The History of Zoroastrianism
By Colleen Messina

Zoroastrianism is one of the oldest religions in the world. It began between 1,400 and 1,000 B.C. in Persia when Prince Spitama left his royal duties and searched for enlightenment. It is said that after fifteen long years, he had a dazzling vision. A divine being called Ahura Mazda gave him the name Zarathustra. Ahura Mazda also gave him a revolutionary teaching about one god that would change the ancient world. Fire became the symbol for Ahura Mazda because of its brilliance and energy.

Zarathustra began preaching his new religion, but things didn't go smoothly at first because life was hard for the people of Persia. They lived in a rocky, rugged place. Their tribes had to wander over the dry Iranian plain to herd their animals. It was practically impossible to grow their crops. The one thing they enjoyed was worshipping their many gods and offering animal sacrifices. Sometimes, they used plants to become intoxicated while they offered their sacrifices. Zarathustra challenged them to turn their attention to Ahura Mazda, the one god. He preached against animal sacrifice and the use of drugs. The struggling people told him to get lost. They didn't like his fiery message!

The fiery prophet's big break came when he converted King Vishtaspa, ruler of present-day Iran. The king accepted Zarathustra's ideas about one god, which were revolutionary for that time. No one knows exactly what made King Vishtaspa like Zarathustra's ideas, but one story says that Zarathustra healed the king's favorite horse! In any case, the king and his court were converted. According to legends, three angels came to the court to celebrate.

After Vishtaspa's conversion, Zarathustra traveled around Persia to spread his message. In between preaching and traveling, the prophet married (several times) and had many children. His youngest daughter married Vishtaspa's Prime Minister, Jamaspa. After the prophet's death at the hand of a priest of the old religion, Jamaspa took Zarathustra's place.

Zoroastrianism spread over the dry, rugged Iranian plain for the next one thousand years. The Persians had no real alphabet yet, so no one wrote anything down about Zarathustra while he was alive. Everything was passed down by word of mouth through the priests of the fire temples. Most of what we know today about the Persians and Zarathustra comes from the writings of the Greeks centuries later. In spite of this lack of written records, Zoroastrianism did well until Alexander the Great arrived in Persia.

When Alexander the Great conquered Persia in 330 B.C., it was a disaster for the Zoroastrians. Zoroastrians called him Alexander the Accursed! As in so many cases in history, the conquerors tried to destroy the faith of the conquered. They killed priests and ruined the fire temples. After Alexander's death, Zoroastrianism grew stronger, but it didn't fully recover until the first century A.D.

However, the followers of fire also had some good things happen during these challenging centuries. Scribes finally wrote down the scriptures of Zarathustra, called the Avesta. The Zoroastrians also met a tribe called the Magi as they traveled westward, who adopted the teachings of Zarathustra. It is believed that the Magi, who were excellent astronomers, became the Three Wise Men who followed the star to find the baby Jesus. Today, Zoroastrian children reenact the journey of the Magi at Christmastime.

Zoroastrians faced another hard time when the Arabs attacked Persia in 637 A.D. Muslims conquered Persia and imposed stringent measures on the Zoroastrian community. They had to pay a huge tax that impoverished them. The Muslims forbade the Zoroastrians from traveling or touching food in the public market. The Zoroastrians also couldn't wear turbans, so everyone thought of them as infidels.

The Zoroastrians were fed up by the tenth century. They fled to India, and according to tradition, they asked a local Hindu ruler to help them. Jadi Rana showed the exiled Zoroastrians an overflowing pitcher of milk, symbolizing that his country was already crowded. The Zoroastrian leader then added a pinch of sugar to the milk as a way of suggesting that they would fit in and enrich India! The Hindu ruler granted them asylum if they agreed to a few conditions. The Zoroastrians in India became known as Parsis because they had come from the Iranian province of Pars.
By the nineteenth century, the Parsis established themselves as traders and businessmen. Many of them settled in Bombay, India. Indian employers appreciated them because they worked hard and told the truth. Some Parsis have become well-known leaders in their field, such as the orchestra conductor, Zubin Mehta. Former Indian Prime Minister Rajiv Gandhi was the son of a Parsi, and many Parsis hold high positions in the Indian government.

Parsis became known for their good works and philanthropy, especially in Bombay. Many hospitals, schools, libraries, as well as art and science institutes were founded by Parsis, and whenever there was a national disaster, they were often the first to help. They built many fire temples in their adopted land, and some of the oldest Zoroastrian fires in different places around the world have burned continuously for centuries.

Today, there are less than 200,000 Zoroastrians, and they live in many countries. About 90,000 of them are the Parsis of India. The Zoroastrian community is small, but their religion has influenced Christianity, Judaism, and Islam. Zoroastrianism has been called an "underrated religion" because its members stay to themselves, and they do not try to convert others. They do not have regular worship services. They give their basic prayers five times a day either alone or as a family. They follow their beliefs quietly and live by the following prayer: "O Ahura Mazda, we praise thee through Thy visible symbol, the fire. We praise Thee by our offering of good thoughts, words, and deeds."

The History of Zoroastrianism

Questions

1. According to legends, what convinced King Vishtaspa to convert to Zoroastrianism?
   A. Zarathustra healed his horse.
   B. Zarathustra parted the Red Sea.
   C. Angels appeared at his court.
   D. Zarathustra was charismatic.

2. What was another name for Alexander the Great from a Zoroastrian perspective?
   A. Alexander the Accursed
   B. Alexander the Anonymous
   C. Alexander the Annoying
   D. Alexander the Arrogant

3. Which culture first recorded the story of Zarathustra in written form?
   A. Romans
   B. Italians
   C. Greeks
   D. Sumerians

4. Zoroastrians were treated justly under Muslim rule.
   A. True
   B. False

5. Where did the Zoroastrians go when they fled Persia in the 10th century?
   A. Boston
   B. Iraq
   C. Africa
   D. India

6. What did the Hindu ruler use to demonstrate that India was crowded?
   A. a pitcher of milk
   B. a fat cow
   C. a cart full of dirt
   D. a juicy mango
7. Why were the Zoroastrians called Parsees in India?
   A. They liked parsnips.
   B. They traveled in pairs.
   C. They came from the Indian province of Pars.
   D. They later migrated to Paris.

8. How did the Zoroastrians contribute to the Christmas story?
   A. They were the Three Magi.
   B. They lit a fire in the stable.
   C. They gave incense to the wise men.
   D. They wrote a song.

Zoroastrians do not try to convert others to their beliefs, which is one major difference from other world religions. Do you think people should try to convert others to their beliefs? How would history be different if everyone followed the example of the Zoroastrian community in this way?
George and Ira Gershwin: Musical Teamwork

By Beth Beutler

Talented individuals in the writing of music and lyrics, George and Ira Gershwin were perhaps as well-known as a music and lyrics team that highly influenced America's musical history and contributed greatly to the growth of American musical comedy. You may have heard songs from some of their well-known shows, such as Porgy and Bess or Of Thee I Sing; George's classical piece, Rhapsody in Blue, or popular jazz songs such as I've Got Rhythm. Together, George and Ira wrote more than 24 scores, with George concentrating on the music and Ira on the lyrics.

Though Ira was the older of the two, he lived much longer than George did. He lived to be 87, having been born in 1896 and passing away in 1983. George, unfortunately, succumbed to a brain tumor in 1937, while his career was in full-swing. He was only 39. Even so, he was perhaps considered one of--if not the--richest composer of his time. This was perhaps due in part to all the details of George's estate and work and was himself nominated three times for an Academy Award. In 1966 he was awarded a Doctorate of Fine Arts from the University of Maryland, and in 1985, he and George (posthumously) were given a Congressional Gold Medal.

To this day, many songs produced by George and Ira Gershwin delight music lovers. Even those not very familiar with all of their work may recognize songs such as "Let's Call the Whole Thing Off" (with the famous lyrics, "you say toe-may-toe, I say toe-ma-toe, let's call the whole thing off"), "Summertime" (with its drawn out "summertime, and the livin' is easy"), and "Rhapsody in Blue."

George and Ira demonstrated how successful people can be when they practice teamwork. George obviously had the musical strength, while Ira had a gift for writing lyrics. Ira's apparently supportive attitude helped the legacy continue long after George's death, and although both are now gone, their songs live on and are still enjoyed by many audiences today.

George first became interested in music at 10 years old. Ironically, his parents had purchased a piano, hoping Ira would learn to play. Instead, George began taking lessons, eventually leaving high school at 15 to continue to pursue music. Over the years, he developed into an accomplished pianist and composer and became more and more well-known for his work. In particular, the song Swannee which jazz great Al Jolson performed brought him great recognition.

Ira became interested in writing lyrics, and for some time, wrote under the name of "Arthur Francis" so as not to tread on the growing fame of his brother. (Arthur and Francis were George and Ira's brother and sister.) However, in 1924, the two brothers began working together publicly. That year, they produced the Broadway hit, Lady Be Good, which featured Fred and Adele Astair. They continued to work together until George passed away.

After George's death, Ira continued the legacy by taking care of all the details of George's estate and work and was himself nominated three times for an Academy Award. In 1966 he was awarded a Doctorate of Fine Arts from the University of Maryland, and in 1985, he and George (posthumously) were given a Congressional Gold Medal.

