

WORLD BOOK



F • 7



F Volume 7

The World Book Encyclopedia



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The World Book Encyclopedia

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About the cover design

The encyclopedia is available in both traditional and SPINESCAPE bindings. The SPINESCAPE design for the 2007 edition—*Undersea World of Wonders*—shows the beauty and rich wildlife of Australia's Great Barrier Reef, the largest group of coral reefs in the world. The image highlights a major goal of *World Book*, to describe and explain the wonders of the natural world to its readers.

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Ff

F is the sixth letter of our alphabet. Historians believe that the letter came from a symbol used by the Semites, who once lived in Syria and Palestine. They named it *waw*, meaning *hook*. The ancient Greeks later took the symbol into their own alphabet and called it *digamma*. They used it to represent the sound of *w* in English. The Romans were the first to use the letter to represent our sound for *f*. See **Alphabet**.

Uses. *F* or *f* is about the 15th most frequently used letter in books, newspapers, and other material printed in English. When used on a report card, *F* usually means failure in a school subject. In music, it names one note of the scale.

As an abbreviation, *F* shows that a temperature reading is in Fahrenheit degrees. *F* means *fluorine* in chem-

istry, *function* in mathematics, *fluid* in pharmacy, *free energy* in physics, and *frequency* in statistics. In photography, *f* refers to the focal length of the lens divided by its actual opening.

Pronunciation. In English, a person pronounces the *f* by placing the lower lip against the edges of the upper front teeth and forcing the breath out. A person pronounces *ff* as a single *f*, except when the letter appears in combinations of two words, such as *self-fed*. In some English nouns, such as *knife*, the *f* becomes a *v* in the plural form of the word. The *fin* in French, Italian, Spanish and German words resembles the English *f* sound. The Latin pronunciation of *f* was also similar to the English *f* sound.

Marianne Cooley

See **Pronunciation**.

Development of the letter F

The ancient Egyptians drew this symbol of a hook about 3000 B.C. The Semites adapted the symbol and named it *waw*, their word for *hook*.

The Phoenicians used this symbol of a hook in their alphabet about 1000 B.C.

The Greeks, about 800 B.C., changed the symbol and made it the sixth letter of their alphabet. They called it *digamma*.

The Romans gave the capital *F* its present form about A.D. 114.

The small letter *f* developed about A.D. 500 from Roman writing. Monks who copied manuscripts modified the letter during the 800's. By about 1500, the *f* had its present shape.

A.D. 500

1500

Today

Special ways of expressing the letter F

• • — •
International
Morse Code

• •
• •
Braille



International
Flag Code



Semaphore Code



Sign Language
Alphabet

Common forms of the letter F

Handwritten letters vary from person to person. *Manuscript* (printed) letters, *left*, have simple curves and straight lines. Cursive letters, *right*, have flowing lines.

Roman letters have small finishing strokes called *serifs* that extend from the main strokes. The type face shown above is Baskerville. The italic form appears at the right.

Sans-serif letters are also called *gothic letters*. They have no serifs. The type face shown above is called Futura. The italic form of Futura appears at the right.

Computer letters have special shapes. Computers can "read" these letters either optically or by means of the magnetic ink with which the letters may be printed.

2 Faber, Eberhard

Faber, *FAY buhr*, **Eberhard**, *EHB ur hahrd* (1822-1879), an American businessman born in Bavaria, built the first mass-production pencil factory in the United States. His great-grandfather had started making pencils in Bavaria in 1761. Faber moved to New York City in 1848 and opened a branch of the family firm there the next year. He sold pencils from Bavaria and exported cedar boards from Florida to European pencil manufacturers.

Faber had to pay a tariff on the pencils he imported, and so he decided it would be cheaper to make them himself. He developed labor-saving machinery to avoid high production costs and, in 1861, built a pencil factory in New York City. Faber later also made pens, erasers, and other stationery products. Faber was born in Stein, near Nuremberg, Germany.

Barry W. Poulson

Fabergé, *FAB uhr ZHAY*, **Peter Carl** (1846-1920), was a Russian goldsmith and jeweler who won international fame for his design of decorative objects. His imaginative creations included cigarette cases, picture frames, parasol handles, and miniature flowers and animals, as well as clocks and other traditional items.

Fabergé's objects were made from gold, silver, and various gemstones native to Russia. He decorated many items with a brilliantly colored enamel that was characteristic of his work. Fabergé's most famous pieces are the beautifully crafted Easter eggs he made for Czar Alexander III and Nicholas II. See **Decorative arts** (picture).



The Resurrection Egg; The Forbes Magazine Collection

A Fabergé Easter egg was created about 1889. Fabergé made the egg of gold, diamonds, and pearls, with enameled figures.

Fabergé was born in St. Petersburg. He received his first training from his father, a successful jeweler, and inherited the small family business at the age of 24. He expanded the business into a company with workshops in the Russian cities of Kiev, Moscow, Odessa, and St. Petersburg, and eventually in London. Czar Alexander III appointed him imperial jeweler in 1884. The Soviet government took over Fabergé's firm after the Bolshevik Revolution of 1917. Fabergé fled to Switzerland, where he died.

Marilyn Pfeifer Swezey

Fabian Society, *FAY bee uhn*, is a group of British socialists. The society was founded in 1884. It was named for Quintus Fabius Maximus, a Roman general who avoided defeat by refusing to fight any decisive battles against Hannibal. The Fabians teach that socialism can be achieved gradually, through a series of reforms (see **Socialism**). They differ from the Communists, who believe that the people can gain ownership of the means of production only through revolution. Noted Fabians have included George Bernard Shaw, H. G. Wells, and Sidney and Beatrice Webb. Fabian ideas became the basis of the British Labour Party (see **Labour Party**). Today, the society sponsors and publishes research on political and social issues.

Chris Cook

See also **Fabius Maximus**, **Quintus**; **Webb**, **Sidney** and **Beatrice**.

Fabius Maximus, *FAH bee uhs MAK suh muhs*, **Quintus**, *KWIHN tuhs* (275?-203 B.C.), was a Roman military leader known for his strategy of wearing down the enemy but avoiding any decisive conflict. He was a hero of the Second Punic War (218-201 B.C.) between ancient Rome and Carthage, a city in northern Africa.

In 217 B.C., the great Carthaginian general Hannibal won a major victory over the Romans at Lake Trasimene, in northern Italy. In response to this military emergency, the people appointed Fabius, who had already held several high Roman offices, to the powerful temporary office of dictator. As dictator, Fabius followed a strategy of avoiding full-scale battles with Hannibal. Instead, he tried to slowly wear down the Carthaginian army in small raids and skirmishes. This strategy earned Fabius the nickname *Cunctator* (The Delayer).

Many Romans opposed Fabius's tactics. After Fabius stepped down as dictator at the end of 217 B.C., Roman leaders reversed his policy and sought a major battle with Hannibal. However, the new Roman policy resulted in a disastrous Roman defeat at Cannae, in southern Italy. The Romans then returned to Fabius's cautious strategy, which laid the foundation for Rome's eventual victory over Carthage.

Arthur M. Eckstein

See also **Fabian Society**; **Hannibal**; **Punic Wars**.

Fable is a brief fictitious story that teaches a moral. In most fables, one or more of the characters is an animal, plant, or thing that talks and acts like a person. A fable may be told in prose or in verse. In many fables, the moral is told at the end in the form of a proverb.

Famous fables include "The Fox and the Grapes," "The City Mouse and the Country Mouse," and "The Wolf in Sheep's Clothing." These tales have been told and retold for more than 2,000 years. They remain popular because they illustrate truths that almost anyone can recognize. In "The Fox and the Grapes," for example, a fox decides that some grapes growing too high for him to reach are probably sour anyway. A person who hears the tale rec-



Engraving (1879) by William Salter Herrick (Bettmann Archive)

The fable “The Fox and the Grapes” tells of a fox who wants to eat a bunch of grapes on a vine. After he finds he can’t reach the grapes, he decides that they were probably sour anyway.

ognizes the fox’s attitude as a common human failing. The moral of the fable—that people often express a dislike for what they cannot have—is summed up in the expression “sour grapes.”

