

You Gotta Know These Operas

Opera is the subject of a disproportionate share of the musical fine arts questions in quiz bowl because the genre is more conducive to the verbal nature of the game than instrumental music. The big difference, of course, is that operas have stories and characters that can be easily described by words. It is much easier to parse a question on an operatic plot than to understand a description of the notes, tempo, or harmony of, for instance, Ludwig van Beethoven's Symphony No. 7, in the rapid-fire atmosphere of quiz bowl.

Each operatic title is followed by the name of its composer, its librettist, and the year of its first performance.

1. **Aida** (Giuseppe Verdi, Antonio Ghislanzoni, 1871) Aida is an Ethiopian princess who is held captive in Egypt. She falls in love with the Egyptian general Radames and convinces him to run away with her; unfortunately, he is caught by the high priest Ramphis and a jealous Egyptian princess Amneris. Radames is buried alive, but finds that Aida has snuck into the tomb to join him. The opera was commissioned by the khedive of Egypt and intended to commemorate the opening of the Suez Canal, but it was finished late and instead premiered at the opening of the Cairo Opera House.
2. **Carmen** (Georges Bizet, Henri Meilhac and Ludovic Halévy, 1875) Carmen is a young gypsy who works in a cigarette factory in Seville. She is arrested by the corporal Don José for fighting, but cajoles him into letting her escape. They meet again at an inn where she tempts him into challenging his captain; that treason forces him to join a group of smugglers. In the final act, the ragtag former soldier encounters Carmen at a bullfight where her lover Escamillo is competing (the source of the "Toreador Song") and stabs her. The libretto was based on a novel of Prosper Mérimée.
3. **The Marriage of Figaro** (Wolfgang Amadeus Mozart, Lorenzo Da Ponte, 1786) Figaro and Susanna are servants of Count Almaviva who plan to marry, but this plan is complicated by the older Marcellina who wants to wed Figaro, the Count who has made unwanted advances to Susanna, and Don Bartolo who has a loan that Figaro has sworn he will repay before he marries. The issues are resolved with a series of complicated schemes that involve impersonating other characters including the page Cherubino. The opera is based on a comedy by Pierre de Beaumarchais. Be careful: Many of the same characters also appear in *The Barber of Seville*!
4. **The Barber of Seville** (Gioacchino Rossini, Cesare Sterbini, 1816) Count Almaviva loves Rosina, the ward of Dr. Bartolo. Figaro (who brags about his wit in *Largo al factotum*) promises to help him win the girl. He tries the guise of the poor student Lindoro, a drunken soldier, and then a replacement music teacher, all of which are penetrated by Dr. Bartolo. Eventually they succeed by climbing in with a ladder and bribing the notary who was to marry Rosina to Dr. Bartolo himself. This opera is also based on a work of Pierre de Beaumarchais and is a prequel to *The Marriage of Figaro*.
5. **William Tell** (Gioacchino Rossini, unimportant librettists, 1829) William Tell is a 14th-century Swiss patriot who wishes to end Austria's domination of his country. In the first act he helps Leuthold, a fugitive, escape the Austrian governor, Gessler. In the third act, Gessler has placed his hat on a pole and ordered the men to bow to it. When Tell refuses, Gessler takes his son, Jemmy, and forces Tell to shoot an apple off his son's head. Tell succeeds, but is arrested anyway. In the fourth act, he escapes from the Austrians and his son sets their house on fire as a signal for the Swiss to rise in revolt. The opera was based on a play by Friedrich von Schiller.
6. **Don Giovanni** (Wolfgang Amadeus Mozart, Lorenzo Da Ponte, 1787) Don Giovanni (the Italian form of "Don Juan") attempts to seduce Donna Anna, but is discovered by her father, the Commendatore, whom he kills in a swordfight. Later in the act, his servant Leporello recounts his master's 2,000-odd conquests in the "Catalogue Aria." Further swordfights and assignations occur prior to the final scene in which a statue of the Commendatore comes to life, knocks on the door to the room in which Don Giovanni is feasting, and then opens a chasm that takes him down to hell.
7. **Salome** (Richard Strauss, Hugo Oscar Wilde, 1905) Jokanaan (a.k.a. John the Baptist) is imprisoned in the dungeons of King Herod. Herod's 15-year-old step-daughter Salome becomes obsessed with the prisoner's religious passion and is incensed when he ignores her advances. Later in the evening Herod orders Salome to dance for him (the "Dance of the Seven Veils"), but she refuses until he promises her "anything she wants." She asks for the head of Jokanaan and eventually receives it, after which a horrified Herod orders her to be

killed; his soldiers crush her with their shields.