Questions

1. Which brother died first?
2. Which brother was known for the music, and which for lyrics?

3. Of the songs mentioned in the article, which of the following is NOT listed?
   A. "Swanee"
   B. "Summertime"
   C. "Rhapsody in Blue"
   D. "Embraceable You"

4. What jazz great helped make "Swanee" popular?

5. True or false. George and Ira's parents had originally purchased a piano for Ira's use.
   A. True
   B. False

6. In what year did the brothers receive a Congressional Gold Medal?

7. What is a player piano roll?

8. Would you consider George and Ira a good team?
All the News That's Fit to Print - and Some That Isn't

By Colleen Messina

One popular newspaper, *The New York Times*, has the slogan, "All the news that's fit to print," but some early news pamphlets definitely didn't follow that motto. They relied on sensational tales to entice people to read their pamphlets. An early German news pamphlet had stories about a bizarre Transylvanian maniac named Vlad Dracula. It documented his bizarre, scary life. The character was later known as Count Dracula!

Some newsletters began during the Renaissance in Europe. Merchants circulated handwritten documents that described the latest wars, economic news, and human-interest stories. After Gutenberg invented the printing press in the fifteenth century, printed newsletters (like the one about Count Dracula) appeared in the late 1400s. Many "news sheets" in the 16th century even had illustrations. One paper in Spain reported the appearance of strange, lizard-like creatures. The newspaper added painted pictures of these creatures in color! We will never know if the creatures existed, but they certainly made for entertaining copy.

Despite their popularity in Europe, newspapers had a rocky start in colonial America. A newspaper called *Publick Occurences* was printed in Boston in 1690. Perhaps it documented things too publicly. Authorities arrested the publisher and destroyed all copies of the newspaper. Remember, this was before the Bill of Rights made freedom of the press a basic right in America. The government did support a colonial newspaper called the *Boston News-Letter* in 1704, but it had a limited circulation. By the Revolutionary War, over two dozen papers circulated through the colonies. New York, Pennsylvania, and Massachusetts became the centers of the printing industry. Many brilliant proponents of the Revolutionary War used newspapers to convince the public to fight for independence from England.

The colonies had forty-three newspapers by 1783, and the press played an important role in the new nation. Thomas Jefferson enjoyed newspapers tremendously and wrote in 1787, "Were it left to me to decide whether we should have a government without newspapers, or newspapers without a government, I should not hesitate a moment to prefer the latter." The ratification of the Bill of Rights of the United States Constitution made freedom of the press universal.

An explosion of printed material followed the ratification of the Bill of Rights. At first, only rich people could afford newspapers because a one-year subscription cost about as much as a working man made in a week! In the 1830s, the "Penny Press" became popular because new technology made it possible to print a newspaper and sell it for just one penny. The new country had 346 newspapers by 1814, and literacy exploded because common people had cheap, interesting things to read.

Newspapers became more competitive. In 1848, 10 men from six New York newspapers met to discuss how they could efficiently collect news from Europe. Up until that time, each paper sent reporters in rowboats to meet the ships in New York harbor to collect the news from Europe. It was difficult and expensive for each newspaper to do it alone. Besides, they probably thought it would be easier to share those rowboat rides! They decided to work together to form a news cooperative, and the Associated Press was born.

The Associated Press turned out to be a good idea because soon newspapers had correspondents all over the country. They used the telegraph and a new language called Morse code to spread information quickly and easily. In 1875, the AP became the first news organization to have a leased telegraph wire. The AP became the largest newsgathering organization in the world.

The industrial revolution transformed the newspaper industry. Printers built giant presses that could print ten thousand newspapers per hour. The public demanded timely, accurate news about the American Civil War. Reporters called "specials" made daring excursions right into the heart of the battlefields to bring first-hand accounts of the struggle. Americans fell in love with these daring reporters, and many of their articles are considered excellent historical documentation of the battles.

The newspaper industry continued to expand after the Civil War,
and by 1880, the United States had 11,314 newspapers in circulation! By the beginning of the twentieth century, newspapers had many modern features you would recognize, like banner headlines, illustrations or photographs, and sports pages. All the familiar parts of modern newspapers had emerged by 1910, including your favorite comic strips. Today, over one billion readers enjoy newspapers all over the world.

All the News That's Fit to Print - and Some That Isn't

**Questions**

1. One early German newspaper wrote a story about this weird character:
   - A. Count Dracula
   - B. Frankenstein
   - C. Cinderella
   - D. Hermann Munster

2. Which states became printing centers in colonial America? Check all that apply.
   - A. New York
   - B. Connecticut
   - C. Massachusetts
   - D. Pennsylvania

3. Which document made freedom of the press a basic right in America?
   - A. Emancipation Proclamation
   - B. Bill of Rights
   - C. Declaration of Independence
   - D. a press contract

4. How much did a newspaper cost in the 1800s?
   - A. a penny
   - B. a nickel
   - C. a dime
   - D. a dollar

5. What was the name of the news cooperative that was formed in 1848?
   - A. the Congressional Report Committee
   - B. Associated Press
   - C. United Reporters
   - D. the Rowing and Writing Association

6. What unique contribution did the Civil War "specials" make when they wrote their stories?
   - A. They sent special reports to President Lincoln about the battles.
   - B. They published interviews of local people who had witnessed the battles.
   - C. They wrote accurate historical reports of the events.
   - D. They wrote emotional pieces that made people feel concerned about the soldiers.

7. The elements of modern newspapers were established by what year?
   - A. 1910
   - B. 1848
   - C. 1960
   - D. 1455

8. Approximately how many people read newspapers today?
   - A. 1 billion
   - B. 1 trillion
   - C. 1 million
   - D. The article did not say.
Considered by some to be "Beethoven's true heir," Johannes Brahms impacted the musical world for nearly 60 years. Born May 7, 1833, in Hamburg, Germany, he showed early musical ability and receive his first training from his father, beginning as early as age 7. By the time he was 19 and went on his first musical tour, he was beginning to be recognized for his ability, having also earned money for the family through his musical pursuits. He worked with his father's orchestra. On this tour, he traveled with violinist Remenyi and met composers Joseph Joachim and Franz Liszt. He would form a good friendship with Joachim, but his relationship with Liszt was not as pleasant. It is reported that Liszt was offended by Brahms' lack of praise of his work. It is also said that Brahms fell asleep during one of Liszt's performances.

Brahms was a self-critical personality, a logical thinker who wrote in a classical and ordered style, yet was willing to add variety to his compositions. He sometimes appeared harsh to people, although at the same time could be seen handing out candy to children. He walked a lot, inspired by the open air, had a melancholy side, and lived a modest lifestyle. He preferred what is called "absolute music," meaning that the music was not tied to a particular scene or meant to be "about" any particular story or setting - in other words, music for its own sake.

A big influence on Brahms' life was his friendship with Mr. and Mrs. Robert Schumann, with whom he lived for a period of time in Dusseldorf. He was very connected with Mrs. Schumann (a pianist and composer herself,) who was 14 years older than he. Although he felt deeply about her, it appears that their relationship was not romantic in nature. Brahms was engaged briefly, but the engagement was quickly broken off in 1859, and he never married. The publicity Brahms received because of Robert Schumann was not widely accepted and may have contributed to Brahms' perfectionist tendencies. In 1854, Schumann attempted suicide and was housed in a mental sanatorium. Brahms became the go-between for Schumann and his wife at that time.

Schumann died in 1856, and Brahms began to spend time both in Hamburg and at Detmold, leading a ladies choir and being a conductor and teacher. He visited Vienna in 1862 and moved there in 1863, involving himself in music there.

Brahms was a scholar of old music and wrote in a classic, orderly style. He received a mixed response to his compositions, particularly Piano Concerto 1. Some felt his work was "old fashioned," (perhaps influenced by his study of old music). However, some of the criticism came by what was known as the "New German School," made up partly of Liszt and Richard Wagner. Although Brahms admired some of their work and accomplishments, a conflict known as the "War of the Romantics" escalated. Brahms even published a paper protesting some other types of music, but it was not successful, and he stepped down from public arguments.

Ein deutsches Requiem (German Requiem, 1868) was perhaps his greatest work. It was certainly his largest choral work, and it brought him acclaim and quite possibly, more confidence. It used a mixed chorus, full orchestra and solos and is considered by some to be a statement of faith. It uses texts from the Lutheran Bible and was partially inspired by the death of Brahms' mother.

In addition to his formal work, Brahms also prepared some smaller-scale compositions for dancing and the commercial market. One of his most popular songs is Brahms Lullaby, written to honor the birth of a son to his friend, Bertha Faber. He also wrote the familiar Hungarian Dance No. 5. In all, he wrote over 200 songs for piano, organ, strings, and clarinets. His choral preludes are considered an important part of an organist's repertoire.

Other notable facts about Brahms are that he received an honorary doctorate in music from the University of Breslau but refused one from the University of Cambridge, and in 1889 was part of a low-quality recording.

Brahms wanted to give up composing in 1890 but continued writing until his death from cancer in April 1897. He was honored posthumously by the German Hall of Fame, and to this day, influences music lovers with his pleasant compositions that continue to live on.
Johannes Brahms

Questions

1. Which famous composer is Brahms considered to be "heir" to?
   A. Schumann
   B. Beethoven
   C. Bach
   D. Liszt

2. "Absolute" music is music for its own sake, not meant to portray a scene or picture.
   A. True
   B. False

3. Which of the following instruments is not mentioned in the article?
   A. Flute
   B. Piano
   C. Organ
   D. Clarinet

4. With whom did Brahms not "see eye to eye?

5. What is one of Brahms' most well-known compositions? (Hint: it is often played for babies.)

6. Brahms' largest work was ______ Requiem.

7. With what couple did Brahms have a deep friendship?

8. Describe Brahms' personality.
Charles Dickens

By Colleen Messina

In a dismal factory in nineteenth century England, a small boy worked hard because his father was in prison. The terrible memories of that dreary place haunted him for the rest of his life. The boy eventually became one of England’s greatest novelists and humorists. His name was Charles Dickens, and his experiences in the factory inspired memorable passages in two of his most famous books, *David Copperfield* and *Great Expectations*.

