

1. History: The American Revolution

Key Events

- 1775 - Battles of Lexington and Concord

The first military engagements of the American Revolutionary War between British forces and colonial militias.

- 1776 - Declaration of Independence

The Continental Congress declared independence from Great Britain on July 4, 1776. Drafted by Thomas Jefferson, it articulated the colonies' reasons for breaking away.

- 1781 - Battle of Yorktown

The final major battle of the war. British forces under General Cornwallis surrendered to the American and French troops, leading to the end of the war.

Important Figures

- George Washington

Commander-in-Chief of the Continental Army during the American Revolution and the first President of the United States.

- Thomas Paine

Author of *Common Sense*, a pamphlet that argued for American independence and helped inspire public support for the revolution.

Important Terms

- Continental Army

The army formed by the thirteen colonies to fight against Great Britain during the American Revolutionary War.

- Treaty of Paris 1783

The treaty that officially ended the Revolutionary War and recognized American independence.

2. Science: The Solar System

Planets

- Mercury

The closest planet to the Sun, with extreme temperature variations and a surface covered with craters.

- Venus

Known as Earth's "sister planet" due to its similar size, but with a thick, toxic atmosphere and surface temperatures hot enough to melt lead.

- Earth

The only known planet to support life, with a breathable atmosphere and liquid water on its surface.

- Mars

Known as the Red Planet due to iron oxide on its surface. Scientists believe Mars may have supported life in the past.

Key Concepts

- Asteroid Belt

A region between Mars and Jupiter containing a large number of asteroids, remnants from the early solar system.

- Moons

Many planets have moons. For example, Earth has one (the Moon), and Jupiter has 79 known moons.

3. Mathematics: Quadratic Equations

Standard Form of a Quadratic Equation

$$ax^2 + bx + c = 0$$

- a, b, and c are constants, where $a \neq 0$.
- The solutions to the quadratic equation can be found using:

1 Factoring

2 Completing the square

3 Quadratic Formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Example:

Solve $x^2 - 5x + 6 = 0$

- Factoring:
 $(x - 2)(x - 3) = 0$

- Solutions:
 $x = 2$ or $x = 3$

Key Terms:

- Vertex
The highest or lowest point on the graph of a parabola. It occurs at $x = -b / 2a$.
- Discriminant
The part of the quadratic formula under the square root: $b^2 - 4ac$. It determines the number and type of solutions.
 - If $b^2 - 4ac > 0$, there are two real solutions.
 - If $b^2 - 4ac = 0$, there is one real solution.
 - If $b^2 - 4ac < 0$, there are no real solutions (but two complex solutions).

4. Literature: Shakespeare's "Romeo and Juliet"**Characters**

- Romeo Montague
The young son of the Montague family, deeply in love with Juliet, a Capulet.
- Juliet Capulet
The young daughter of the Capulet family, who falls in love with Romeo.
- Mercutio
Romeo's close friend, known for his witty and playful character. He is killed by Tybalt.
- Tybalt
A Capulet, Juliet's cousin, known for his hot-headed and combative nature. He kills Mercutio.

Key Themes

- Love vs. Hate

The play explores how love and hate are interwoven in the lives of the characters, particularly through the feuding families.

- Fate

The idea that the lovers are doomed from the start, as indicated by the prologue, which refers to them as "star-crossed lovers."

- Youth and Impulsiveness

The impulsive actions of Romeo and Juliet drive the plot forward, culminating in tragic consequences.

Famous Quote:

- "A rose by any other name would smell as sweet."

— Juliet, Act 2, Scene 2

5. Geography: World Capitals

Capitals and Countries

- United States - Washington, D.C.
- France - Paris
- Japan - Tokyo
- Germany - Berlin
- Brazil - Brasília
- Australia - Canberra
- India - New Delhi

Fun Fact

- Switzerland has no official capital city. While Bern is the de facto capital, it's not constitutionally defined as the capital.