Nearly all ancient peoples invented folk tales in which animals had human traits. The fox was often pictured as sly, and the owl as wise. In time, people began to tell the stories to teach morals. The tales thus became fables.

Most of the fables that are popular in Western countries can be traced back to ancient Greece and India. The majority of the Greek fables are credited to Aesop, a Greek slave who lived about 600 B.C. Aesop had a reputation for telling wise, witty tales about animals, but scholars know little else about him. The fables known as “Aesop’s fables” probably came from several ancient sources. Some of the stories originated in India.

The fables of the people of India were influenced by their belief that after death, human beings might be reborn as animals. Indian storytellers made up many tales of such rebirths and used them to teach a variety of morals. Some of these fables had reached the West by the start of the Christian era and were included in early collections of Aesop’s fables. During the 200’s B.C. or after, the Indians collected their best-known fables in a work called the *Panchatantra*.

Through the centuries, many writers have retold the ancient fables. The most famous such writer was Jean de La Fontaine, a French poet of the 1600’s. He retold Aesop’s fables in elegant verse and expanded their meanings. Fables always made fun of human follies, but La Fontaine turned such satire into biting social criticism.

In La Fontaine’s version of “The Fox and the Crow,” for example, a fox robs a crow of some cheese by telling him what a fine singing voice he must have. As the flattered crow opens his mouth to caw, the cheese drops from his beak. Earlier versions of the fable poked fun at

the crow for being fooled by the fox’s flattery. La Fontaine’s version includes the fox’s trickery and ends with a moral: “Every flatterer lives at the expense of his listeners.” La Fontaine wrote his fables mainly for adults, but they have long been favorites of French children.

La Fontaine has had many imitators. One of the most successful was Ivan Krylov, a Russian poet of the early 1800’s. Krylov translated La Fontaine’s fables into Russian and also wrote many of his own. Krylov intended his stories mainly for adults. But they have become the most popular children’s stories in Russia.

During the 1900’s, writers continued to develop the fable as a literary form. The Irish novelist James Joyce wove “The Fox and the Grapes” and “The Ant and the Grasshopper” into his *Finnegans Wake* (1939). The fables help create the mood of fantasy that characterizes this novel. The American humorist James Thurber revived the fable as a form of social criticism. His fables are noted for their stinging portrayal of the anxieties of modern life.

Mark E. Workman

See also **Aesop’s fables; Allegory; Folklore; La Fontaine, Jean de; Literature for children** (Traditional literature).

Additional resources

Level I

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Fabre, FAH buhr, Jean Henri Casimir, zhahn ahn REE ka zee MEER (1823-1915), a French naturalist, spent his life observing insects and spiders. He wrote simply of what he saw in the gardens and fields near his home. He received the ribbon of the Legion of Honor but was fired from his teaching position because he allowed girls to attend his science classes. Fabre was almost unknown outside of France until he was nearly 80. Then the great scientific societies recognized his work. He wrote a 10-volume *Souvenirs Entomologiques*. Fabre was born on Dec. 22, 1823, in St. Léon. He died on Oct. 11, 1915.

Carolyn Merchant

Fabric. See **Textile**.

Face is the front part of a person’s head. It consists of the forehead, eyes, nose, mouth, cheeks, and chin. Muscles and skin cover the face. The eyes are protected from glare and dust by the eyelids, lashes, and eyebrows. The tip of the nose is made up of cartilage and skin, which act as a flexible cushion. The channels of the nose are covered with tiny hairs that strain out dust and dirt in the air. The mouth includes the roof, teeth, lips, and tongue, and is lined with mucous membrane. The lower jaw is the only bony part of the face that moves.

The facial skeleton is made up of 14 bones and 32 teeth. The *frontal bone* forms part of the forehead. The *nasal bones* and *lacrimal bones* combine to support the bridge and base of the nose. The middle portion of the face, including the cheekbones and upper jawbones, is formed by the *zygomatic bones* and *maxillae*. The *mandible* forms the jaw. The *vomer bones*, *ethmoid bones*, and *palatine bones* lie deeper in the face. There are also

4 Face fly

a number of muscles in the face. There is a circular muscle around the mouth and one around each eye. Other muscles spread out over the face from the edges of the circular muscles.

The face is the most distinctive part of a human being. It differs in each person because of variations in the nose, eyes, and other parts of the face. It is because of these variations that we recognize each other and tell one another apart. Much of what goes on in our mind finds expression in our face. Our facial muscles often show the kind of emotions we feel. We cannot always control our expression. Charles W. Cummings

See also **Bell's palsy**; **Head**.

Face fly is an annoying pest for livestock. Groups of adult face flies feed on the fluid around the eyes, noses, and mouths of livestock, especially cattle. They also feed on blood from the wounds that other flies make on cattle. Face flies do not bite and are not known to carry germs that cause human diseases. But they can transmit diseases to horses, donkeys, and cattle. The face fly looks like the common house fly, but they differ in their habits.

The female face fly lays eggs in fresh cow manure. Face fly *larvae* (maggots) develop faster than house fly larvae. Mature face fly larvae are yellowish instead of white, but otherwise resemble house fly maggots. Face flies hibernate in barns, houses, and other shelters.

The first known face flies in North America were discovered in Nova Scotia in 1952. They probably came from Europe. The flies soon spread throughout most of the United States. E. W. Cupp

Scientific classification. The face fly is in the order Diptera. It belongs to the house fly family, Muscidae. It is *Musca autumnalis*.

Facet. See **Diamond** (How diamonds are cut to make jewels; pictures).

Facsimile. See **Fax machine**.

Factor. Factors of a number are numbers which when multiplied together give the original number. For example, the numbers 3 and 4 are factors of 12 because $3 \times 4 = 12$. The other whole number factors of 12 are 2 and 6, and 1 and 12. **Factoring** (determining factors) provides insight into one of the many relationships among numbers.

Every whole number, except 1, can be expressed as the product of at least two factors. A number that has exactly two different factors, itself and 1, is called a *prime number*. The number 7 is prime because 1 and 7 are its only factors. The eight smallest primes are 2, 3, 5, 7, 11, 13, 17, and 19. A number that has more than two factors is called a *composite number*. The number 4 is composite because it has three factors, 1, 2, and 4. The eight smallest composite numbers are 4, 6, 8, 9, 10, 12, 14, and 15. The number 1 is neither composite nor prime.

Prime factors of a number are those prime numbers

which when multiplied together equal the number. Each number is a product of only one set of prime numbers. For example, 24 can only be expressed as a product of prime numbers as $2 \times 2 \times 2 \times 3$ (in any order). The *prime factorization* of 24 is $2 \times 2 \times 2 \times 3$ and the *prime factors* of 24 are 2 and 3.

To find the prime factors of a number, divide the number by any *prime number* that divides it evenly. It is usually easiest to use the smallest prime number that divides the number evenly. For example, to find the prime factors of 220, begin by dividing by 2 ($220 \div 2 = 110$). Continue dividing the *quotient* (the number obtained) by 2 until it is no longer divisible by 2 ($110 \div 2 = 55$). But 55 cannot be divided by 2 without leaving a remainder. The next prime, 3, does not divide 55 without a remainder either. But the next greater prime, 5, does divide 55 equally ($55 \div 5 = 11$). The number 11, like 2 and 5, is a prime number. Therefore the prime factorization of 220 is $2 \times 2 \times 5 \times 11$ and the prime factors are 2, 5, and 11. The product $2 \times 2 \times 5 \times 11$ (in any order) is the only way 220 can be expressed as the product of prime numbers. The process may be written like this:

$$\begin{array}{r} 2 \overline{)220} \\ \underline{2 } 110 \\ 2 55 \\ \phantom{2 } \underline{55} \\ 3 55 \\ \phantom{3 } \underline{55} \\ 5 55 \\ \phantom{5 } \underline{55} \\ 11 \end{array}$$

(leaves a remainder)
(leaves a remainder)
(prime)

Common factors. If a number is a factor of two or more numbers, it is called a *common factor* of those numbers. For example, 1, 3, 5, and 15 are the factors of 15; and 1, 2, 4, 5, 10, and 20 are the factors of 20. One and 5 are common to both these sets of factors.