8. **Boris Godunov** (Modest Mussorgsky (composer and librettist), 1874) The opera's prologue shows Boris Godunov, the chief adviser of Ivan the Terrible, being pressured to assume the throne after Ivan's two children die. In the first act the religious novice Grigori decides that he will impersonate that younger son, Dmitri (the first) "false Dmitri"), whom, it turns out, Boris had killed. Grigori raises a general revolt and Boris' health falls apart as he is taunted by military defeats and dreams of the murdered tsarevich. The opera ends with Boris dying in front of the assembled boyars (noblemen).
9. **La Bohème** (Giacomo Puccini, unimportant librettists, 1896) This opera tells the story of four extremely poor friends who live in the French (i.e., Students') Quarter of Paris: Marcello the artist, Rodolfo the poet, Colline the philosopher, and Schaunard the musician. Rodolfo meets the seamstress Mimi who lives next door when her single candle is blown out and needs to be relit. Marcello is still attached to Musetta, who had left him for the rich man Alcindoro. In the final act, Marcello and Rodolfo have separated from their lovers, but cannot stop thinking about them. Musetta bursts into their garret apartment and tells them that Mimi is dying of consumption (tuberculosis); when they reach her, she is already dead. *La Bohème* was based on a novel by Henry Murger and, in turn, formed the basis of the hit 1996 musical *Rent* by Jonathan Larson.
10. **Madama Butterfly** (Giacomo Puccini, unimportant librettists, 1904) The American naval lieutenant Benjamin Franklin Pinkerton is stationed in Nagasaki where, with the help of the broker Goro, he weds the young girl Cio-Cio-San (Madame Butterfly) with a marriage contract with a cancellation clause. He later returns to America leaving Cio-Cio-San to raise their son "Trouble" (whom she will rename "Joy" upon his return). When Pinkerton and his new American wife Kate do return, Cio-Cio-San gives them her son and stabs herself with her father's dagger. The opera is based on a play by David Belasco.

You Gotta Know These Ancient Philosophers

1. **Socrates** (c. 469 BC–399 BC) We have no writings from Socrates's own hand, and know about him largely from the dialogues of his student Plato. Proclaiming his own ignorance of all things, Socrates went around Athens engaging in question-and-answer sessions to search for truths or draw out contradictions (the "Socratic method"). The Athenian state disapproved of his conduct, and he was put on trial for corrupting the city's youth, which led to his death by drinking hemlock. Socrates' trial, imprisonment, and death are recounted in Plato's *Apology*, *Crito*, and *Phaedo*, respectively.
2. **Plato** (c. 429 BC–347 BC) Plato's Socratic dialogues are our main source both for Socrates's philosophy and his own; Plato often put his own thoughts in Socrates' mouth. Plato's dialogues include the *Republic* (about justice and the ideal city-state), the *Symposium* (about the nature of love), and the *Meno* (about whether virtue can be taught). Plato believed in a world of "forms"—or ideal versions of real things that lie beyond the human senses—which he discussed in such works as the *Phaedo*. Plato founded a school called the Academy, from which we get the common word.
3. **Aristotle** (c. 384 BC–322 BC) Aristotle was a student of Plato; in turn, Aristotle was a tutor to Alexander the Great. Many of his works come to us in the form of lectures he gave at his school, known as the Lyceum. His philosophical output includes the *Nicomachean Ethics*, which argues that virtues consist in a "golden mean" between two extremes; the *Physics*, which describes motion and change in terms of "four causes" that make a given thing what it is; and the *Metaphysics*, which describes the structure of reality. Aristotle's *Poetics* discusses the types of drama and considers an effect of tragedies known as *catharsis*, or the purging of bad feelings.
4. **Confucius** (or Kong Fu Zi) (6th century BC) A pivotal thinker from China's Spring and Autumn period, Confucius's views on proper conduct and filial piety still influence China to this day. Many sayings attributed to Confucius were compiled by his disciples following his death in a text known as the *Analects*. Confucius put much importance on *ren*, the inner state which allows one to behave compassionately toward others, and on a concept called *li*, which can help individuals attain *ren*.
5. **Lao Tzu** (also given as Lao Tse or Laozi) (dates unknown, 6th century BC) is a quasi-mythical thinker of the Taoist tradition, to whom the pivotal *Tao te Ching* is attributed. Concepts associated with him include that of the *Tao*, or "the way," and *wu wei*, or a life of non-action in accordance with the *Tao*. In later centuries, Lao Tzu was accorded godlike status as one of the Three Pure Ones of Taoism, and is frequently depicted as an old man with a donkey. To Lao Tzu is attributed the quote "The journey of a thousand miles begins with a single step."
6. **Diogenes** (c. 410s BC–323 BC) Diogenes of Sinope was a student of Antisthenes, who founded the ancient school of philosophy known as Cynicism. (The term "cynic" comes from the Greek for "dog-like," and is thought to have originated as an insult to the school's members.) The Cynics rejected conventional social norms in search of a truly virtuous life. Diogenes himself was something of an eccentric—according to legend, he lived in a tub or a barrel on the street, and wandered Athens holding a lamp in his futile search for an honest man.
7. **Epicurus** (341 BC–270 BC) Epicurus's namesake school, Epicureanism, believed that pleasure was the highest (or only) good, and that the absence of pain (*aponia*) was the highest pleasure. They also believed that human happiness consisted of a kind of tranquillity known as *ataraxia*. Critics of Epicureanism accused his school of promoting hedonism and making selfishness into a good, though Epicureans did not believe themselves to be hedonists.
8. **Zeno of Elea** (c. 490 BC–430 BC) Zeno of Elea was a student of Parmenides, who founded the Eleatic school in a Greek colony of the Italian peninsula. He is most famous today for "Zeno's paradoxes," the best-known of which involve an arrow in flight and a race between Achilles and a tortoise. Zeno's paradoxes purport to show that physical movement is impossible, since any attempt to travel a distance must be preceded by moving half that distance, which must be preceded by moving half of half that distance, and so on. (Zeno of Elea is not to be confused with Zeno of Citium, who founded the philosophical school of Stoicism two centuries later.)
9. **Thales** (c. 620 BC–546 BC) Thales was a pre-Socratic thinker from the Greek colony of Miletus who many

