5 Famous Fiddles

A genuine Stradivarius violin can sell for millions of dollars. So can a genuine Guarneri "del Gesu." What makes these violins so expensive? Is one type of violin better than the other?

Antonio Stradivari (1644?–1737) and Bartolomeo Giuseppe Guarneri "del Gesu" (1698–1744) both grew up in violin-making traditions, and both were making instruments at about the same time. The violins made by each are known for their full, rich, mellow sounds and for their great ease of playing, though some violinists say a Guarneri is better for players who make a lot of demands on their instruments. A Stradivarius, they say, needs a gentler approach. Estimates are that about 500–600 Strads still exist, but only around 100 Guarneris; and there is general agreement that these instruments are far superior to any made today.

A great deal of analysis has been performed on these violins to determine why their sound is so excellent. Much of the study centers on the type and thickness of wood the instruments were made from and the varnishes used to finish them. Violin makers choose their wood—usually maple—carefully, with many believing that the best wood grows slowly, in high altitudes with cold, harsh weather. There is some speculation that the wood used in Stradivari's and Guarneri's time was superior in that it had taken 400–500 years to grow, during which time there had been a mini Ice Age.

The varnish used to finish a violin can influence the sound by affecting the stiffness of the wood. The best varnish has a thin consistency and is not applied too thickly. In the era in which these masters were working, there was a great mystique about varnishes, with apprentice violin makers sworn to secrecy about what type was used. Despite the chemical analysis that can be done on existing varnishes today, no one is quite sure what effect they had on the excellence of Stradivari's and Guarneri's violins.

Main Idea 1

	Answer	Score
Mark the *main idea*	M	15
Mark the statement that is *too broad*	B	5
Mark the statement that is *too narrow*	N	5

a. Wood and varnish play a role in a violin's sound. ☐ ____

b. Violins can be worth a lot of money. ☐ ____

c. The high quality of Stradivarius and Guarneri violins makes them valuable. ☐ ____

Score 15 points for each correct answer. **Score**

Subject Matter 2 This passage is mostly about

- ☐ a. the art of violin making.
- ☐ b. what makes a good violin varnish.
- ☐ c. Stradivari's and Guarneri's violins.
- ☐ d. how expensive rare violins have become. ____

Supporting Details 3 The best wood for violins

- ☐ a. comes from river valleys.
- ☐ b. is a relatively soft wood like birch.
- ☐ c. grows in warm climates.
- ☐ d. grows slowly. ____

Conclusion 4 Information in the passage suggests it is fair to conclude that

- ☐ a. Stradivari's and Guarneri's violins are valuable because of their varnish.
- ☐ b. no one is certain what makes these violins so good.
- ☐ c. the violins are valuable mainly because they are old.
- ☐ d. Stradivari and Guarneri competed constantly. ____

Clarifying Devices 5 The second paragraph is developed mostly through

- ☐ a. comparison and contrast.
- ☐ b. description.
- ☐ c. persuasion.
- ☐ d. definition. ____

Vocabulary in Context 6 Mystique means

- ☐ a. discussion.
- ☐ b. atmosphere of mystery.
- ☐ c. surprise.
- ☐ d. expense. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

6 Seasons

Spring, summer, autumn, and winter bring changes in the weather, plant and animal life, and the length of days and nights. Seasonal changes such as these are due to three factors: the tilt of Earth's axis to one side; the rotation, or turn, of Earth on its axis every 24 hours; and the revolution of Earth around the sun once every year. Since Earth remains tilted in the same direction during its revolution of the sun, the angle at which the sun's rays hit Earth changes, causing us to experience the changing seasons.

In the summer the Northern Hemisphere where we live points toward the sun, allowing us to receive its more direct and powerful rays. Six months later, when Earth is halfway through its revolution around the sun, the Northern Hemisphere is tilted away from the sun, exposing us to the more angled, weak rays of winter. The seasons in one hemisphere are opposite those in the other hemisphere. However, one area of Earth—the equator—receives the most direct rays, so equatorial regions experience hot weather all year. In contrast, the polar regions, which always get indirect rays, experience continuous frigid weather.

In the Northern Hemisphere, we observe a gradual alteration in the angle of the sun during the year. About June 21, on the summer solstice, or the first day of summer the midday sun reaches its highest point in the sky and produces the year's mazimum daylight hours. About September 22, on the autumn equinox, the midday sun is lower in the sky. Because Earth's axis is tilted neither toward nor away from the sun, equal periods of daylight and darkness result. About December 21, on the winter solstice, or the first day of winter, the midday sun is at its lowest point in the sky and brings the year's fewest daylight hours. About March 21, on the vernal equinox, or the first day of spring, the midday sun is higher in the sky and daytime and nighttime hours are again equal.