If two numbers have more than one common factor, the greatest one is called the *greatest common factor*. It is also the *greatest common divisor* since a factor of a number is also a divisor of that number. For example, the numbers 30 and 45 have four common factors: 1, 3, 5, and 15. The greatest common factor is 15. To find the greatest common factor of two or more numbers, first find the set of all the factors for each number. Then select the largest factor which is in all the sets. The greatest common factor of 18, 30, and 42 is in this example:

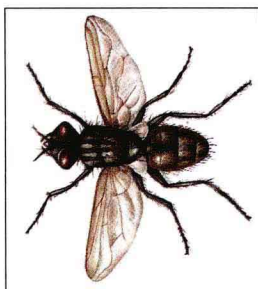
Number	Set of factors
18	1, 2, 3, 6, 9, 18
30	1, 2, 3, 5, 6, 10, 15, 30
42	1, 2, 3, 6, 7, 14, 21, 42

The number 6 is the greatest factor common to all the sets, so 6 is the greatest common factor of 18, 30, and 42.

Relative primes. Two numbers that have no common factors other than 1 are *relatively prime* or *prime in relation to each other*. For example, the factors of 12 are 1, 2, 3, 4, 6, and 12. The factors of 35 are 1, 5, 7, and 35. Twelve and 35 have no common factors other than 1. They are relatively prime.

Algebraic factors. *Algebraic expressions* ($2x + 4$ is an algebraic expression) also have factors. The factors of $3ab$, for example, are 1, 3, a , b , $3a$, $3b$, ab , and $3ab$. The factors of a^2b are 1, a , b , a^2 , ab , and a^2b .

The factors of algebraic expressions are found in the same way as the factors of whole numbers. Multiplying $2a$ by $(a + 2b)$ gives $2a^2 + 4ab$. Therefore, $2a$ and $(a + 2b)$



WORLD BOOK illustration by Shirley Hooper, Oxford Illustrators Limited

Face fly

are factors of $2a^2 + 4ab$. The other factors are 1, 2, a , $2(a + 2b)$, $a(a + 2b)$, and $2a(a + 2b)$.

The other factors of $2a^2b + 4ab^2$ are 1, 2, a , b , and ab . The expression $a^2 + b^2$ cannot be factored using real numbers only. Its factors are *complex numbers*. A complex number is the sum of a real number and an *imaginary number* (the square root of a negative number).

Robert M. Vancko

See also **Algebra** (Factoring); **Numeration systems** (The decimal system).

Factory is a building or group of buildings in which products are manufactured. Factories range in size from home garages to groups of buildings covering whole city blocks. Inside, workers and machines turn raw materials into parts and then assemble parts into finished products. Factories, also called *plants*, employ about one-fourth of the world's labor force.

Before the development of factories, workers made most manufactured products in homes or small workshops. The development of power-driven machines in the 1700's and 1800's made the modern factory system possible in many countries (see **Industrial Revolution**).

Kinds of factories. Factories use the principle of *division of labor*—that is, they divide the work into a number of separate operations. There are four main manufacturing methods used in factories: (1) repetitive, (2) process, (3) fixed-position, and (4) cellular.

A factory uses *repetitive manufacturing* to make many units of the same product. Automobile makers use a repetitive approach called the *assembly-line* method, in which the auto frame moves on a conveyor through the factory. As the frame moves, parts arrive on other conveyors and get attached to the frame.

Process manufacturing is used for a wide variety of products, such as specialized tools or complex mechanical parts that are made to order. Machines are grouped by the types of operations they perform. Each job moves through the factory visiting only the machine groups needed. Skilled operators must set up the machines for each job. Factories that do process manufacturing are often called *job shops*.

A factory uses *fixed-position manufacturing* to make only a small number of units of the same product. In aircraft factories, the product cannot be moved because of its size. Instead, workers and equipment must come to the product. Completing one unit may take months.

Cellular manufacturing combines repetitive and process methods. Machines are set up in a linear or U-shaped *cell* to make a family of similar products. The factory may have many cells, each making a different product family. Cells may be set up to make a certain number of units of a product. Once that number is finished, the cells are changed to make another product.

Location and design. Manufacturers try to build their factories in areas where land and employees are available at low cost. The chosen locations also must have good access to highways, railroads, or ports to allow for receiving materials and shipping finished products. Many plants have a one-story structure, which permits materials to move easily through them.

Manufacturers often use computers to link factories to customers and suppliers. As customers use products, the factory plans which products to produce and automatically orders the needed materials from suppliers. In

many factories, computers control the operations of machines and the flow of work through the plant. The computers enable a few technicians to survey and operate the entire factory efficiently. Such factories may use robots and computer-controlled machine tools to perform complex, tiring, or dangerous tasks.

Ronald G. Askin

Related articles in *World Book* include:

Automation	Industry	Mass production
Electricity (In industry)	Invention	Sweatshop
Industrial relations	Labor force	Technology
	Manufacturing	

Factory farming is a term that people often apply to highly mechanized systems for raising large numbers of livestock, usually many thousands. Livestock producers raise the animals in confinement so that they can more easily manage the large numbers of animals. Livestock producers commonly raise hogs and poultry in a building and keep them from roaming outside. The building's ventilation, heating, cooling, feeding, and watering systems are mechanically controlled. Each animal is referred to by an individual identification number rather than by name. Operators of small farms have difficulty competing in the livestock market with factory farms. Factory farming is also called *corporate farming*.

Some people claim that factory farming results in indifference and even brutality toward livestock. They believe that animals in factory farms are abused and diseased. But other people believe that factory farms provide healthful conditions. They point out that poor conditions produce unhealthy animals that are stunted or unable to reproduce, resulting in no profit for the farm operators. Many people are concerned that animal wastes from large operations are polluting the land and water. Most states that have large factory farms have laws or are enacting laws dealing with the environmental aspects of these operations.

John Carlson

See also **Livestock**.

Faeroe Islands. See **Faroe Islands**.

Fafnir, *FAHV nihr*, in Scandinavian mythology, was a man who turned himself into a dragon. Poems and stories from medieval Iceland describe him as a powerful, greedy, and violent man with magical powers. He killed his father, Hreidmar, and stole his family's gold. He then turned himself into a dragon and spent the rest of his life guarding the gold. His brother Regin tried to reclaim the gold and asked the hero Sigurd to kill Fafnir. Regin planned to betray and kill Sigurd after Fafnir's death.

Fafnir sometimes left his lair to drink from a nearby river. Sigurd dug a hole in the path that led to the river. He hid in the hole until Fafnir crawled over it, and then used his sword to stab Fafnir in the heart. Sigurd roasted the heart, and by tasting its magic juice was able to understand the language of birds. The birds warned Sigurd that Regin wanted to kill him, so Sigurd killed Regin.

German composer Richard Wagner told a version of this story in his opera *Siegfried*. In the opera, Fafnir is slain by the Germanic hero Siegfried.

Carl Lindahl

Fagin, *FAY guhn*, was a receiver of stolen goods and a trainer of young thieves. He was a character in the novel *Oliver Twist*, by Charles Dickens.