Charles Dickens was born on February 7, 1812, to John and Elizabeth Dickens. He had remarkable powers of observation as a young child and always remembered his whitewashed house and the colorful gardens in Landport, England. He and his older sister often watched soldiers practice their drills in town. Charles was a sickly little boy who had such violent spasms that he couldn't participate in marbles or prisoner's base, two of his friends' favorite games. His bad health made him an avid reader, which is how young Charles spent his time. His mother taught him the alphabet, and he loved "the fat, black letters in the primer, the puzzling novelty of their shapes, and the easy, good nature of O and S." His early fascination with letters helped him write fascinating stories when he grew up.

His father, John Dickens, was a Naval Pay Office clerk and a miserable businessman. He was imprisoned for debt in 1824. His family went with him to prison, except for Charles, who worked in a blacking factory. Charles pasted printed labels on black pots for six shillings a week. He was miserable. He was so poor that when he received his shillings, he put an equal amount of money in seven envelopes to make his salary last the whole week. Eventually, the family overcame their financial problems, but Charles’s had to remain at his factory job. Remember, in the nineteenth century, everyone thought of children as small adults who were capable of constant work. His mother probably wanted more money for the household! Charles's father, who perhaps felt guilty that his son had to carry the family burden for so long, rescued Charles from his wretched job. Charles then went to school in London until 1827.

When Charles was fifteen, he became an assistant at an attorney's office. He had learned how to work hard in the factory, so at night, he diligently studied shorthand. Charles was determined to make something of himself! In 1829, he became a free-lance reporter at Doctor's Commons Courts and eventually, his nighttime studies made him a successful shorthand reporter of debates in Parliament. He also wrote stories for a newspaper.

Charles had one relationship with a lady named Maria Beadnell, but her parents didn't approve of him, so the relationship ended. He got over his disappointment, but he never forgot the rejection. He met and married Catherine Hogarth in 1835. His personal happiness closely coincided with his first success as a writer. He adopted his famous pseudonym, "Boz," and his first book, *Sketches by Boz*, came out in 1836. He also began to write short pieces about humorous sporting illustrations. He then wrote a novel published in parts called *The Pickwick Papers*. People liked his book so much that Charles decided to become a full-time novelist.

Charles's keen powers of observation from his childhood helped him create vivid scenes and realistic characters in his stories. He used the qualities of people around him to make his characters even more believable. His father appeared as Mr. Micawber, a miserly man in *David Copperfield*. His mother became querulous Mrs. Nickleby. Even his ex-girlfriend, Maria Beadnell, appeared as a not-so-nice character in a story called *Little Dorrit*. Dickens had the ability to turn his earlier rejection into something useful!

Another quality of his writings that endeared Dickens to his reading public was his gentle sense of humor. For example, the title of one chapter of *The Pickwick Papers* was, "Mr. Pickwick Journeys to Ipswich, and Meets with a Romantic Adventure with a Middle-Aged Lady in Yellow Curl Papers." Dickens produced many works while he continued doing all of his other journalistic and editorial duties. Many titles that Dickens wrote in the 1830s and the 1840s are still popular today. *Oliver Twist* was published in 1838, *A Christmas Carol* came out in 1843, and *David Copperfield* was published in 1849.

At this point in his life, Dickens began to travel. He visited America in 1842 and spoke out against slavery. He was not impressed with the American habit of chewing tobacco and spitting...
it out! Charles and his wife had already started their family and eventually had ten children, but this didn't stop their travels. In 1844, the family went to Italy, France, and Switzerland. Dickens continued writing, and he returned to England in 1857. He bought an estate called Gad's Hill that he had admired since he was a boy. He renovated the estate in 1857, but his personal life was in ruins. He separated from his wife after years of being "temperamentally unsuited" to each other. Even though he was a brilliant writer, he was emotionally insecure and eccentric.

Dickens began another aspect of his career in 1858 in London: he began doing public book readings for a salary. He did these readings for years, and he started writing a novel in installments called *A Tale of Two Cities*. Charles continued to do public readings in both London and Paris, but by this time, he was in poor health because of working so hard. By 1866, he also did readings in Scotland, Ireland, and America, even though his doctor told him to stop. Dickens just kept on going.

In spite of his failing health, Charles was a beloved and popular figure. He had a youthful, open expression, and wonderfully expressive eyes. In his youth, his hair was rich brown, but it became grizzled as he aged. He carried himself with spirit and dignity. A man who met him once wrote, "What a face is his to meet in a drawing-room! It has the life and soul in it of fifty human beings!"

However, Dickens's good health never returned. He collapsed with a mild stroke in 1869, but he was determined to keep on doing his readings. His final readings were in London in 1870. He had another stroke on June 8 and died the next day. The boy who suffered so much used his experiences to write many wonderful books that we still enjoy today.

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Charles Dickens

**Questions**

1. Where Charles Dickens live?
   - A. America
   - B. France
   - C. Canada
   - D. England

2. Which experience profoundly affected Charles's later writings?
   - A. being an office assistant
   - B. working in a factory as a young boy
   - C. watching soldiers do drills
   - D. learning shorthand

3. Why could Charles work in a factory at age 12 without anyone protesting?
   - A. Children were considered small adults in the nineteenth century.
   - B. He liked the work.
   - C. He didn't want to go to school.
   - D. He was mature for his age.

4. What is a "pseudonym?"
   - A. a nickname
   - B. an office position
   - C. a level of education
   - D. a pen name

5. What was Charles's pen name?
   - A. Nez
   - B. Boz
   - C. Zob
   - D. Bob

6. Which novel launched Dickens's full-time career as a novelist?
   - A. *A Tale of Two Cities*
   - B. *The Pickwick Papers*
   - C. *A Christmas Carol*
   - D. *Oliver Twist*
7. Which of the following characterized Dickens's writings? Check all that apply.
   A. technical advice
   B. gentle humor
   C. sarcasm
   D. believable characters

8. What activity did Dickens participate in at the end of his life?
   A. public readings
   B. public lectures
   C. writing captions for illustrations
   D. novels written in parts

Charles Dickens ultimately used his bad experiences in the factory to create poignant scenes in his books. If you became a famous novelist, what experiences from your childhood would inspire you?
Just When Math Got Organized, Chaos Popped Up!

By Colleen Messina

What do you think of when you hear the word chaos? Your bedroom, perhaps? Mathematicians use the word in a different way. Chaos theory describes many normal things that seem unorganized, but that have a pattern after all. If this doesn't make sense to you, don't worry; it took a long time for mathematicians to understand chaos. Methodical mathematicians spent hundreds of years creating numbers and inventing calculus. Just when everything seemed perfectly organized, chaos popped up.

Where is chaos in real life? There is chaos in the flow of a dripping water faucet, in weather patterns, and in the ups and downs of the stock market. An excellent example of chaos is a human heartbeat, which sometimes has a chaotic pattern (and not just on Valentine's Day) because the time between beats changes depending on what the person is doing. Under some conditions, the heart beats erratically. The analysis of a heartbeat can help doctors and researchers find ways to make an abnormal heartbeat steady again.

Chaos theory quietly emerged in a meteorologist's office in 1960. Ironically, at about the same time, computers started organizing the mathematical world. Edward Lorenz wanted to predict the weather, or maybe he just wanted an extra way to figure out whether to recommend an umbrella or sunscreen to his friends. In any case, he programmed his computer to execute 12 equations to track weather patterns. After he ran the equations several times, Lorenz decided to save some time and paper by starting in the middle of the sequence of calculations rather than at the beginning. He also printed the results out to three decimal places instead of six. He expected to get a similar graph as before.

When Lorenz came back to check his printout an hour later, he saw something unusual. The graph was vastly different from earlier graphs! Lorenz thought about this new graph for a long time. He realized that he couldn't accurately predict the weather, but he wondered why the graph was so different. He realized that even though the difference between using three or six decimal places to run his equations seemed tiny, it had a huge effect on his results. Scientists eventually called this unusual phenomenon the "butterfly effect."

When a butterfly flaps its wings, the change in the atmosphere is small, but over time, that little difference can affect the entire planet. For example, after a month, the little change in the atmosphere from the butterfly's wings might cause a tornado off the Indonesian coast! The butterfly effect means that small differences in starting conditions can mean big changes in results. The butterfly effect, which affects chaotic systems, led Edward Lorenz to discover other elements of chaos theory. (Bugs of different kinds, like computer bugs, do seem to flit in and out of mathematics.)

Edward Lorenz spent the next few years figuring out this revolutionary idea of chaos. He studied the patterns of water dripping in a water wheel. The graphs of his results always produced a double spiral pattern. He published a paper in 1963 about chaos theory, and he explained the underlying order in things that seemed random. Unfortunately, he could only publish his paper in a meteorological journal because he was a meteorologist, not a mathematician. No one paid much attention to Lorenz for years. Other mathematicians eventually realized that Lorenz's theory was important and that they liked chaos. They also discovered fractals, which made chaos fun! Mathematicians are researching these amazing shapes right now.