consider to be the "first philosopher." Rejecting mythical explanations of the universe's nature, he believed that the first principle of all existence, the natural element from which all things emerged, was water. Thales was also a civil engineer and mathematician, and is credited with discovering that any triangle whose hypotenuse is the diameter of a circle must be a right triangle. He is sometimes thought of as the founder of a "Milesian school" of philosophy, whose other members include Anaximander and Anaximenes.

10. **Cicero** (106 BC–43 BC) Though he is better remembered today for his role in the political life of the Roman Republic, Marcus Tullius Cicero (sometimes known as "Tully") was also a significant philosopher. He described the ideal state in such dialogues as *On the Republic* and *On the Laws*, while he discussed Epicurean and Stoic views on religion in *On the Nature of the Gods*. Through the Middle Ages and Renaissance, Cicero was considered one of the most important of ancient philosophers. Indeed, Saint Augustine asserted that he turned to philosophy as a result of reading a now-lost work by Cicero known as the *Hortensius*.

You Gotta Know These Organelles

The word "organelle" comes from the Latin for "little organ," which fits their function as organized structures found within cells that allow the cell to survive.

1. **Nucleus** The nucleus is the "command central" of the cell because it contains almost all of the cell's DNA, which encodes the information needed to make all the proteins that the cell uses. The DNA appears as chromatin through most of the cell cycle but condenses to form chromosomes when the cell is undergoing mitosis. Commonly seen within the nucleus are dense bodies called nucleoli, which contain ribosomal RNA. In eukaryotes, the nucleus is surrounded by a selectively-permeable nuclear envelope.
2. **Ribosomes** Ribosomes are the machines that coordinate protein synthesis, or translation. They consist of several RNA and protein molecules arranged into two subunits. Ribosomes read the messenger RNA copy of the DNA and assemble the appropriate amino acids into protein chains.
3. **Mitochondria** The "mighty mitos" are the powerhouses of the cell. Mitochondria are double-membrane-bound organelles that are the site of respiration and oxidative phosphorylation, processes that produce energy for the cell in the form of ATP. The inner membrane of a mitochondrion forms folds called cristae [KRIS-tee], which are suspended in a fluid called the matrix. The mitochondrial matrix contains DNA and ribosomes.
4. **Endoplasmic Reticulum (ER)** The ER is a network of tube-like membranes continuous with the nuclear envelope that comes in rough (with ribosomes) and smooth (without ribosomes) varieties. In the ER, proteins undergo modifications and folding to yield the final, functional protein structures.
5. **Golgi Apparatus** The stack of flattened, folded membranes that forms the Golgi apparatus acts as the "post office of the cell." Here proteins from the ribosomes are stored, chemically modified, "addressed" with carbohydrate tags, and packaged in vesicles for delivery.
6. **Lysosomes** Lysosomes are membrane-bound organelles that contain digestive enzymes that break down proteins, lipids, carbohydrates, and nucleic acids. They are important in processing the contents of vesicles taken in from outside the cell. It is crucial to maintain the integrity of the lysosomal membranes because the enzymes they contain can digest cellular components as well.
7. **Chloroplasts** Found only in plants and certain protists, the chloroplast contains the green pigment chlorophyll and is the site of photosynthesis. Like the mitochondrion, a chloroplast is a double-membrane-bound organelle, and it has its own DNA and ribosomes in the stroma. Chloroplasts contain grana, which are stacks of single membrane structures called thylakoids on which the reactions of photosynthesis occur.
8. **Vacuoles** Found mainly in plants and protists, vacuoles are liquid-filled cavities enclosed by a single membrane. They serve as storage bins for food and waste products. Contractile vacuoles are important for freshwater protists to rid their cells of excess water that accumulates because of salt imbalance with the environment.
9. **Cilia/Flagella** Cilia and flagella are important organelles of motility, which allow the cell to move. Flagella are long, whip-like structures, while cilia are short hair-like projections. Both contain a 9 + 2 arrangement of microtubules in cross section and are powered by molecular motors of kinesin and dynein molecules.
10. **Centrioles** Not found in plant cells, centrioles are paired organelles with nine sets of microtubule triplets in cross section. They are important in organizing the microtubule spindle needed to move the chromosomes during mitosis.