Fahd (1921?-2005) ruled as king and prime minister of Saudi Arabia from 1982 until his death in 2005. He came to power following the death of his half-brother King Khalid. When Khalid became king in 1975, Fahd was

6 Fahrenheit, Gabriel Daniel

named next in line to the throne and first deputy prime minister of Saudi Arabia. Fahd ran the daily affairs of the government because Khalid was not in good health and he lacked Fahd's detailed knowledge of government functions. Fahd tried to maintain Saudi Arabia's traditional Islamic moral values while continuing the rapid modernization made possible by the country's great oil wealth.

In August 1990, Iraqi forces invaded and occupied oil-rich Kuwait. Many people feared Iraq would next invade Saudi Arabia. Fahd invited foreign troops, including those from the United States, to come to Saudi Arabia to defend that country. The Saudis and foreign nations formed an alliance. In February 1991, under U.S. military leadership, these allies drove the Iraqis out of Kuwait. See **Persian Gulf War of 1991**.

In the mid-1990's, King Fahd's health began to decline. His half brother Abdullah, next in line to the throne, became increasingly responsible for running the Saudi government. Fahd died on Aug. 1, 2005, and Abdullah then became king and prime minister.

Fahd ibn Abd al-Aziz Al Saud was born in Riyadh. His father was King Abd al-Aziz ibn Saud, known as Ibn Saud, the founder of Saudi Arabia. Malcolm C. Peck

Fahrenheit, Gabriel Daniel (1686-1736), a German physicist, developed the Fahrenheit temperature scale. He also made the thermometer more accurate by using mercury instead of mixtures of alcohol and water in the thermometer tube (see **Thermometer**).

Fahrenheit determined three fixed temperatures: 0 °F for the freezing point of ice, salt, and water; 32 °F for the freezing point of pure water; and 212 °F for the boiling point of water. These three temperatures, from lowest to highest, are equal to -18 °C, 0 °C, and 100 °C on the Celsius temperature scale. Fahrenheit was born on May 24, 1686, in Danzig (now Gdańsk, Poland). He died on Sept. 16, 1736. Margaret J. Osler

Faïence, *fy AHNS* or *fay AHNS*, is a kind of earthenware. Faïence is glazed with tin oxide to produce a creamy white color. The ware can be decorated with other metallic oxides that turn various colors when the pottery is *fired* (baked).

Faïence is related to two other types of earthenware, majolica and delft. But the three have different forms of decoration and assumed their styles in different countries. Faïence came from France, majolica from Italy, and delft from the Netherlands.

The French named faïence for Faenza, Italy, which was the center for the production of tin oxide-glazed pottery during the 1500's. Today, potters in Germany, the Scandinavian countries, and Spain produce tin oxide-glazed wares known as faïence. William C. Gates, Jr.

Fainting is a temporary loss of consciousness. A fainting person becomes pale, begins to perspire, and then loses consciousness and collapses. The person also has a weak pulse and breathes irregularly. Fainting usually



Saudi Arabian Information Service, Washington, D.C.
Fahd



WORLD BOOK photo by Steinkamp/Ballog

A fainting spell can be relieved by having the person lie on the floor with the legs slightly elevated, as shown here. The person should be given plenty of room and air.

lasts only a few minutes. As the person regains consciousness, the muscles become firm, the pulse becomes stronger, and breathing becomes regular.

Fainting occurs when there is an insufficient supply of blood to the brain for a short time. This results from a *dilation* (widening) of blood vessels in the body followed by a drop in heart rate and blood pressure. It is often triggered by emotional shock. Other common causes of fainting include overexertion, standing for long periods, and certain medical conditions, such as heart disease.

A person who has fainted should be placed flat on the back. Raise the legs slightly if the person shows no signs of injury. Get medical assistance in all cases of fainting. A person who feels weak or dizzy may avoid fainting by lying down or sitting with the head level with the knees.

Carlotta M. Rinke

Critically reviewed by the American Red Cross

See also **First aid** (Fainting).

Fair is an event held for the presenting or viewing of exhibits. Depending on the theme of the fair, the exhibits may be agricultural, commercial, industrial, or artistic.

Some fairs are called *expositions* or *exhibitions*. Small



Granger Collection

A faïence plate shows the elaborate decoration that made this kind of French pottery famous. The plate, which has a delicate snowflake design, dates from the 1700's.

fairs last just a few days and involve exhibitors and visitors from a local area. The largest fairs run for months. They attract exhibitors and visitors from a large number of nations.

Fairs are a major industry in the United States and Canada. More than 3,200 fairs are held annually in the two countries, and they earn more than \$1.7 billion for the areas in which they are held.

There are three basic types of fairs—agricultural fairs, trade fairs, and world's fairs. This article discusses agricultural and trade fairs. For information on world's fairs, see the **World's fair** article.

Agricultural fairs are the most common type of fair in the United States and Canada. Such fairs hold contests for the best examples of crops, livestock, poultry, and other farm products. Most agricultural fairs organize competitions for various home-prepared foods. Companies exhibit and demonstrate agricultural machinery and other equipment. Farm youth groups and adult organizations also participate.

Agricultural fairs provide amusements and entertainment for visitors. For example, many agricultural fairs provide a carnival midway with rides and games. At large fairs, famous entertainers perform before large audiences in a grandstand or coliseum. Visitors can purchase many kinds of food and souvenirs at concession stands. Sports events are also popular at some fairs. These events include harness racing, horse racing, automobile racing, and rodeos. Each day's activities may end with a fireworks display.

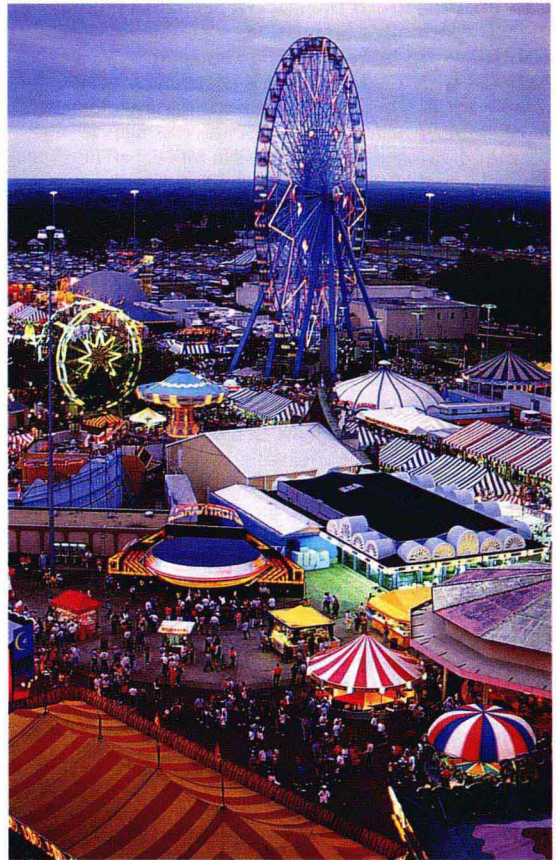
Agricultural fairs can be divided into three general categories, primarily based on their size. These categories are, from smallest to largest, county fairs, regional or district fairs, and state fairs. Some regional fairs, however, are larger than state fairs. The smallest fairs may cover only a few acres or hectares of open space near a town. The biggest fairs are held at permanent fairgrounds that include large buildings and such special facilities as grandstands and race tracks.

County fairs normally last from two to five days and are operated by a volunteer staff. County fairs mainly attract exhibitors and visitors from the local area. Regional fairs serve a larger geographical area than county fairs. They have a permanent staff and may last as long as two weeks. Every state and province holds an annual fair. The fair is usually held in the late summer or autumn and is generally the major fair or exhibition in the area. State fairs are sometimes operated by a department of the state government. However, a number of state fairs are operated by nonprofit organizations.

Trade fairs normally center on a specific product or industry. For example, a trade fair may confine itself to the computer industry or to book publishing. Generally, trade fairs are intended to provide commercial exposure for the products of the exhibitors. Some of these fairs limit admission only to people within the field covered by the fair. Other trade fairs encourage attendance by the general public.