Fractals are beautiful geometric shapes that come from chaos. Fractal comes from the word fractional, and a fractal is an image that repeats itself at different scales. Fractals occur in nature, as well as in graphs of chaos equations. Fractals are in trees or the branches of a fern, or in blood vessels as they branch out further and further. If you look closely at coastlines or stock market data graphs, you will see fractals. Fractals can even create music and art! A computer can draw a much more realistic tree by using a simple program that makes fractals. One especially famous fractal is called the Mandelbrot set.
Here is how to draw your very own tree fractal. Draw a capital letter Y. Then draw two smaller Ys on the ends of the branches of the first Y. Keep adding smaller and smaller Ys onto the ends of the Ys you have already drawn. Soon you will have a hearty, healthy tree. This tree, with its progressively smaller repeating shapes, is a fractal.

Chaos theory and fractals changed science. Astronomers used chaos to explain things about the universe that they couldn't figure out. For hundreds of years, astronomers had compared the solar system to a gigantic clock. However, things don't always run predictably in the solar system. There are unexplainable gaps in the asteroid belt between Mars and Jupiter and irregularities in the orbits of some planets. The orbit of Saturn's moon, Hyperion, is also strange. Chaos theory explained these weird things! When astronomers use the term chaos, they are referring to something small that occurs cyclically for thousands of years, like a slight change in the orbit of a planet.

Another example of "practical chaos" is a chaotic washing machine! This washing machine supposedly produces cleaner and less tangled clothes. The machine contains a small device that stirs the water, and that rises and falls as the main pulsator goes around. In South Korea, a scientist also invented a "bubble machine" that controls the amount of bubbles, the turbulence, and the wobble of the machine. Which machine is better? The data is too chaotic to analyze just yet!

Chaos theory and fascinating fractals are at the forefront of mathematics today. Even so, you'll still have to figure out how to organize your own bedroom for a while!

Questions

1. Which of the following is the best description of chaos theory?
   A. Chaotic people are creative.
   B. It is best to control chaos in your life.
   C. Your life is better if your bedroom is organized.
   D. There is underlying order in some apparently random events.

2. What does the "butterfly effect" mean?
   A. Butterflies are the solution to computer bugs.
   B. Butterflies help people become more organized.
   C. Butterflies influence weather patterns.
   D. A small event can create a large change.

3. Where did Edward Lorenz originally publish his ideas about chaos theory?
   A. his diary
   B. a meteorological journal
   C. National Geographic
   D. The New York Times

4. What did scientists call the solar system prior to chaos theory?
   A. a bread recipe
   B. a gigantic clock
   C. wheels on a bicycle
   D. a tennis match

5. Which of the following is explained by chaos theory?
   A. why you can't find matching socks in the clean laundry
   B. why cars don't start easily in cold weather
   C. why cats have hairballs
   D. aberrations in the orbits of planets

6. What is a fractal?
   A. a new way to measure fractions
   B. a new mathematical measurement
   C. a new unit in astronomy
   D. a geometric shape created by chaos
7. Which of the following are fractals? Check all that apply.
   A. a stop sign
   B. stock market data graphs
   C. blood vessels
   D. the calculation of a gravitational unit

8. What is the name of a famous fractal?
   A. the arbitrational acceleration factor
   B. the Mandelbrot set
   C. the Lorenz graph
   D. the quadratic equation

Pretend that you are an accomplished mathematician and you just read Lorenz's article about chaos. Write him a letter telling him what you think about his new theory.
A New World of Music
By Beth Beutler

Anton Dvorak, born September 8, 1841, was a Czech composer. He is perhaps most well-known for his Symphony No. 9, From the New World, otherwise known as the New World Symphony, which was first performed in December 1893 at Carnegie Hall by the New York Philharmonic Orchestra. However, some feel that the music actually reflects folk music from his native country of Bohemia rather than America. Dvorak wrote this symphony while living in New York City, at 327 East 17th Street. Unfortunately, the home in which he composed Symphony Number 9 was demolished despite protesters who wanted to see it named as a historic location. Instead, a statue commemorating Dvorak stands in Stuyvesant Square, a park in the city.

Dvorak came from a family of seven children and started his musical training at the age of six. He became accomplished in violin and viola. He also learned to play the organ and piano. He became a music teacher and eventually gave up playing in an orchestra so he could spend more time composing. In addition, he enjoyed learning about trains.

Although he wrote romantic music, Dvorak was perhaps not as successful in his own romantic life. He originally fell in love with a student of his, and even wrote songs with the hope of attracting her. However, she married another man. Dvorak ended up marrying her sister, with whom he had nine children.

One of Dvorak's good friends was Johannes Brahms, and he was also influenced by the work of Haydn, Mozart, Beethoven, Schubert, and Wagner. Dvorak's work shows the influence of folk music of his Czech heritage, and his style was balanced between conservative and radical. He was more talented in writing instrumental pieces than he was in writing dramatic pieces for the stage. His seventh symphony was perhaps his best work in this regard, and his Cello Concerto in B Minor was also popular. His work on symphonic poems, sometimes referred to as "program music," were interesting pieces, based on an external narration or inspiration such as a painting. This differs from "absolute music," which is music written for its own sake.

Dvorak had a desire to encourage young musicians, but he also was willing to learn from them. In addition to what he absorbed from well-known composers, he found benefit from African Americans and Native Americans. One of his students, Harry Burleigh, taught a willing Dvorak about the musical style referred to as spirituals.

In 1891, Dvorak received an honorary degree from Cambridge. He then went on to direct the National Conservatory of Music in New York City from 1892 to 1895. He received $15,000 a year, a very good salary at the time. In the summer of 1893, he stayed in Iowa and wrote two of his popular choral works, String Quartet in F ("The American") and String Quintet in E flat.

Later in life, he worked on chamber and opera music. In 1897 his daughter married one of his students, and in 1901, Dvorak began directing the conservatory in Prague. He remained in that position until his death on May 1, 1904, leaving behind many unfinished works.

A New World of Music

Questions

1. What is another name for Dvorak's Ninth Symphony?
   A. True
   B. False

2. Dvorak's Ninth Symphony was written in America.
   A. True
   B. False
3. Dvorak ended up marrying the ______ of his first love.

4. The author tells us Dvorak was more talented writing one sort of piece over another. What are they?

5. For what did Dvorak receive $15,000 per year for three years?

6. In which state were two of his popular choral works written?
   A. New York
   B. California
   C. Alabama
   D. Iowa

7. Dvorak was accomplished in two similar instruments. What are they?

8. What was the term for the pieces Dvorak wrote that were inspired by an external scene or story?
Unbirthday Parties and Other Celebrations from Children's Books

By Colleen Messina

If you go to Amazon.com, you can choose from 32,000 children's books. You can pick from board books, pop-up books, cloth books, mysteries, fiction, and thrillers. Today, children's books are a special, competitive market in the publishing world. It is hard to imagine that children had no books of their own until about 250 years ago.

Children's books were disappointing in the sixteenth century because parents expected children to enjoy books about grammar and manners. Children were thought of as just miniature adults and were expected to be "seen not heard." A few books had intricate woodcuts or engravings for illustrations. Even a book with the promising title of The Games and Pleasures of Childhood showed expressionless children in stiff positions. They didn't look like they were having much fun at all!

John Amos Comenius published the first picture book in 1658. The book was an encyclopedia about nature, and it had beautiful illustrations. He believed in the revolutionary idea that children and adults had different needs! His book was popular for the next two centuries, and foreign publishers translated it into many languages. After that, publishers began experimenting with other books for children, such as alphabet books, rhymes, and fairy tales.

Most children learned their alphabets from wooden paddles with letters inscribed on them called hornbooks. A transparent, protective sheet made from a cow's horn covered the alphabet, and a tiny red cross decorated the top of the paddle so that children could pray before studying. This little cross, called "Christ's cross," later led to the word "crisscross." Later, children used an alphabet book called the battledore. A battledore had a piece of folded cardboard with an illustrated alphabet on one side. By the early nineteenth century, publishers printed many other kinds of books to teach the ABCs.

Today if you search for alphabet books, you might find more than 85 pages of listings on a bookstore website!

Fairy tales also became popular, although some authors denounced the imaginary characters of the stories. Fairy tales were told orally for centuries and were first written down by members of the French court of Louis XIV. These stories included Cinderella and Sleeping Beauty. No French court writer could have imagined the future of these stories as popular Disney films! Some somber authors still believed that children loved dry, moral, boring stories with no pictures, plots, or personality, but most finally realized that children liked fairy tales.

Charles Perrault published a popular collection of stories in 1697 called Tales of My Mother the Goose. Perrault later dropped the personal pronoun, and the book became Tales of Mother Goose. Perhaps his mother suggested the change, but in any case, Mother Goose nursery rhymes are still popular. In 1987, fans created a holiday to celebrate Mother Goose called...you guessed it, Mother Goose Day. If you want to celebrate this unusual holiday on May 1, you can read the nursery rhymes and even cook recipes like Miss Muffet's curds and whey. If you see a spider while sitting on your tuffet, you can run away!

By the eighteenth century, many educators finally believed that learning could be fun. The French philosopher Jean-Jacques Rousseau knew that children had different needs than adults. He wrote that childhood was a pure and natural state, and he felt that education should preserve the child's innocence. Finally, teachers and books began to make learning fun. New technology made color printing possible, and children's books had beautiful illustrations at last!

