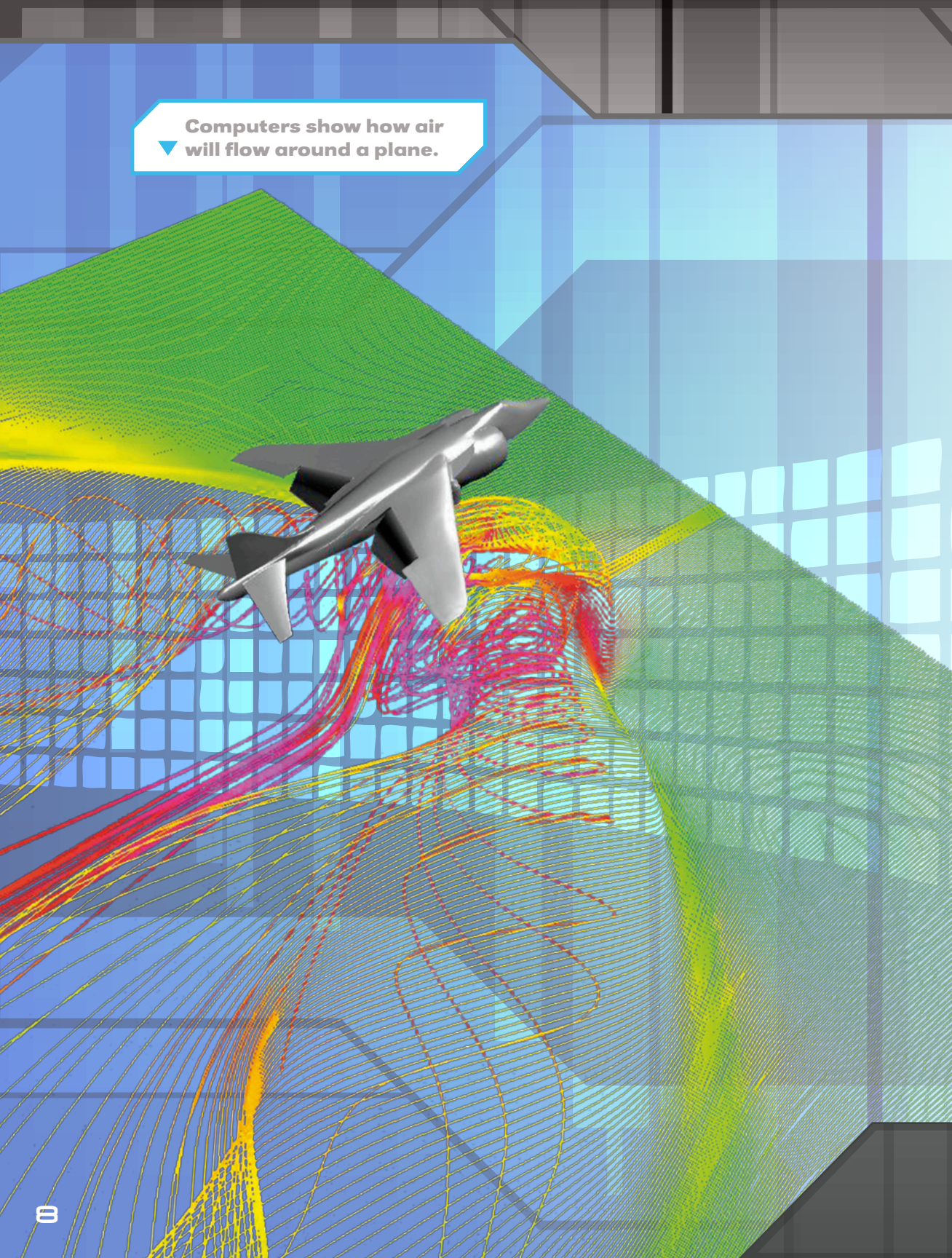
Engineers study how planes move through the air. They compare types of wings, tails, and **fuselages** before making new designs. Other team members create computer images of the designs and build **scale** models.

engineer—a person who uses science and math to plan, design, or build
fuselage—the main body of an airplane
scale—describes something that is built with the same proportions of something else but at a different size



FACT

On December 17, 1903, Orville and Wilbur Wright flew the first airplane. Their first flight lasted 12 seconds.



Computers show how air will flow around a plane.

Before building full-sized planes, engineers test their models. They run computer programs to see how the planes will fly in cold, hot, wet, or dry weather. Engineers also test their models in **wind tunnels**.

FACT

Workers test planes with wingspans up to 100 feet (30 meters) inside the world's largest wind tunnel in California.

wind tunnel—a tunnel through which air is blown to study airflow around an object