Most trade fairs are held in large exhibition halls in major cities. Fairs are often held in a different city each year. Guest performers may entertain visitors at special shows, but the fair has no carnival midway.

History. Fairs date back to Biblical times. The book of Ezekiel, which was written in the 500's B.C., has several



© Bob Daemmrich

State fairs are held every summer and fall throughout the United States. Exhibits, games, and exciting rides attract large crowds to a state fair midway, shown here.

references to fairs. During the early centuries of Christianity, the church took an active part in sponsoring fairs as part of the observance of religious holidays and seasons. During the mid-1500's, the church stopped participating in and promoting fairs. As a result, fairs lost their religious associations and became events devoted to commercial exhibits and entertainment.

In 1641, the government of New Netherland authorized the first annual fair in the American colonies, to be held in New Amsterdam (now New York City). By the mid-1700's, fairs had become common throughout the colonies. They were primarily agricultural and served as an important showcase for the farm products of the local area. The first state fairs were held in New Jersey and New York about 1840.

H. Lewis Miller

Related articles in *World Book*. For the dates and locations of fairs in the United States and Canada, see the *Annual events* section of the state and province articles. See also *City* (picture: Trade fairs); *Toronto* (The city); *World's fair*.

Fair Deal is the name United States President Harry S. Truman gave to his domestic legislative program in 1949. He said it offered to the American people "the promise of equal rights and equal opportunities." See also **Truman, Harry S.** (Problems at home).

Alonzo L. Hamby

Fair employment practices. See Equal Employment Opportunity Commission.

Fair housing laws. See Open housing.

Fair Labor Standards Act is a law that sets the minimum wage and the length of the standard workweek for most employees in the United States. It applies to employees of firms that do business in more than one state and have annual sales of at least \$500,000. It also sets minimum age requirements for all workers. The act was passed in 1938 and has been amended many times. A 1963 amendment, the Equal Pay Act, requires that men and women be paid equally for doing equal work. The Employment Standards Administration of the U.S. Department of Labor enforces the act.

Congress passed the Fair Labor Standards Act as part of the *New Deal*, President Franklin D. Roosevelt's program to end the Great Depression. The act originally set a minimum wage of 25 cents an hour. Amendments have raised the wage repeatedly.

The act at first limited the standard workweek to 44 hours, but provided for it to be reduced to 40 hours—the current length—by 1940. For *overtime*, or the time worked beyond the 40-hour limit, employees are entitled to be paid wages at a rate of $1\frac{1}{2}$ times their regular rate.

The Fair Labor Standards Act bans the employment of children less than 14 years old, except for limited employment in certain agricultural jobs. Children 14 or 15 years old are prohibited from working in factories or during school hours. People less than 18 years old may not work in jobs declared hazardous by the U.S. secretary of labor. Such occupations include mining and certain factory jobs.

James G. Scoville

See also **Child labor**; **Minimum wage**; **Wages and hours**.

Fair-trade laws were designed to prevent large retail stores from selling certain merchandise at extremely low prices in attempts to drive their smaller competitors out of business. Such laws are also called *resale price maintenance laws*. Many U.S. states once had such laws. However, fair-trade laws have been illegal in the United States since 1975.

In some states, if any retailer agreed with a manufacturer to sell an item at a particular price, the state's fair-trade laws required all retailers to sell the item at that price. Other states allowed merchants to sell an item either at a price specified by the manufacturer or at a higher price. Goods covered by fair-trade laws included television sets, stereo equipment, clothing, watches, bicycles, and jewelry.

In 1931, California became the first state to pass a fair-trade law. By 1950, 45 states had such laws. Ordinarily, price fixing would violate federal antitrust laws (see **Antitrust laws**). But two federal laws, the Miller-Tydings Act of 1937 and the McGuire Act of 1952, made such price fixing legal. Opponents of fair-trade laws argued that the laws cost consumers millions of dollars a year in higher prices. In time, many states repealed such laws. The U.S. Congress abolished the remaining ones in 1975 by repealing the Miller-Tydings and McGuire acts.

Jay Diamond

Fairbanks (pop. 30,224; met. area pop. 82,840) is the third largest city in Alaska. Only Anchorage and Juneau have more people. Fairbanks lies about 115 miles (185



Steve McCutcheon

Fairbanks, Alaska, the chief financial and trade center of the interior of Alaska, lies on the banks of the Chena River, center. Fairbanks is in the heart of a great gold-mining region.

kilometers) south of the Arctic Circle. It is a transportation and supply center for the interior and the Arctic area of Alaska (see **Alaska** [political map]).

Fairbanks is often called the *Golden Heart City*, a name it received when it was the center of a gold-mining region. It is centrally located along the Trans-Alaska Pipeline, which transports oil from the northern to the southern coast of Alaska. The Chena River runs through Fairbanks. The economy is supported by tourism, the main campus of the University of Alaska, United States Air Force and Army bases, and government jobs. The architecture of Fairbanks includes modern office and residential buildings, as well as old log cabins.

Temperatures in the city average about 60 °F (16 °C) in June and about -11 °F (-23 °C) in January. Fairbanks receives an average of about 65 inches of snow (165 centimeters) yearly. It has about 22 hours of daylight on the longest day of the year, on or near June 21, and less than 4 hours on the shortest day, on or near December 21.

Felix Pedro, an Italian immigrant, found gold 12 miles (19 kilometers) north of Fairbanks in 1902. The city developed as a supply center for other mining towns around it. It was named after Charles W. Fairbanks, a U.S. senator from Indiana who became vice president of the United States in 1905. In 1967, a flood in Fairbanks killed six people and caused \$200 million in damage. The discovery of oil at Prudhoe Bay in 1968 and the construction of the Trans-Alaska Pipeline between 1974 and 1977 caused the city's population to soar.

Claus-M. Naske

Fairbanks, Charles Warren (1852-1918), served as vice president of the United States from 1905 to 1909 under President Theodore Roosevelt. Fairbanks hoped to be the Republican presidential candidate in 1908. But he was too conservative for Roosevelt, and the president helped William Howard Taft win the nomination. Fairbanks again was the Republican vice presidential candidate in 1916. However, Fairbanks and presidential candidate Charles Evans Hughes lost the 1916 election to

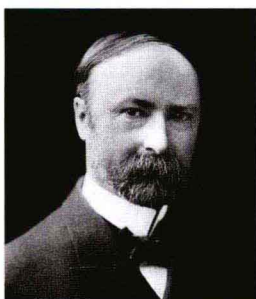
the Democratic candidates, Woodrow Wilson and his running mate, Thomas R. Marshall.

Fairbanks was born on May 11, 1852, on a farm near Unionville Center, Ohio, and graduated from Ohio Wesleyan University. Fairbanks became a successful railroad lawyer in Indianapolis.

Fairbanks served as a U.S. senator from Indiana from 1897 to 1905. He led the American delegation to the Joint High Commission that tried to settle all outstanding difficulties with Canada in 1898. He died on June 4, 1918.

Fairbanks, Douglas, Sr. (1883-1939), was an American motion-picture actor who became famous for his acrobatic acting in colorful adventure films. All of Fairbanks's notable movies were silent films. They included *The Mark of Zorro* (1920), *Robin Hood* (1922), *The Thief of Baghdad* (1924), and *The Black Pirate* (1926). Fairbanks's name is still associated with the exaggerated, romantic style of such motion pictures.

Fairbanks was born on May 23, 1883, in Denver. His real name was Douglas Elton Ullman. For several years, he starred in comedies on Broadway. Fairbanks made his movie debut in 1915. He helped found the United



Charles W. Fairbanks

Culver

Robert W. Cherny



Bettmann Archive

Douglas Fairbanks, Sr., was a famous motion-picture actor of the 1920's. In 1929, he starred with his wife, Mary Pickford, in William Shakespeare's comedy *The Taming of the Shrew*.