One of the most famous early children's books was Alice's Adventures in Wonderland. Lewis Carroll, a young Oxford University professor, originally told this story to some children on a raft trip. He later wrote the story down in 1865 as a present for a girl named Alice Liddell. In the story, a bored little girl named Alice sat on the riverbank with her sister. Suddenly, a white rabbit ran by. He took out a watch and proclaimed he would be late! Alice followed the rabbit down a hole, and her adventures in Wonderland began. This story became a children's classic and has been translated into almost every language in the world.
Carroll wrote the story for children, but it also contained many jokes that were funny to people in the Victorian era. Some of his characters' actions had a deeper meaning. One of his most lovable characters was a Cheshire Cat who could vanish except for his smile. The Cheshire Cat believed that Alice was crazy:

"How do you know I'm mad?" said Alice.

"You must be," said the Cat, "or you wouldn't have come here."

Wonderland fans today sometimes celebrate an Unbirthday party in honor of the Mad Hatter, one of Alice's friends. Unbirthday partygoers drink tea, eat little teacakes, and slurp pepper soup. For fun, they play croquet, tell silly riddles, and wear top hats. Unbirthday partygoers sometimes hang paper grins from the ceiling in honor of the Cheshire Cat!

By the twentieth century, children's literature had expanded to adventure, fantasy, and mystery, and beloved characters like Winnie-the-Pooh and hobbits emerged. From the 1960s through the 1990s, children's books gradually changed and expanded to include difficult topics such as death, drugs, and discrimination. Today, literary houses publish between two and three thousand children's books each year that are read by over sixty million children. The publishing world gives two prestigious awards to honor the best work in children's literature. The best children's book receives the Newbery Medal, and the best picture book receives the Caldecott Medal. Now that is something to celebrate!

Unbirthday Parties and Other Celebrations from Children's Books

Questions

1. Which of the following was one of the first types of books for children?
   A. alphabet books
   B. math books
   C. mystery stories
   D. cookbooks

2. Which of the following is the biggest change in the subject matter of modern children's books?
   A. They receive special awards.
   B. They are illustrated.
   C. They become Disney movies.
   D. They deal with difficult topics such as death, drugs, and discrimination.

3. Which kind of story had a long oral tradition?
   A. fairy tales
   B. nursery rhymes
   C. mysteries
   D. alphabet books

4. Which philosopher helped change society's attitudes about children's education?
   A. Aristotle
   B. Plato
   C. Rousseau
   D. A.A. Milne

5. True or false. Alice's Adventures in Wonderland is a story written strictly for children.
6. Why did Lewis Carroll write *Alice’s Adventures in Wonderland*?
   A. to denounce Victorian society
   B. to entertain children on a raft trip
   C. to win an award
   D. to make money

7. What award is given to the best children's book?
   A. Newbery Medal
   B. Wonderland Award
   C. Caldecott Medal
   D. none of the above

8. What award is given to the best children's picture book?
   A. Publisher's Weekly Award
   B. Newbery Medal
   C. Caldecott Medal
   D. Hobbit Certificate

Why did the Cheshire Cat disappear and leave his smile? Write a short letter from Lewis Carroll to a young fan explaining this part of his story.
Name ___________________________  
Friday, October 4

**Andy Warhol, the Prince of Pop**  
By Colleen Messina

Look in your kitchen cabinets. Do you see anything especially artistic? You might not think of a soup can as a worthy subject for a painting, but one artist did. Believe it or not, Andy Warhol's lively paintings of soup cans became the symbol of the style called Pop Art.

Andrew Warhola, whose parents were Czechoslovakian immigrants, was born in Pittsburgh, Pennsylvania on August 6, 1928. He later Americanized his name to Andy Warhol. He had a big impact on twentieth century art by realistically painting everyday objects, a radical departure from abstract styles of art. Everyday items filled the kingdom of Pop Art, and Andy Warhol was its Prince.

Warhol attended the Carnegie Institute of Technology, which is now called Carnegie Mellon University, and he majored in pictorial design. He became a commercial artist and worked as an illustrator for different magazines including *Vogue*, *Harper's Bazaar*, and *The New Yorker*. Andy also did window displays for retail stores. His brother James, who was a junkman, lived in the country with his seven children. He sometimes drove into the city for a visit and brought lots of junk for Andy to use in his art.

Andy lived in a cluttered apartment in the city, and many of the objects he collected seemed useless. Once, James brought Andy an enormous magnet with a bunch of bolts stuck to it. Andy thought it was magnificent and promptly put it next to his front door as a decoration. His many cats, unoriginally all named Sam, were disappointed that it was not a scratching post.

Andy worked steadily as a commercial artist through the 1950s and won several commendations from the Art Director's Club and the American Institute of Graphic Arts. He had his first one-man exhibition in 1952 at the Hugo Gallery. Warhol decided to move from his apartment, so he bought a house on Lexington Avenue, where he lived with his mother. He soon embarked on a new style that made him famous.

Warhol created art based on popular culture, like his famous paintings of Campbell's soup cans. Pop Art was based on items from television, advertisements, and comic books. After World War II, advertisements increased dramatically, and Warhol was just one artist who took advantage of this new trend. He used his commercial art techniques, such as silk screen, photolithography, and industrial materials like aluminum, plaster, acrylcs, and plastics, in his work.

The term Pop Art was first used by an English critic, Lawrence Alloway, in a 1958 article in the magazine, *Architectural Digest*. He used it to describe paintings that depicted post-war consumerism, and he said that it celebrated the god of materialism. Perhaps, the critic said, the love of money was too important. Warhol admitted that he liked painting images of money because he loved money most, thus confirming the critic's worse fears.

Warhol never cared that he sometimes seemed shallow, and he did not fit into anyone else's mold. For example, his hair displayed his flamboyant personal style. He owned wigs for every occasion. He had multicolored afternoon wigs, formal wigs for parties, and white wigs to hide his bald head. He usually wore a wig and a pair of sunglasses, but in 1985 when he was signing one of his books, a terrible thing happened. A woman pulled off his wig. The media called it the time that Andy flipped his wig! Andy himself said that it was the day that, "my biggest nightmare came true."

Warhol loved to go shopping to collect objects for his art, and going to his favorite shops became part of his daily routine. He even liked to go to flea markets and knew how to get a bargain. He had an uncanny ability to recognize future collectable objects long before anyone else, and he also visited auction houses and art dealers. Collecting things almost seemed like another form of art for the Prince of Pop.

Andy's life may have seemed easy to many, but he once faced a grave challenge when a woman walked into his studio and shot him. He survived the attack but apparently was declared dead before his revival. He later wrote, "Dying is the most embarrassing thing that can ever happen to you."
Warhol exhibited his work all over the world in museums and galleries during the 1970s and 1980s. Unfortunately, Warhol's life was cut short from complications of gallbladder surgery. He died on February 22, 1987. Stories say that his house was "stuffed to the rafters." He had accumulated a massive collection of odd things. Sotheby's auctioned off over 10,000 of his possessions, ranging from a Fred Flintstone watch to a Roy Lichtenstein painting. The sale earned nearly $30 million dollars and took 10 days.

Andy Warhol made a major contribution to twentieth century art and will always be remembered as the Prince of Pop. His art covered everyday, familiar subjects like soup cans and helped the art world come down to earth from the lofty mysteries of abstract art. The average person might simply say that Andy Warhol's art was "Mmmm, mmm, good!"

Andy Warhol, the Prince of Pop

Questions

1. Which object would be a likely subject in Pop Art?
   A. geometric shapes
   B. flowers
   C. soup cans
   D. landscapes

2. Which political event inspired Pop Art?
   A. World War II
   B. World War I
   C. the Vietnam War
   D. the Civil War

3. Which activity did Warhol prefer?
   A. getting a haircut
   B. mountain climbing
   C. eating soup
   D. shopping

4. Which word is an antonym for the word flamboyant in paragraph 6?
   A. modest
   B. colorful
   C. noticeable
   D. fancy

5. What did Warhol once say that he loved most?
   A. shopping
   B. art
   C. the city
   D. money

6. What was Andy Warhol's nickname?
   A. Prince of Junk
   B. Wig Master
   C. King of Campbell's Soup
   D. Prince of Pop

7. What kind of pet did Warhol have in abundance?
   A. gerbils
   B. fish
   C. dogs
   D. cats

8. Pop art is considered a subcategory of abstract art.
   A. True
   B. False
The History of Islam
By Colleen Messina

The history of Islam is colorful, at times violent, and always complex. It began in 610 A.D. when it is believed that Archangel Gabriel appeared to Muhammad on Mount Hira. The angel revealed the words of Allah to Muhammad, and this later became the holy Qur'an. Muhammad was a quiet man, but three years after his vision, he boldly preached about Allah. His message would change the world!

Islam spread all over the world by military conquest, through peaceful nomads and Sufi mystics, and through merchants on their trade routes. Trying to summarize its history in a few words is like trying to pour a steaming vat of Arabian coffee for Ali Baba and the forty thieves into a single teacup!

Muslims began their vast military conquests during Muhammad's life. Their first battles were against locals who were angry with Muhammad because he spoke against their many gods. In 624 A.D., several hundred poorly armed Muslims defeated 1,000 well-equipped Meccan soldiers! The Meccans tried to get rid of Muhammad again in 625 A.D. with 3,000 soldiers, but the battle was a draw. A movie made in 1976 called The Message chronicles these dramatic episodes in Islamic history.

Islam faced other challenges after the death of Muhammad. Muslims had trouble deciding upon a leader when their founder died, and they split into two groups. One group elected one of Muhammad's closest friends, Abu Bakr, and gave him the title of caliph, which means "successor." This group became the Sunni Muslims. A second group thought that the Prophet's cousin should be the leader. This group became the Shi'i Muslims. These two groups still exist today.

