



Vocabulary Worksheets
Understanding and Using English Grammar, 4th Edition
**Chapter 18: Reduction of Adverb Clauses
to Modifying Adverbial Phrases**

Worksheet 1. Reading: *An Amazing Swimsuit*

Read about a new kind of swimsuit. Then review the glossary and complete the exercises that follow it.

1 A new type of swimsuit developed by the U.S. agency NASA (The National Aeronautics and
2 Space Administration) has helped smash world records in swimming. Before the Beijing
3 Olympics in 2008, swimmers set 48 world records while wearing this skin-tight body suit. At
4 the Beijing Olympics, 23 of the 25 swimmers from around the world were wearing this suit
5 when they broke an existing Olympic world record.

6 The suit is called the Speedo LZR Racer. At the Beijing Olympics, 94 percent of all gold
7 medalists and 89 percent of all medalists wore the suit while competing. Among the Olympic
8 medalists wearing it were Michael Phelps of the United States, Kosuke Kitajima of Japan,
9 and Kirsty Coventry of Zimbabwe.

10 Looking for expertise in aerodynamics, Speedo had turned to NASA a few years before the
11 Beijing Olympics. Having extensively researched the science of speed through air in the
12 space program, NASA had this expertise. Aerospace engineers at NASA tested several
13 fabrics in wind tunnels and found a material that reduces drag as much as possible. Drag is
14 the force in nature that slows down a body moving through water or air. Planes, racing cars,
15 and racing boats have aerodynamic designs to reduce drag, thus helping them move faster.

16 Just as reducing drag helps planes fly more efficiently, reducing drag helps swimmers go
17 faster too. Research shows that viscous drag—skin friction—causes a lot of restraining force
18 against a swimmer. The less drag against a swimmer, the faster he or she can go.
19 Swimming in a suit that covers the legs, a person receives less friction on the skin from the
20 water.

21 After testing different materials and developing the design, NASA completed its task, and
22 Speedo manufactured the suit. Speedo representatives say it is the most technologically
23 advanced swimsuit ever developed and claim that it enables swimmers to be 2% faster.
24 Other companies will manufacture a similar suit, and, wanting to have every possible
25 advantage, competitive swimmers will probably be wearing this new type of swimsuit, made
26 by one manufacturer or another, in future competitions.





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Worksheet 1 (page 2)**Glossary**

- Line 13 *wind tunnels* — a large enclosed passage where engineers test aircraft and other objects by forcing air past them
- Line 17 *viscous drag* — the force of water that pushes against a body that is moving forward, such as the body of a swimmer.



*Speedo's LZR Racer Olympic swimsuit
(Voice of America photo)*

Comprehension practice

Decide whether each statement is true or false, according to the reading. Circle T if the sentence is true and F if the sentence is false.

1. The reading is about a new kind of swimsuit. T / F
2. The swimsuit was invented by the swimmer Michael Phelps. T / F
3. Every swimmer who won a gold medal at the Beijing Olympics was wearing this kind of suit. T / F
4. NASA helped develop the suit. T / F
5. Engineers tested many fabrics in wind tunnels. T / F
6. Drag is a force in nature that works against something moving through water or air. T / F
7. The friction against your skin causes you to slow down when you are swimming. T / F
8. When wearing the suit, swimmers can go 20% faster. T / F
9. This type of suit will be manufactured by more than one company. T / F
10. Swimmers will not be able to wear these suits in future Olympics. T / F