Artists studio in 1919 with actor Charlie Chaplin, actress Mary Pickford, and director D. W. Griffith. Fairbanks married Pickford in 1920. He died on Dec. 12, 1939.

James MacKillop

Fairbanks, Douglas, Jr. (1909-2000), was an American motion-picture actor. His father was Douglas Fair-

banks, Sr., a star of silent films. Fairbanks performed in a variety of roles, ranging from romantic heroes to troubled weaklings. His best-known movies include *The Prisoner of Zenda* (1937) and *Gunga Din* (1939). Fairbanks also made several romantic adventure films in the style of his father. His adventure movies include *The Corsican Brothers* (1941), *Sinbad the Sailor* (1947), and *The Fighting O'Flynn* (1949).

Douglas Elton Fairbanks, Jr., was born on Dec. 9, 1909, in New York City. He made his movie debut in 1923 and retired in the early 1950's. His autobiography, *The Salad Days* (1988), describes his life to the age of 30. He died on May 7, 2000.

James MacKillop

Fairchild, David Grandison (1869-1954), an American botanist and explorer, brought over 20,000 species of plants to the United States. He helped found the Section of Foreign Seed and Plant Introduction in the U.S. Department of Agriculture and directed that section from 1906 to 1928. In 1938, he established the Fairchild Tropical Garden near Miami, Florida. It became one of the most extensive botanical gardens in the world. Fairchild wrote the books *Garden Islands of the Great East* (1945) and *The World Grows Round My Door* (1947).

Fairchild was born on April 7, 1869, in Lansing, Michigan. He studied at Kansas State and Iowa State colleges and at Rutgers University. Fairchild began collecting plants during a voyage around the world from 1897 to 1905. He died on Aug. 6, 1954.

Keith R. Benson

Fairchild, Sherman Mills (1896-1971), was an American inventor and businessman who pioneered in aircraft design and aerial photography. In 1918, he invented a camera with a special shutter that increased the accuracy of aerial photographs.

In the 1920's, Fairchild founded the first of many companies he would run throughout his life. His companies developed aerial cameras, conducted aerial surveys, and designed and built airplanes. In 1926, he introduced the Fairchild FC-2 plane, the first with folding wings and an enclosed cabin instead of the usual open cockpit. The cabin protected photographers from wind and cold. During World War II (1939-1945), the United States Army used the Fairchild 71 for transport and aerial photography. Fairchild was born on April 7, 1896, in Oneonta, New York. He died on March 28, 1971.

Anne Millbrooke

Fairfield, Cicily Isabel. See West, Rebecca.

Fairless, Benjamin Franklin (1890-1962), was an American industrialist. He was president of U.S. Steel Corporation from 1938 to 1953 and chairman of the board from 1952 to 1955. He held several positions with the American Iron and Steel Institute and served as its president from 1955 until his death. Fairless received the Bessemer Medal in 1951 for distinguished service to the iron and steel industry. He was born Benjamin F. Williams on May 3, 1890, in Pigeon Run, Ohio. He took the name Fairless from an uncle who adopted him. He graduated from Ohio Northern University. Fairless died on Jan. 1, 1962.

Robert E. Wright

Fairy is an imaginary creature that appears in the folklore of western Europe. Fairies have magic powers, which they use to perform both good and bad deeds. Fairies are usually helpful, but they often behave mischievously and occasionally act cruelly.

There are several kinds of fairies, and each lives in a certain area. For example, *brownies*, *buccas*, and *pixies*



Detail of an oil painting on canvas (1847) by Sir Joseph Noel Paton; National Gallery of Scotland (Granger Collection)

The king and queen of the fairies were named Oberon and Titania in many tales. William Shakespeare featured them in his comedy *A Midsummer Night's Dream*.



Detail of a pen and ink drawing (1891) by Henry Justice Ford (Granger Collection)

Rumpelstiltskin was a wicked fairy in German folklore. He spun gold from straw for a girl in exchange for her promise to give him her first child after she married a king. In this picture, Rumpelstiltskin arrives to collect his debt from the girl.

live in England; *goblins* in France; *kobolds* and *nixes* in Germany; and *elves* and *trolls* in the Scandinavian countries. Although the word *fairy* generally refers to various characters in Western European folklore, fairylike creatures exist in the folklore of many other parts of the world. Hawaiian folklore includes stories about dwarfs called *Menehune*, who work at night. Japanese folk stories tell of a water demon known as the *kappa*.

Fairies make themselves invisible to human beings. However, some people have the power to see fairies and the places where they live. Sometimes fairies become visible to a person who steps into a *fairy ring*. Fairy rings are dark green circles found in a field or meadow. Fairies enjoy dancing and use fairy rings as dancing places.

Fairies appear in two kinds of folk stories—*legends* and *fairy tales*. Legends take place in the real world, and fairy tales occur in some imaginary land. Legends are told as true stories, but fairy tales are told as fiction. Actually, fairies appear in few fairy tales. Most stories about fairies are really legends.

A number of beliefs and stories about fairies have been popular for hundreds of years. For example, many children believe that the *sandman* comes each night and puts “sleepy dust” in their eyes to help them sleep. American children especially like the *tooth fairy*. After losing a baby tooth, a child puts it under a pillow or in a glass of water. During the night, while the youngster is asleep, the tooth fairy takes the tooth and leaves money. The *bogeyman*, an evil fairy, kidnaps boys and girls who leave home without permission. The *bogey beast*, also called the *bug-a-boo*, carries off children who have been naughty.

No one knows how the belief in fairies began. In some stories, fairies were angels who were forced to leave heaven because of some wrongdoing. In other stories, fairies were spirits of the dead. Some scholars believe that fairies began as ancient nature spirits, such as the spirits of mountains, streams, and trees. Many stories about fairies represent attempts to explain various happenings. For example, if a cow goes dry for no apparent reason, a farmer may blame fairies for stealing her milk.

What fairies look like. Fairies vary in size, but the majority of them are smaller than adult human beings. Most fairies have various human features. Some fairies, including pixies, have great beauty. Other fairies have misshapen faces or deformed bodies. For example, trolls are short, ugly men with crooked noses and humped backs. Leprechauns are wrinkled little men. The *banshees*, who live in Ireland and Scotland, have long, streaming hair, and their eyes are fiery red from continual crying. Many fairies wear green or white clothing with red caps. Brownies usually wear brown cloaks and hoods.

Where fairies live. Fairies may live alone or in a large group. The banshee is an example of a fairy that lives alone. In Scotland, she can be heard wailing by a river as she washes the clothes of a person who soon will die. In Ireland, banshees often live near a particular family. The sound of a wailing banshee means that someone in the family will soon die.

Large groups of fairies live in fairyland, a fairy society with its own government and territory. In most stories, a

king and queen rule fairyland, with the queen having the most power. Queen Mab is a famous fairy queen in Irish folklore. Oberon is king of the fairies in many legends. Fairyland may be under the earth, inside a hollow hill, or beneath a lake. The entrance may be a door in a hill or under the roots of trees.

Life in fairyland closely resembles life in the human world. Fairies work, marry, and have children. But time passes extremely slowly in fairyland, and so there is no old age or death. Many legends describe the difference between time in fairyland and in the human world. In one legend, a man spends what he believes is one night in fairyland. But after he returns to his home, he discovers that hundreds of years have passed—and no one remembers him.

In fairyland, fairies often have trouble giving birth. A common type of fairy legend tells how fairies kidnap a human woman and take her to fairyland to help deliver a baby. The fairies blindfold the woman before she enters and leaves fairyland so that the entrance to the fairy society will remain secret. Fairies nearly always pay the woman well for her help.

Fairies and human beings. People and fairies sometimes marry. A man might go to fairyland to live with his bride, or he might bring his fairy wife back to his home. In many stories, the human being must follow strict rules to remain married to a fairy. For example, a human husband must never scold or strike his fairy wife or refer to her being a fairy. If he does, the fairy immediately returns to fairyland.

