

# Review Vocabulary

Vocabulary Term	Definition	Example Sentence
<b>aerodynamics</b>	The study of how air moves around objects and how this affects their movement.	The car's sleek design was a result of careful attention to aerodynamics.
<b>acceleration</b>	The rate at which the speed of an object changes over time.	The race car's acceleration was impressive as it sped down the track.
<b>distribution</b>	The way in which something is spread out or arranged.	The distribution of wealth in the country was uneven, with a small percentage of people owning most of the money.
<b>persistence</b>	The quality of continuing to do something despite difficulties or opposition.	Her persistence paid off when she finally got the job she wanted.
<b>camaraderie</b>	A feeling of mutual trust and friendship among people who spend time together.	The team's camaraderie was evident in the way they supported each other during the competition.



# Reading

Bobsledding, also known as bobsleigh, is a thrilling winter sport where teams race down an icy track on a sled. The sport was first developed in the 1880s and earned its name from the way crews bobbed back and forth to increase the sled's speed. The heavier, four-person bobsled can reach speeds of up to 100 miles per hour, and the two-person sled is only slightly slower. The incline has an average slope of between 8 and 15 percent, with anywhere from 15 to 20 turns per course. Multiple descents are made by each team, with the quickest total time determining the winner.

# Reading

Bobsledding started as a four-man event at the first Winter Olympics in 1924. The two-man event was introduced later at the 1932 Olympic Games. The women's two-person bobsled event debuted at the 2002 Winter Olympics, where Jill Bakken and Vonetta Flowers of the United States won the gold medal. Vonetta Flowers was the first black athlete to win a gold medal at the Winter Olympic Games.

# Reading

The speed of the bobsled is determined by physics, a combination of maximizing acceleration at the start of the run and minimizing forces that slow down the sled. The perfect slide is a combination of the run, the equipment, and the team. There are 16 bobsled runs in the world, all but one made of reinforced concrete covered in ice with internal artificial refrigeration. The ice on the run varies, however, with weather conditions such as rain and snow and varying temperatures changing the consistency of the ice. The colder and harder the ice is, the faster for the sleds. Warmer, softer ice is generally slower. Track maintenance crews also keep the track fast by repairing damage caused by the sleds. They apply ice slush to the track, scrape it smooth, and then shave any high or low areas with a razor to keep the ice smooth and fast.

# Reading

The second component of a perfect bobsled slide is the equipment. The sleds are built for speed and efficiency, lightweight but strong enough to hold two or four large athletes traveling 135 km/hr (84 mi/hr) with 5G forces in some turns. Aerodynamics is key to minimizing the drag force slowing the sleds. Team USA bobsleds are designed by some of the best in aerodynamics, BMW and NASCAR great Geoff Bodine. They are tested, adjusted, and re-tested in wind tunnels to minimize drag forces during the run.

# Reading

Minimizing drag is only half the challenge. Bobsleds also need to maximize acceleration. Acceleration is dependent on weight and its distribution in the sled. Weight limits for bobsled competitions are set so that each team has the same mass. The difference is in how the weight is carried in the sled. The team's weight distribution and the timing of their push-off at the start of the run are crucial to maximizing acceleration.

# Reading

The Jamaica national bobsleigh team, representing a tropical nation in a cold weather sport, has become a legendary underdog story. Their debut in the 1988 Winter Olympic Games four-man bobsleigh in Calgary, Alberta, was met with surprise and admiration. They had little experience in the sport and had to appeal to other teams for basic equipment in order to compete. Sporting camaraderie across national boundaries followed. In the third out of four runs, they lost control of the sleigh, crashed, and did not officially finish. Dudley Stokes and Michael White entered the two-man bobsleigh event, finishing 30th out of 41 teams.



# Reading

The Jamaican team has continued to compete in the Winter Olympics, returning in 1992, 1994, 1998, 2002, 2014, and 2022 in the two-man bobsleigh. A women's team debuted in 2018. Their persistence and determination have inspired many, proving that anything is possible with hard work and dedication.

# Multiple Choice Question

1. What is the primary factor that determines the speed of a bobsled?

- A) The weight of the bobsled and its distribution.
- B) The skill of the team in steering the bobsled.
- C) The type of ice on the track and its maintenance.
- D) The aerodynamic design of the bobsled and the team's push-off.

# Multiple Choice Question

2. How does the Jamaican bobsled team's story demonstrate the power of perseverance?

- A) They were able to overcome a lack of experience and resources to compete in the Winter Olympics.
- B) They won a gold medal in the two-man bobsleigh event at the 2002 Winter Olympics.
- C) They were the first team to use a four-man bobsled in the Winter Olympics.
- D) They were able to compete in the Winter Olympics despite having no experience in the sport.

# Multiple Choice Question

3. What is the significance of Vonetta Flowers' achievement at the 2002 Winter Olympics?

- A) She was the first woman to win a gold medal in the two-person bobsled event.
- B) She was the first athlete to win a gold medal in the two-person bobsled event.
- C) She was the first black athlete to win a gold medal at the Winter Olympics.
- D) She was the first Jamaican athlete to win a gold medal at the Winter Olympics.

## Short Answer Question

**1. What are the two main factors that contribute to a bobsled's speed?**

## Short Answer Question

**2. What are the three components of a perfect bobsled slide?**

## Short Answer Question

**3. How do track maintenance crews ensure a fast track for bobsledding?**

## Open Ended Question

**1. The text describes how the Jamaican bobsled team overcame challenges and inspired many. Think about a time when you faced a challenge and how you overcame it. How did your experience compare to the Jamaican team's journey?**



## Open Ended Question

**2. The text explains how the speed of a bobsled is determined by physics, equipment, and the team's skill. Think about a time when you achieved a goal. What factors contributed to your success? How did your effort and preparation play a role?**

## Open Ended Question

**3. The text highlights the importance of teamwork in bobsledding. Think about a time when you worked with others to achieve a common goal. How did your teamwork contribute to the success of the group? What lessons did you learn about collaboration?**

**Additional  
Engagement Slides  
to Add Anywhere**



# Turn and Talk

Turn to your partner and share the most interesting thing you've learned so far.



# Turn and Talk

Does the reading remind you of something else you've learned in this class? If so, what?