The caliph had many responsibilities, including becoming the leader of the army. The first caliphs led their people with wisdom and strength, but later caliphs had an elaborate lifestyle that belied their spirituality. The first caliphs after Muhammad's death had been the Prophet's closest friends, so they were called the Rightly Guided Caliphs. They led military conquests to expand their territory into a large empire that stretched from the Arabian Peninsula to Spain.

The first three caliphs were great conquerors. Their empire expanded to include Arabia, Palestine, Syria, Egypt, and much of modern-day Iran. They conquered Spain in 710 A.D., and ruled there until the 15th century. By 750 A.D., Islam had also spread across North Africa, and today, all countries of northern Africa are Muslim. The Muslim Mughal dynasty ruled India from 1526 to 1858. The well-disciplined, efficient Muslim soldiers were feared in many lands.

Many battles were fought to gain this much territory, but in other areas, the caliphs made peaceful alliances with local rulers. Christians, Jews, and Zoroastrians who lived in the conquered territories became known as dhimmis, or protected people. They paid a tax in exchange for protection.

As it spread, Islam also encountered other religions, and conflict ensued. Jerusalem is considered a sacred city to Christians, Jews, and Muslims. Muslims ruled Jerusalem from the seventh century, but they lived peacefully with the Jews and Christians. Then Christians wanted to take over through a series of battles called the Crusades led by Richard the Lionheart, who was an exceptionally brave fighter. A great Muslim leader named Saladin, who was known for his fearlessness and just treatment of his enemies, fought against the crusaders and recaptured Jerusalem in 1187. The city would remain under Muslim control for the next 800 years.

In spite of many battles, Islam also spread in quiet ways through nomads like the desert-dwelling Bedouins of Arabia and North Africa. Bedouins lived in tents and herded their cranky camels over hundreds of miles, spreading Islam along the way. Merchants who traveled across the arid deserts of Asia and Africa also felt a special affinity with Muhammad since the Prophet himself had been a merchant. These traders traveled along two important caravan routes out of Mecca. One route was the Winter Caravan, which went to Yemen. The Summer Caravan extended to the edges of the Roman Empire. They spread the message of Muhammad on their travels.

By 800 A.D., another peaceful group also spread the message of Allah over the globe. Sufis were Muslim mystics, and they began to
develop the deeper spiritual side of Islam. They traveled in Africa, Asia, and the Balkan part of southern Europe, and they converted people by telling stories and by their peaceful lifestyle. Sufis had unique poetry and music that they used for giving glory to Allah. Sometimes, they used sacred dance rituals that involved spinning around and around like a top. These dizzy dancers were nicknamed "whirling dervishes." Sufis promoted the highest elements of Islamic culture and believed that peace and beauty were the highest expressions of devotion. One famous hadith, or Islamic saying, states, "Allah is beautiful and loves beauty."

Beauty and learning were important to Muslims, and visual arts such as architecture, painting, calligraphy, metalwork, and ceramics were encouraged. Islamic scholars translated the works of the ancient Greeks and preserved knowledge of the past. Writing is one of the most important skills for a Muslim because it conveys Allah's words. Muhammad said, "Good writing makes the truth stand out," so beautiful script is a way of worshipping Allah. Sometimes calligraphers draw ingenious pictures out of the letters of the Arabic alphabet! Calligraphy is still an important part of Islamic culture today.

The Muslims of India created the country of Pakistan in 1947 so they could have their own country. Today Islam has about 1.3 billion followers worldwide, and it is the fastest growing religion in the West. All Muslims believe that "Allah is the Light of the Heavens and the Earth; the likeness of His Light is as a niche wherein is a lamp." (The Qur'an)

The History of Islam

Questions

____ 1. In which way was Islam NOT spread?
   A. military conquest
   B. the pony express
   C. Sufi mystics
   D. nomads

____ 2. What is the meaning of the word "caliph."
   A. tall one
   B. leader
   C. successor
   D. smart one

____ 3. How did different religious groups gain protection under Muslim rulers?
   A. They made lamb kebob offerings.
   B. They paid a tax.
   C. They signed petitions.
   D. They converted to Islam.

____ 4. What is a hadith?
   A. an Islamic saying
   B. a camel
   C. a type of desert
   D. a head covering

____ 5. Which city is considered sacred to Jews, Christians, and Muslims?
   A. Darjeeling
   B. Bethlehem
   C. Jerusalem
   D. New York

____ 6. Who fought Richard the Lionheart during the Crusades?
   A. Abu Bakr
   B. Saladin
   C. Muhammad
   D. Akbar
7. What was the name of Muslim mystics who peacefully spread Islam?
   A. Sufis
   B. Santis
   C. Samis
   D. Sunis

8. Which country was created so that Muslims of India could have their own territory?
   A. Ethiopia
   B. Iraq
   C. Pakistan
   D. Iran

Islam spread through military conquests, by merchants on their trade routes, and through the Sufi mystics. Which avenue do you think was the most effective way to spread religious beliefs, and why?
**Jackson Pollock, or Jack the Dripper**

By Colleen Messina

If you look at one of Jackson Pollock's splattered canvases, your first thought might be, "I could do that!" But it's harder than it looks! Pollock was a revolutionary who woke up the art world with his huge, splattered canvases.

Jackson Pollock painted with unusual tools. He once explained that, "I continue to get further away from the usual painter's tools such as easel, palette, brushes, etc. I prefer sticks, trowels, knives, and dripping, fluid paint, or a heavy impasto with sand, broken glass, or other foreign matter added." In fact, he liked dripping paint so much that he was nicknamed Jack the Dripper! Freedom of expression was his goal, and he was the first abstract expressionist artist.

Jackson had a certain amount of freedom while he was growing up. He was born on January 28, 1912 in Cody, Wyoming. He had a difficult childhood because his mother was absent-minded, and his father was just plain absent. He had four brothers, and when his older brother, Charles, began taking art lessons, so did Jackson. When Charles moved to New York, Jackson followed him.

Pollock studied under Thomas Hart Benton at the Art Students League. Benton loved to paint large Midwestern scenes, but Pollock did not. He also didn't think people were too exciting. He wrote a revealing letter when he was just 18: "I shall be an artist of some kind...people have always bored me!" Jackson was full of fervor for art, but he didn't seem to show much talent at first.

Fortunately, Jackson's art improved, but he suffered from alcoholism and underwent psychiatric treatment. He battled with alcoholism for the rest of his life, but he never gave up on his art. It took him a while to figure out his style, however. He was inspired by the modern artist, Picasso. Pollock traveled extensively around the United States and was also intrigued by the murals of Jose Orozco and David Siqueros.

By the end of '30s, he had started a unique process of dripping paint onto canvases on the floor. His goal was to create abstract expressions of what he called "unconscious imagery." Pollock was determined to pursue his new form of art, and he had his first one-man show in 1943. One critic accused him of "throwing a pot of paint in the public's face," but what Jackson really did was to vigorously throw pots of paint at canvases! Instead of being an action figure, Pollock was an action painter!

Pollock once said, "The modern painter cannot express this age...in the old forms of the Renaissance or of any past culture." By 1947, he had more fully developed his style of abstract expressionism. He did not reproduce images of objects; instead, he used his art to display emotions through color and texture. He expressed his personality through his interlacing patterns and random designs.

A good artist, even one with a revolutionary style like Pollock, values constructive criticism. One story explains how some honest feedback from a friend helped him create one of his most popular paintings. It was a cold, rainy night in the early spring of 1952. Jackson stood in his candlelit barn staring at a huge canvas on the floor. He had a messy paint stick in one hand and a glass of bourbon in the other. His paintings usually came to life as he splashed and swirled, but he had worked all night and he still felt it was not quite right. He desperately called up an artist friend to come over and give him some comments. The friend, with brutal honesty, told him, "It looks like vomit!"

However, Pollock was not a quitter! He scraped off the offending paint and began to rework his piece. He worked for six months without success. Finally, he picked up a wooden 2 x 4, drenched the edge with blue paint and smashed it against the canvas over and over again at many different angles. At last he felt the piece had the energy he wanted! The resulting painting was called "Blue Poles: Number 11" and eventually sold at auction for a record price of two million dollars! This painting is now in the National Gallery of Australia.

Jackson Pollock was the first abstract expressionist painter. The energy and freedom with which he dripped, poured, and splashed to create his paintings astounded the artistic world. His swirls of messy drips became millionaire collector's items, and his work became famous all over the world. Even though he died tragically in a car accident on August 11, 1956, he left a lasting mark on the world of modern art.
So, if you really think that you can do it, try splashing some paints around to create your own drippy masterpiece. Just remember to put down some newspapers first!

Jackson Pollock, or Jack the Dripper

Questions

1. Which style of art did Pollock inspire?
   A. pointillism
   B. abstract
   C. realism
   D. baroque

2. Which of the following did Pollock especially like to paint with? Check all that apply.
   A. small watercolor brushes
   B. trowels
   C. 2 x 4s
   D. large watercolor brushes

3. As a young man, how did Pollock feel about people?
   A. They were helpful to his art.
   B. They were fascinating.
   C. They were boring.
   D. They were useful.

