

Wind Tunnel Student Reading Worksheet

Directions: Use the "Student Reading: Wind Tunnels" to help you answer the questions below.

- 1. Why do scientists use a model?
- 2. What is a scale model?
- 3. Why do researchers use a scale model of an airplane instead of building a full size airplane?
- 4. What is a wind tunnel?
- 5. Name one wind tunnel used at Ames Research Center and tell what it is meant to test?
- 6. What type of measurements are taken in a wind tunnel?



Answer Key for "Wind Tunnel" Student Reading Worksheet

Directions: Use the "Student Reading:WindTunnels" to help you answer the questions below.

1. Why do scientists use a model?

To help them explain how or why something works the way it does.

2. What is a scale model?

A scale model is a smaller version of an exact copy of a real thing.

3. Why do researchers use a scale model of an airplane instead of building a full size airplane?

Researchers use a scale model because it can test a researcher's hypothesis in a safe and controlled way. They also use it to design and modify airplanes.

4. What is a wind tunnel?

It is a tube or tunnel through which air is blown.

5. Name one wind tunnel used at Ames Research Center and tell what it is meant to test?

National Full-Scale Aerodynamics Complex which does large-scale or full-scale testing or aircraft and rotorcraft.

or

Unitary Plan Wind Tunnel which does transonic and supersonic tests.

or

12-Foot Pressure Wind Tunnel which collects data to support the development of high-lift systems for commercial transports and military aircraft as well as high angle-of-attack tests.

6. What type of measurements are taken in a wind tunnel?

The forces and the pressures on the model.