Main Idea 1

	Answer	Score
Mark the *main idea*	M	15
Mark the statement that is *too broad*	B	5
Mark the statement that is *too narrow*	N	5

a. Seasons bring many changes to Earth. ☐ ____

b. A change of seasons results from Earth's motions and the tilt of its axis. ☐ ____

c. Earth remains tilted in the same direction as it revolves around the sun. ☐ ____

Score 15 points for each correct answer. **Score**

Subject Matter 2 This passage is mainly concerned with
- ☐ a. how Earth rotates on its axis.
- ☐ b. why the various seasons occur.
- ☐ c. why each season is three months long.
- ☐ d. which parts of Earth are coldest. ____

Supporting Details 3 The summer solstice results in
- ☐ a. the midday sun being at its lowest point.
- ☐ b. Earth's axis being tilted neither toward nor away from the sun.
- ☐ c. equal periods of daylight and darkness.
- ☐ d. the greatest number of daylight hours of any day during the year. ____

Conclusion 4 When the Northern Hemisphere is experiencing summer, the Southern Hemisphere is experiencing
- ☐ a. winter.
- ☐ b. spring.
- ☐ c. summer.
- ☐ d. autumn. ____

Clarifying Devices 5 The writer presents facts about equinoxes and solstices to explain
- ☐ a. why it is hot at the equator.
- ☐ b. the various lengths of day and night.
- ☐ c. why the midday sun is directly overhead.
- ☐ d. the date of the autumn equinox. ____

Vocabulary in Context 6 In this passage revolution means
- ☐ a. great change.
- ☐ b. an uprising.
- ☐ c. standing still.
- ☐ d. circling. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

7 City Planning

City planners are the people who guide the development of cities and towns. T might advise local governments on ways to improve communities, or they migh design entirely new communities. In South Florida, for example, city planners a working to improve existing communities. The population of the area is expecte increase from 5.5 million to 7.5 million by 2020. This growth is headed to the where there is still open land. But western growth creates a costly need for new roads and is a threat to the ecological system of the Florida Everglades. City pla ners are trying to lure people back into the older, developed eastern section of t region by funneling growth in that direction and away from the western section.

City planners also plan and develop new communities. These communities, called new cities or new towns, include both places to live and places to work. N cities, such as Brazil's capital Brasilia, a community founded in 1900, can be con structed far from existing cities. Such cities are designed with enough facilities a job opportunities for all their residents. Building completely new cities is very co however. Brasilia and Canberra, Australia, are two examples of the few new cities that have ever been completed.

New towns are different from new cities in that they are built within commu ing distance of large cities. They may also be planned communities within a city. New towns provide jobs for many of their residents, but they also rely on neighb ing cities for jobs. Two of the first new towns built in the United States were Columbia, Maryland, and Reston, Virginia. At the end of the 20th century an es mated 100 new towns were planned or under construction in the United States.

Main Idea 1

	Answer	Scor
Mark the *main idea*	M	15
Mark the statement that is *too broad*	B	5
Mark the statement that is *too narrow*	N	5

a. New communities include places to live and work. ☐

b. City planners improve old communities or design new ones. ☐

c. City planners are at work around the world. ☐

Score 15 points for each correct answer. **Score**

Subject Matter 2 This passage is mostly about
- ☐ a. choosing a good city planner.
- ☐ b. the planning of Reston, Virginia.
- ☐ c. the planning of Brasilia and Canberra.
- ☐ d. the work of city planners. ____

Supporting Details 3 Brasilia, Brazil, is an example of
- ☐ a. an improved old city.
- ☐ b. a planned new city.
- ☐ c. a planned new town.
- ☐ d. a suburban development. ____

Conclusion 4 You would most likely hire a city planner if you needed
- ☐ a. advice on which crops will grow best on your land.
- ☐ b. someone to plan a city election campaign.
- ☐ c. someone to design a new office building.
- ☐ d. someone to guide the development of a new suburb. ____

Clarifying Devices 5 The number 2.0 million indicates the predicted
- ☐ a. decrease in South Florida's population.
- ☐ b. increase in South Florida's population.
- ☐ c. number of city planners in the year 2020.
- ☐ d. number of towns to be planned by 2050. ____

Vocabulary in Context 6 In this passage lure means
- ☐ a. an item to use while fishing.
- ☐ b. lie to.
- ☐ c. attract.
- ☐ d. perform magic on. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

8 Brother, Can You Spare $100,000?

Demetrius Dembowski has obtained a 30-year, fixed-rate home loan of $100,000 at an annual interest rate of 7.5 percent. Because the loan extends for such a lengthy period, the mortgage company calculates a monthly payment that ensures it will get most of its interest back first. Thus in the beginning months, Dembowski's principal payment—the amount he pays toward his actual loan—increases extremely slowly.

Payment Number	Total Monthly Payment	Principal Portion of Payment	Interest Portion of Payment	Current Balance
1	$699.21	$ 74.21	$625.00	$99,925.79
2	$699.21	$ 74.68	$624.54	$99,851.11
359	$699.21	$690.56	$ 8.66	$ 694.87
360	$699.21	$694.87	$ 4.34	$ 0.00

Let's analyze Demetrius's early payments. Imagine that on December 15 the Mauritanian Mortgage Corporation gives Demetrius $100,000, and on January 15 his initial payment is due. Throughout this first month, interest accumulates on the entire $100,000. On a yearly interest rate of 7.5%, Demetrius's monthly rate is 0.625%, or 7.5% divided by 12. Multiplying $100,000 by 0.625% yields $625, the portion of Demetrius's first monthly payment that is interest. So Demetrius now owes $100,625 ($100,000 + $625), and after his initial payment of $699.21, he still owes $99,925.79 ($100,625 − $699.21). His February interest payment will be .625% of $99,925.79.