4. Which personal challenge plagued Pollock for his whole life?
   A. smoking
   B. gambling
   C. alcoholism
   D. drug abuse

5. How much did "Blue Poles" eventually sell for at an auction?
   A. $2,000
   B. It didn't sell.
   C. $200,000
   D. $2,000,000

6. Which painter inspired Pollock?
   A. Rembrandt
   B. Seurat
   C. Picasso
   D. Raphael

7. Which relative had the most influence on young Jackson Pollock?
   A. his older brother, Charles
   B. his mother
   C. his grandfather
   D. his father
The Age of Discovery - Gravity and Gauss

By Colleen Messina

By the seventeenth century, mathematics had come a long way from the tallies and abacuses of the ancient world. Mathematicians had finally adopted the new Arabic numbers, as well as the symbols for addition, subtraction, multiplication, and division. Logarithms made difficult problems much easier, and calculus opened up new possibilities in science. Mathematicians applied these new tools in exciting ways ranging from world exploration to astronomy. Ships crisscrossed the oceans to new places, and telescopes scanned the skies and discovered the elliptical orbits of planets. The understanding of gravity revolutionized military science. It was truly an age of discovery.

The discovery of gravity especially changed how people viewed the world. Up until the 16th century, people thought that heavy objects fell faster. A feisty Italian named Galileo Galilei had another idea. In 1585, he climbed to the top of the leaning Tower of Pisa, made sure no one was down below, and dropped two objects. One object was heavy and the other was light, but both reached the ground at the same time. Galileo proved that objects fall at the same rate and accelerate as they fall. Eventually, military engineers understood that a cannonball shoots out in a straight path, but the force of gravity makes the cannonball fall downward in a curve called a parabola. The engineers could then fortify their strongholds in the right places, and artillerymen could shoot their cannons more accurately. Galileo's experiment revolutionized military science.

Galileo also did experiments with pendulums that helped clockmakers design accurate clocks. Seamen needed accurate time-keeping devices to navigate during long journeys. The weight-driven clocks of the previous centuries were not accurate enough; now seamen needed to measure minutes and seconds, so the new clocks were invaluable. Navigators then accurately plotted the daily positions of their ships on maps that had vertical and horizontal lines of latitude and longitude. When they connected the dots on these grids, they saw an accurate record of the ship's journey.

Rene Descartes, a great French mathematician and philosopher, also liked grids. He had a big nose and a sheaf of black hair that came down to his eyebrows. He always stayed in bed until late in the morning and said that that was the only way to get ready to do mathematics! Descartes tied geometry and algebra together by writing equations for a geometric shape, like a parabola, on a graph. His analytic geometry became the foundation of the higher mathematics of today, and some people call him the first modern mathematician. The Cartesian coordinate system is named after Descartes.

Another mathematician who laid the foundation for higher math was a number-crunching prodigy. In 1779, three-year-old Carl Friedrich Gauss watched his father add up the payroll for a crew of bricklayers and pointed out a mistake his father made in the calculations! When Gauss was 14, a wealthy Duke noticed his incredible abilities and was so impressed that he sponsored Gauss's entire education. This patronage was well deserved, as Gauss dominated mathematics of the nineteenth century.

Gauss first became famous when an Italian astronomer discovered an asteroid in 1801. Joseph Piazzi accidentally found a minor planet and then lost sight of it in the bright sky near the sun. This new planet, called Ceres, caused a great rush of excitement all over Europe. When it disappeared, astronomers were upset because they didn't know how to find the new planet again. Gauss used the tables of logarithms he had memorized to predict where Ceres would reappear. The tiny planet showed up on the other side of the sun just where Gauss said it would! Gauss received many honors from scientific societies because of this triumph.

Gauss paved the way for higher algebra by his understanding of "complex numbers." The term "complex number" was coined in 1860. A complex number is an ordinary number and another number multiplied by the square root of minus one. A complex number might not sound too useful, but it is important for solving practical physics problems. Gauss also did experiments in electricity and made so many discoveries that a "gauss" became the unit of measurement in magnetism. In addition, Gauss also wrote books on the motion of celestial bodies and figured out how to calculate the distance of faraway stars. He was a brilliant, busy man!

While Gauss worked on theoretical problems, other mathematicians
were practical. They invented new counting machines to make their calculations easier. A man named John Napier devised a cheap, simple device called, "Napier's bones" for multiplication. This device had rods engraved with the numbers 1 through 9. Rotating the rods and adding the numbers horizontally made multiplication fast and easy.

Charles Babbage was an English inventor who designed a machine called the analytical engine in 1830 that far surpassed any previous counting machine. He wanted the engine to have an automatic calculator that figure things out from the results of prior calculations. Babbage's assistant, Ada Lovelace, was an innovative mathematician who wrote a program for the analytical engine. Ada was the first computer programmer! In 1979, scientists named a programming language "ADA" in her honor. Babbage tinkered with plans for this machine until he died in 1871, but unfortunately, never built it. Babbage was a genius, but he was about a hundred years ahead of his time. His ideas eventually formed the basis for the electronic computers of the twentieth century.

The Age of Discovery - Gravity and Gauss

Questions

1. Which scientist performed an experiment from the top of the Tower of Pisa?
   A. Newton
   B. Galileo
   C. Gauss
   D. Descartes

2. What field was affected by Galileo's experiments with gravity?
   A. magnetism
   B. military science
   C. electricity
   D. counting machines

3. Check which discoveries Galileo made from the Tower of Pisa experiment.
   A. Objects accelerate as they fall.
   B. Objects fall at the same rate regardless of weight.
   C. The Tower leaned too much to make the experiment useful.
   D. A scientist should warn people before dropping objects from great heights.

4. What kind of geometry did Descartes develop?
   A. lateral
   B. longitudinal
   C. analytic
   D. topographic

5. Why did Carl Gauss first become famous?
   A. He located a lost asteroid.
   B. A wealthy duke financed his education.
   C. He was brilliant at an early age.
   D. He loved complicated equations.

6. What is unique about a complex number?
   A. It is very large.
   B. It is used in complicated equations.
   C. It involves the square root of minus one.
   D. It involves negative numbers.

7. What was John Napier's counting machine called?
   A. Napier's multiplier
   B. Napier's bones
   C. Napier's abacus
   D. Napier's calculator

8. Who was the first computer programmer?
   A. John Napier
   B. Albert Einstein
   C. Charles Babbage
   D. Ada Lovelace
William Shakespeare

By Colleen Messina

"To be or not to be; that is the question," is a well-known phrase by William Shakespeare, but many facts about his life remain a mystery. We know the dates of some events of his life because of baptismal and wedding certificates, but the famous English bard never kept a diary. He wrote 37 plays and 154 sonnets, but none of his personal letters have survived.

Most scholars think that Shakespeare was born in the year 1564 in Stratford-upon-Avon, England. He was probably born around April 23 since his christening was on April 26. His father was the town's mayor and a prosperous glove maker. Shakespeare had seven brothers and sisters, and their home was small, noisy, and cramped.

Shakespeare's country upbringing made him familiar with farm animals and vegetation. Many images of plants and flowers "crop up" later in his writings in unique ways. For example, a wicked queen's servants gather violets, cowslips, and primroses to make poison, and in Hamlet, crazy Ophelia weaves garlands of crow flowers, nettles, and daisies. In Romeo and Juliet, Juliet's father laments her death by saying, "Death lies on her like an untimely frost upon the sweetest flower in all the field."

William did spend a lot of time playing in the fields around Stratford, but he went to grammar school when he was six or seven. The schoolmasters were strict, and the lessons were torturously long. School went from six a.m. until six p.m., six days a week, all year round! Young William learned to read Latin and Greek, and he studied Roman classics. These writings may have inspired Shakespeare's great tragic plays.

For fun, young William probably tossed a football made from an inflated pig bladder, played backgammon, or watched the theatrical players who came to Stratford once a year. Everyone in England (even the queen) also enjoyed archery. Shakespeare graduated from school when he was 16. However, his father had fallen into debt, and William could not afford to study at the university. The great writer whose works are always studied at universities never attended one himself!

No one knows what Shakespeare did during the "lost years" from about 1580 until 1592. Maybe he helped his father make gloves, or perhaps he worked as a schoolmaster's assistant. He married a woman eight years his senior when he was eighteen years old. The couple had several children, but they all lived with William's father in his crowded house. The marriage didn't seem too happy. In 1587, a group of actors came to Stratford, and Shakespeare may have left with them to become an actor!

Shakespeare published his first play, Henry VI, in London in 1592. We do know that he went to London to find a new life. City life must have been a shock for the young man, with its smells, noise, and crowds. The rotting heads of traitors on poles around town must have seemed barbaric! London also had some beautiful architecture, like old churches and the majestic London Bridge.

Shakespeare's career had a major setback when all the London theaters closed for two years during the plague. English authorities believed that the disease would spread more quickly in large gatherings of people. The plague, or the Black Death, killed over 33,000 people in London. Shakespeare managed to preserve his health, and he wrote two long poems and possibly his famous sonnets during this period. He sold his poems for a large sum of money and became financially secure.

The theaters reopened in 1594. Shakespeare had written at least five plays by that time. He joined a group called the Lord Chamberlain's Men, and they performed three times a year for Queen Elizabeth. When Elizabeth died in 1603, James of Scotland became the new king of England. James I became the patron of Shakespeare's company. He loved plays and invited Shakespeare's company to perform 13 times a year!

Shakespeare wrote Macbeth, a tragedy with a Scottish setting, to please the new king. Three witches tell Macbeth, a Scottish lord, that he will become king. He wants to be king so badly that he kills everyone who stands in his way. This play is full of action and suspense, and the audience has the chance to understand what goes through Macbeth's mind. The elements of suspense, action, and
beautiful language make *Macbeth* one of Shakespeare's greatest plays.