Fairies often aid people in various ways. They might help with the housework or with such farmwork as reaping and threshing. In some cases, a person is not allowed to thank the fairy, to offer it gifts, or even to watch it work. If the person breaks one of these rules, the fairy runs away and never returns.

Sometimes fairies reward people for doing them a favor. According to one story, a farmer who mends a fairy oven or chair will receive delicious food in return. Grateful fairies also may leave money for people who have treated them well.

However, fairies are not always helpful and kind. They may steal grain or lead travelers astray. Occasionally, fairies commit cruel acts. In one legend, a woman helps deliver a fairy baby. As she puts some magic ointment on the baby's eye, she accidentally rubs some on one of her own eyes. The ointment enables her to see fairies who are normally invisible to human beings. Later, the woman sees a fairy in a marketplace and speaks to him. The fairy asks which eye the woman sees him with. After she tells him, he blinds her in that eye.

Fairies sometimes try to trick women into caring for fairy babies. The fairies may exchange their babies, called *changelings*, for healthy newborn human infants. Usually a human mother can see that a changeling has been substituted for her child because the fairy baby has some ugly physical feature or habit. If the mother threatens to burn the changeling, it may leave and give back the woman's own child.

Many people believe in fairies and have developed ways to win their favor or to protect themselves from evil ones. Fairies love milk, and so people may pour milk into the ground for them. Parents may hang an open pair of scissors over a child's crib as a charm to prevent

fairies from stealing the infant. Parents also may place a cross or a bottle of holy water near the baby for protection. If travelers lose their way because of what they believe is a fairy's spell, they try to break the spell by turning a piece of their clothing inside out and burning it.

Fairies in literature. For hundreds of years, authors have written about fairies in novels, plays, and stories. The English playwright William Shakespeare used fairies as major characters in his comedy *A Midsummer Night's Dream* (about 1595). This play includes Oberon and Titania, the king and queen of the fairies, and the mischievous fairy Puck.

Shakespeare may have based Puck on any of several fairies from British folklore, including Pooka of Ireland, Pwca of Wales, and Robin Goodfellow of England. A fairy named Ariel is an important character in Shakespeare's *The Tempest* (about 1611). The playwright also wrote a famous description of Queen Mab in *Romeo and Juliet* (about 1596).

In 1697, the French author Charles Perrault published a collection of folk stories called *Tales of Mother Goose*. This book included some stories that are still popular. In one tale, Cinderella's fairy godmother changes a pumpkin into a carriage and mice into horses—and changes them back again. In another story, an evil fairy condemns Sleeping Beauty to death. But a good fairy changes the curse from death to sleep, so a handsome prince can awaken the girl with a kiss.

In the early 1800's, two German scholars, the brothers Jakob and Wilhelm Grimm, published a collection of folk stories called *Grimm's Fairy Tales*. Only a few of the stories include fairies. One tale, "Rumpelstiltskin," tells of a fairy who spins gold from straw.

Some authors have made up their own stories about fairies. The Danish writer Hans Christian Andersen wrote several volumes of stories from 1835 until his death in 1875. In one tale, "Little Tiny," the main character springs from a magic flower. The Italian author Carlo Collodi wrote *Pinocchio* (1883), a children's novel that has a fairy character. *Peter Pan* (1904), a popular children's play by the Scottish writer J. M. Barrie, has a number of fairies, including a main character.

The English author J. R. R. Tolkien included fairies and other imaginary creatures in his works. In *The Hobbit* (1937) and the three-volume *The Lord of the Rings* (1954–1955), Tolkien described a race of wise and gifted elves. They live in the Undying Lands, where nothing ever ages or dies.

Alan Dundes

Related articles in *World Book* include:

Andersen, Hans Christian
Elf
Folklore
Gremlin
Grimm's Fairy Tales

For a list of collections of fairy tales, see **Literature for children** (Books to read/fairy tales, folk tales, and myths).

Additional resources

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Fairy Falls is a waterfall in Mount Rainier National Park in western Washington. It stands 5,500 feet (1,676 meters) above sea level at the head of Stevens Canyon. Fairy Falls is 700 feet (213 meters) high. It is one of the highest waterfalls in the United States. Wallace E. Akin

Fairy tale. See **Fairy**.

Faisal, *FY suhl* (1906?-1975), was king of Saudi Arabia from 1964 to 1975. Faisal's name is sometimes spelled *Faysal* or *Feisal*. He restored harmony within the Al Saud ruling family and thus made the country's government more stable. He also became an important world leader. On March 25, 1975, Faisal was assassinated by one of his nephews.

Faisal controlled Saudi Arabia's vast oil resources. He used oil profits for industrialization, school and hospital construction, and many other public projects. In 1973, he authorized an Arab oil embargo against the United States and the Netherlands, nations that supported Israel in the 1973 Arab-Israeli war.

Faisal ibn Abd al-Aziz al Faisal Al Saud was born in Riyadh. He was next in line to the throne from 1953 to 1964, and served as prime minister from 1953 to 1960 and from 1962 to 1964, when his brother Saud was king of Saudi Arabia. Joseph A. Kechichian

See also **Saudi Arabia** (History).

Faisal I, *FY suhl* (1885-1933), was king of Iraq from 1921 to 1933. He also reigned as king of Syria in 1920. His name is sometimes spelled *Faysal* or *Feisal*.

Faisal was born on May 20, 1885. He was a son of Sharif Hussein of Hejaz, whom the government of the Ottoman Empire appointed *emir* (ruler) of the city of Mecca in 1908. Today, Mecca is in Saudi Arabia. During World War I (1914-1918), with help from the United Kingdom, Faisal led an Arab revolt against the Ottomans. In 1918, as part of the Allied forces, he and his army helped capture the Ottoman-controlled city of Damascus in Syria. Faisal became Syria's ruler. In March 1920, a nationalist, Arab-Syrian Congress under Allied supervision declared Faisal Syria's king. In July 1920, he was expelled by the French, who took full control of Syria.

Also in 1920, the British gained control of Iraq. They chose Faisal as Iraq's king in 1921. As king, Faisal worked to balance the interests of Iraq's political factions, including a group that called for Iraqi independence from the United Kingdom. Iraq gained independence in 1932. Faisal died on Sept. 8, 1933, and was succeeded by his son Ghazi. See **Iraq** (History). Michel Le Gall

Faith. See **Religion**.

Faith healing involves the belief that trust in God's power can cure sickness and other physical problems. Faith healing and praying for the sick presuppose a connection between physical health and spiritual well-being. Faith healing is performed mainly through prayer and by faith healers who lay hands on the ill person.

In Christianity, the doctrine of faith healing has its roots in New Testament stories of miraculous healings performed by Jesus Christ. Mark 16:18 and 1 Corinthians 12:9 mention believers with the gift of healing. James 5:14-15 describe laying hands on, praying for, and putting oil on the forehead of the sick.

In the late 1800's and early 1900's, some leaders of the Holiness and Pentecostal religious movements in the United States began to claim that prayer, not medicine, could heal the sick. Others did not reject medicine but

believed that faith healing and medicine should be used together. Some Pentecostals thought the Holy Spirit gave them the power to heal others.

The American evangelist Aimee Semple McPherson was among the best-known faith healers of the early 1900's. The healing movement gained popularity following World War II (1939-1945), especially because of Pentecostal evangelist Oral Roberts. He held many tent revivals that included faith healing. At first, most people who attended healing revivals were poor and lacked the money to pay for medical care. Today, people who seek faith healing come from all social and economic classes.

Critics have charged that faith healers are frauds, and that reported cures are faked. Even faith healers acknowledge that not everyone who seeks their help experiences a cure. Some healers believe that a lack of faith on the part of the sick person may prevent healing.