By the time Dembowski makes his last few payments, his monthly interest payment has decreased considerably. His balance following his 359th payment is $694.87, and 0.625% of that is about $4.34, his final interest payment. What was the total amount of interest Demetrius paid? Multiplying 360 months by $699.21 equals $251,715.60, and subtracting $100,000 (the loan amount) leaves $151,715.60—over 1.5 times what he actually borrowed!

Main Idea 1

	Answer	Score
Mark the *main idea*	M	15
Mark the statement that is *too broad*	B	5
Mark the statement that is *too narrow*	N	5

a. Demetrius took out a home loan. ☐ ____

b. The final interest payment was $4.34. ☐ ____

c. The interest on a large, long-term loan decreases gradually over time. ☐ ____

Score 15 points for each correct answer. **Score**

Subject Matter 2 This passage is mainly concerned with
- ☐ a. Demetrius Dembowski.
- ☐ b. the Mauritanian Mortgage Corporation.
- ☐ c. how interest payments on a loan change.
- ☐ d. calculating the number of payments Demetrius made. ____

Supporting Details 3 The monthly interest rate on Demetrius's loan was
- ☐ a. 7.5%.
- ☐ b. 6.5%.
- ☐ c. 0.625%.
- ☐ d. $625. ____

Conclusion 4 We can conclude that Demetrius's total monthly payment was always
- ☐ a. $699.21.
- ☐ b. $100,000.
- ☐ c. $360.
- ☐ d. $151,715.60. ____

Clarifying Devices 5 The table in the passage helps the reader see
- ☐ a. Demetrius's down payment before he took out the loan.
- ☐ b. Demetrius's first and last interest payments.
- ☐ c. how much his interest payments increased.
- ☐ d. at what point the interest and principal payments were just about equal. ____

Vocabulary in Context 6 Accumulates means
- ☐ a. fades away.
- ☐ b. builds up.
- ☐ c. gets used to.
- ☐ d. decreases. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

9 What Is a Wat?

Is a wat an electrical charge capable of lighting up a huge space, or perhaps the beginning of a question in an obscure British dialect? No, a *wat* is something far different: it is, in fact, a structure designed for worship.

Most wats are Buddhist monasteries found in the Southeast Asian countries of Thailand and Cambodia. Wats include several types of buildings within a walled compound and have very distinctive architecture. Within each wat is a *bot,* or main temple, housing a statue of a sitting or reclining Buddha that may be 160 feet tall or even larger. (Other statues of Buddha, from huge to tiny and often coated with gold, may be found throughout a wat.) Additional characteristic structures include *prangs,* cylindrical columns with round tops resting on sculptured bases, and *chedis,* sharply pointed spires on top of buildings with bell-shaped bases; both structures are repositories for sacred objects. It is the chedis that are most noticeable, their distinctive form silhouetting the sky even in large cities like Bangkok.

Wats have been constructed for centuries, and the ruins of many ancient wats still exist. Within the former Thai capital of Ayutthaya, which was built in 1350, many crumbling wats still stand, their chedis and giant Buddhas visible from a distance. Despite their deteriorated condition, these wats are still frequently used for worship.

One of the wats best known to the Western world is Angkor Wat in Cambodia. Constructed in the 1100s by the Khmer people, it was not rediscovered until the 1860s. It is surrounded by a moat, and its many courtyards are filled with characteristic tall, conical towers. Angkor Wat is a Hindu rather than a Buddhist center of worship. It was constructed to honor the Hindu god Vishnu.

Main Idea 1

	Answer	Score
Mark the *main idea*	M	15
Mark the statement that is *too broad*	B	5
Mark the statement that is *too narrow*	N	5

a. Wats are places of worship with certain characteristic buildings. ☐ ___

b. Wats are places of worship in Southeast Asia. ☐ ___

c. A chedi is a spire found on certain buildings in wats. ☐ ___

Score 15 points for each correct answer. **Score**

Subject Matter	2	This passage deals mostly with ☐ a. Angkor Wat. ☐ b. the characteristics of wats. ☐ c. a short history of wats. ☐ d. life in Thailand and Cambodia. ____
Supporting Details	3	Most wats are associated with ☐ a. Buddhism. ☐ b. Catholicism. ☐ c. Hinduism. ☐ d. Confucianism. ____
Conclusion	4	Based on information in this passage, you can conclude that Buddhism ☐ a. is not associated with wats. ☐ b. is an ancient religion. ☐ c. is a new religion. ☐ d. requires people to pray frequently. ____
Clarifying Devices	5	The writer uses questions in the first paragraph to ☐ a. confuse the reader. ☐ b. define an architectural term. ☐ c. present the main idea of the passage. ☐ d. follow up on the question in the title. ____
Vocabulary in Context	6	In this passage <u>obscure</u> means ☐ a. faraway. ☐ b. little known. ☐ c. dark. ☐ d. hidden. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____