Shakespeare's plots often came from history, and he wrote comedies, tragedies, and histories. Writing came so easily to Shakespeare that his fellow playwright, Ben Jonson, said, "Whatsoever he penned, he never blotted out a line." Shakespeare also followed certain rules in his writing that were common to Elizabethan dramas. For example, in a tragedy, the main characters died. In his comedies, the characters dealt with misunderstandings and confused identities, but they solved everything by the end of the play. The English people loved his historical plays because they often featured English kings. From 1585 to 1604, Protestant England was at war with Catholic Spain. Shakespeare wrote nine plays about battles for thrones and wars.

Shakespeare sometimes had as much adventure as the characters in his plays! When his plays were first performed, they were done in a building called the theater in London. However, the lease ran out in 1598, and the landlord demanded a high rent. Shakespeare's friends did not give up! Sixteen men crept into the night right around Christmastime to steal the boards from the theater. They dismantled the old theater completely. Then they carried the wood across the river and used it to build the famous Globe Theater!

The new theater was circular with an open space in the middle. The stage was on one side and stuck out into the audience. Plays had no fancy sets, which is why characters in Shakespeare's plays often say what they see! The stage had trap doors, balconies, and pulleys. The theater survived until 1613. An actor fired a cannon in the opening scene of *Henry VIII* to make a big impression. Well, it worked, but not in the way that Shakespeare intended because the sparks set fire to the thatched roof! The Globe burned completely in less than an hour. Everyone was fine, but one man's pants caught on fire and had to be extinguished with a bottle of beer! The players rescued many props and costumes, as well as copies of Shakespeare's plays.

Shakespeare moved back to Stratford in 1611, and he died in 1616. He is one of the most famous writers of all time. Shakespeare influenced our language in surprising ways. If you have ever told someone that you won't "budge an inch" or said that someone is your "flesh and blood," you are quoting Shakespeare!

William Shakespeare

**Questions**

1. What is the best synonym for "bard"?
   A. actor
   B. poet
   C. dancer
   D. artist

2. What part of Shakespeare's youthful surroundings inspired imagery in his plays?
   A. leather gloves
   B. flowers and plants
   C. cows and goats
   D. bows and arrows

3. Shakespeare wrote fluently and easily.
   A. False
   B. True

4. What was the name of the new theater where many of Shakespeare's plays were performed?
   A. the Sphere
   B. the Compass
   C. the Globe
   D. the Atlas

5. What historical event inspired Shakespeare to write nine plays?
   A. the plague
   B. the death of James I
   C. the death of Queen Elizabeth
   D. war between England and Spain
6. What kind of plays did Shakespeare write? Check all that apply.
   A. tragedies
   B. histories
   C. melodramas
   D. comedies

7. Shakespeare is famous for which other form of literature?
   A. proverbs
   B. jokes
   C. haiku
   D. sonnets

8. Which common phrase came from Shakespeare?
   A. a stitch in time saves nine
   B. sweet dreams
   C. flesh and blood
   D. top of the morning to you

If you had a chance to perform in a Shakespearian play, would you like to be in a comedy, a tragedy, or an historical play? Why?
Ernest Hemingway

By Colleen Messina

Ernest Hemingway was an unusual child. By the age of three, he knew stories about many great men in American history, and he collected cartoons of the Russo-Japanese war. He belonged to a nature study group. Ernest liked writing and could spell well. No one was too surprised when he grew up to be an exceptional writer.

Ernest was born on July 21, 1899, in Oak Park, Chicago. His parents encouraged his many creative pursuits. His mother taught him music and took him to concerts, art galleries, and operas. His father taught him practical skills, like how to build fires, how to use an axe, and how to tie fishing flies. Young Ernest even learned how to make bullets and prepare animals for mounting. His parents taught him to value physical courage and endurance. They wanted their six children to excel and raised them in a strict, religious atmosphere. A few lashes with father's razor strap or a smack from mother's hairbrush punished all violations of the Sabbath.

Ernest showed an interest in writing when he was given a 20-gauge shotgun at age 12. It seems like a strange source of inspiration, but the gun fired his imagination as well as bullets. He wrote stories about heroes having high-action adventures. In high school, he excelled in English, and he wrote for the school's weekly newspaper. He also took up canoeing. His motto was 'be afraid of nothing.'

Hemingway's father wanted him to go to college, but Ernest wanted to become a writer or join the armed forces. Since his father forbade him to join the army for WWI, Hemingway accepted a job with the Kansas City Star as a reporter. Hemingway and his father had an emotional goodbye at the train station. It affected him so deeply that he later wrote about it in his book For Whom the Bell Tolls. Hemingway intensely described his mixed feelings of sadness, relief, and excitement about reaching adulthood.

Hemingway's new job was to write stories about everything that happened at the police station, the train station, and the hospital. According to his sister, Marcelline Hemingway, he covered, "fires, fights, and funerals, and anything else not important enough for the other more experienced reporters." However, he soon grew bored and longed for fearless war adventures. He wanted to test his boyhood motto! One day, he found an opportunity in a newspaper headline.

Hemingway saw a headline that read, "Red Cross Calls Men," and he quickly applied for the ambulance driver job in Italy. Since he saw the headline before the paper was distributed, he beat hundreds of other applicants for the job. He was a driver from May until July 18, 1918. Then, a mortar shell hit him while he was delivering cigarettes, postcards, and chocolate to soldiers. He received a Silver Medal of Military Valor from the Italian government for his bravery.

Hemingway wrote for the Toronto Star when he lived in Paris after the war. His first book, called Three Stories and Ten Poems, was published in 1923. He made many friends in Paris, including other famous writers such as James Joyce and F. Scott Fitzgerald, and they formed a writers group that met at a bookshop. During this time, he also married Hadley Richardson, who was wealthy, and they lived largely on her trust fund. Hemingway was then free to write books and only submitted an occasional newspaper article.

Hemingway enjoyed his new prosperity, but soon he faced a big problem. He wrote a book called A Farewell to Arms based on his vivid war experiences. Unfortunately, someone stole the first version of this book, and Hemingway had to re-write the entire manuscript! He wrote the second version in a journalistic, matter-of-fact style. This rewrite helped Hemingway refine the simple, direct style that later made him famous. At that time, most writers used an ornate, elaborate prose, but this book stood out. A Farewell to Arms hit the bestseller list in 1929.

Hemingway based many of his bestselling books on his deepest life experiences and his extensive travels. His trips to Spain and his visits to bullfights inspired his book, Death in the Afternoon. He also took a safari to Mombassa, which inspired his book The Snows of Kilimanjaro. Another trip to Africa inspired Green Hills of Africa, a nonfiction work based on his big game hunts and fishing trips.
Hemingway's health and personal life did not enjoy the same success as his literary endeavors. He was married four times, and he had constant health problems and accidents. He survived an anthrax infection, kidney trouble, lacerations from a runaway horse in Wyoming, and a couple of plane crashes. He continued to write in spite of these personal challenges.

Hemingway had the ability to take every bad twist in his life and use his pain to produce great literary works. He once said, "You have to be hurt to write seriously. When you get hurt, use it!" He published a novel called \textit{For Whom the Bell Tolls} in 1940, and \textit{The Old Man and the Sea} in 1952. This novel was an enormous success and won him the Pulitzer Prize in 1953 and the Nobel Prize in Literature in 1954.

In spite of his success, Hemingway was a troubled and depressed man. He drank too much, and he suffered from continuous health problems. When he felt he couldn't overcome these problems, he took his own life on July 2, 1961. Those who loved the great novelist remember his happier days as a bearded hunter wearing Bermuda shorts and worn out loafers next to a big game catch.

Ernest Hemingway

\textbf{Questions}

\begin{enumerate}
\item Which event inspired Ernest to start writing stories?
   \begin{enumerate}
   \item learning how to tie fishing flies
   \item making bullets
   \item collecting cartoons
   \item receiving a shotgun as a gift
   \end{enumerate}

\item What was Ernest's motto as a young man?
   \begin{enumerate}
   \item try, try again
   \item have it your way
   \item be afraid of nothing
   \item good things come to those who wait
   \end{enumerate}

\item What was Hemingway's job in WWI?
   \begin{enumerate}
   \item ambulance driver
   \item journalist
   \item bullet maker
   \item soldier
   \end{enumerate}

\item Which book was inspired by his WWI experiences?
   \begin{enumerate}
   \item The Old Man and the Sea
   \item A Farewell to Arms
   \item Death in the Afternoon
   \item For Whom the Bell Tolls
   \end{enumerate}

\item Which phrase best summarizes Hemingway's style?
   \begin{enumerate}
   \item emotionally intense
   \item technically brilliant
   \item elaborate and ornate
   \item simple and direct
   \end{enumerate}

\item Which sport inspired one of Hemingway's books?
   \begin{enumerate}
   \item bullfighting
   \item fly fishing
   \item soccer
   \item football
   \end{enumerate}

\item What is the Pulitzer Prize?
   \begin{enumerate}
   \item an award for literary excellence
   \item a military medal
   \item a scientific award
   \item a lottery prize
   \end{enumerate}

\item Which novel won the Pulitzer Prize?
   \begin{enumerate}
   \item Death in the Afternoon
   \item A Farewell to Arms
   \item The Old Man and the Sea
   \item For Whom the Bell Tolls
   \end{enumerate}
\end{enumerate}