Believers in faith healing differ from Christian Scientists, who consider sickness a mental state. Because of the interest in faith healing, many Christian churches offer prayers for the sick at their services. These services generally do not promise cures. Charles H. Lippy

See also **McPherson, Aimee Semple**; **Pentecostal churches**.

Fakir, *fuhr KHR* or *FAY kuhrr*, is a Muslim or Hindu man who practices extreme self-denial as part of his religion. *Fakir* is an Arabic word meaning *poor*, especially *poor in the sight of God*. Fakirs usually live on charity and spend most of their lives in religious contemplation. Some can actually perform such feats of will power as walking on hot coals. But they also frequently practice deception. Some fakirs live in religious communities. Others wander about alone. People whose way of life resembles that of fakirs include Muslim *dervishes* and Hindu *yogis*. See also **Dervish**; **Yoga**. Richard C. Martin

Falange Española, *FAY lanj*, or *fah LAHNG hay, ehs pahñ YOH lah*, also called Spanish Falanx, was the only legal political party in Spain under dictator Francisco Franco. The Falange Española was founded in 1933 as a fascist group that attempted to overthrow the republic through violence. José Antonio Primo de Rivera, son of former dictator Miguel Primo de Rivera, founded the party. Falangists supported Franco during the Spanish Civil War. In 1937, Franco took control of the party. After 1945, the party was known as the National Movement. In 1977, after Franco's death, the democratic government of Spain abolished it. Stanley G. Payne

Falcon is a type of bird closely related to hawks. Falcons are found in a variety of habitats throughout the world. They live in grasslands, forests, deserts, and Arctic tundras, and along seacoasts. Falcons probably first appeared thousands of years ago in the grasslands of Africa. Today, there are about 40 species, about half of them found in Africa. The best-known North American species include the *American kestrel*, the *peregrine falcon*, and the *gyrfalcon*.

Like hawks, falcons have a hooked beak and powerful feet with strong claws. Falcons differ from hawks in having dark eyes, long, pointed wings that curve back in a sickle shape, and beaks that have a "tooth" on each side. Most measure from 8 to 24 inches (20 to 60 centimeters) long. Females are larger than males.

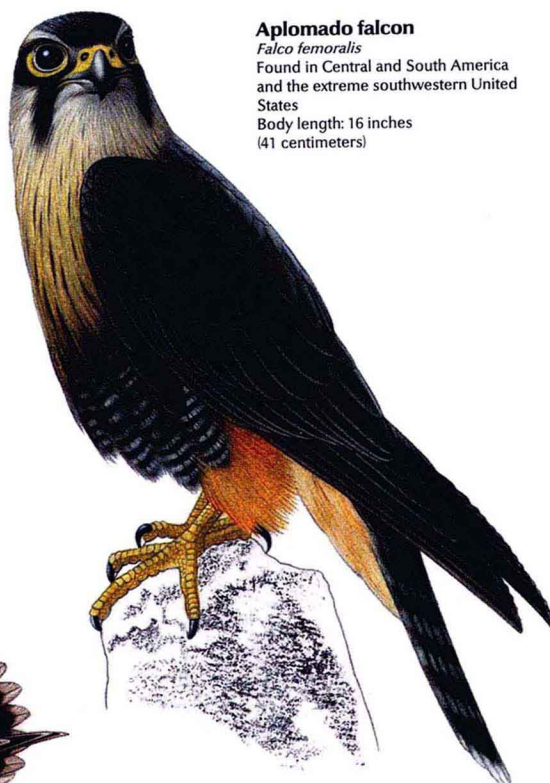
Falcons are exceptionally powerful fliers. They often make spectacular *stoops* (steep descents) from great



Merlin

Falco columbarius
Nests in northern North America, winters in South America, Mexico, and the southern United States
Body length: 12 inches (30 centimeters)

WORLD BOOK illustration
by John F. Eggert



Aplomado falcon

Falco femoralis
Found in Central and South America and the extreme southwestern United States
Body length: 16 inches (41 centimeters)



American kestrel

Falco sparverius
Found throughout the Western Hemisphere
Body length: 10 inches (25 centimeters)



Gyrfalcon

Falco rusticolus
Found near the Arctic Circle
Body length: 24 inches (61 centimeters)

WORLD BOOK illustrations,
except for the Merlin, by Walter Linsenmaier



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Peregrine-gyrfalcon hybrids such as this one are bred for the sport of falconry. Both peregrines and gyrfalcons are prized for their speed and their breathtaking dives after prey.

heights to capture prey. They use their feet to either grasp or strike at their prey. Unlike hawks, falcons kill the prey with a powerful bite to the head or neck. Hawks normally kill prey with their claws.

Falcons do not build nests. Females lay their eggs on the ground, on rocky ledges, in abandoned nests, or in holes in trees, cliffs, or even buildings. They usually lay three to five eggs that are buff or whitish in color and heavily marked with brown, red, or purple spots or



Ron Austing

The peregrine falcon dives at speeds of more than 200 miles (320 kilometers) per hour. This photo shows a peregrine falcon that has been trained to hunt. The trainer keeps the bird from escaping by holding the *jesses* (straps) hanging from its legs.

blotches. In most species, the female *incubates* (sits on and warms) the eggs, with regular help from the male. Most falcon eggs require about 30 days of incubation. For the first few weeks after the young have hatched, the male provides nearly all the food. Many falcons die during the first year of life. The falcons that survive the first year typically live for 10 years or more.

The American kestrel is the smallest and most common North American falcon. The adult measures about 8 inches (20 centimeters) long. American kestrels range from Alaska through South America. They live in grasslands, woodlands, and even cities. The male has a reddish-brown back and tail and grayish-blue wings. The wings of the female are brown.

American kestrels prey on insects, lizards, and mice, and on other birds. They typically hunt their prey from perches. But on windy days, they may *hover* (stay in one place) in the air while hunting. In some areas, American kestrels migrate south for the winter.

The peregrine falcon is one of nature's flying marvels. It can stoop for prey at a speed of over 200 miles (320 kilometers) per hour. This falcon measures up to 20 inches (50 centimeters) long. It is dark blue or bluish-gray above and has white to reddish underparts marked with blackish-brown bars. Peregrine falcons live along cliffs near seacoasts, rivers, and lakes, or in the mountains. They once were found throughout most of the world but are now rare or absent in many areas. Scientists have reintroduced them into many present and former habitats, including a number of large cities. These falcons feed chiefly on other birds. In North America, the peregrine falcon is sometimes called *duck hawk*.

The gyrfalcon is the largest species of falcon. The gyrfalcon grows to a length of 2 feet (60 centimeters). It lives in Arctic regions of North America, Europe, and Asia. Most gyrfalcons have white or gray coloring.

Other North American falcons include the *merlin*, the *prairie falcon*, and the *Aplomado falcon*. The merlin lives in open woodlands and other open areas, and along coastal areas, of northern North America. It migrates to the southern United States, Mexico, and South America for the winter. The prairie falcon inhabits deserts or dry grasslands in western North America. The Aplomado falcon is found in high deserts and tropical lowlands. Its range extends from South America north to the extreme southwestern United States, where it is extremely rare. Thomas G. Balgooyen

Scientific classification. True falcons belong to the family Falconidae. They make up the genus *Falco*. The American kestrel is *F. sparverius*; the peregrine falcon, *F. peregrinus*; and the gyrfalcon, *F. rusticolus*.

See also Bird (picture: Interesting facts about birds; How birds see); Falconry; Hawk; Kestrel; Peregrine falcon.

Falconry, once the "sport of kings," is the art of training falcons, hawks, or eagles to hunt game. A *falconer* is a person who hunts with trained birds of prey.

Training the birds requires patience and persistence. Basically, a hunting bird must be tamed, or "manned," and taught to return to the falconer's fist or to a lure. Special devices aid the falconer. A hood covers the eyes of the bird, keeping it calm. Small bells or radio transmitters are placed on the bird to help locate it when lost. Leg straps called *jesses* restrict the bird's move-