



# Discover CAVES

## Photo Playing Cards

**3**  **3** 

**CAVE FORMATIONS**  
**STALACTITES/STALAGMITES**



These **limestone** speleothems form in caves by dripping water that carries dissolved minerals in suspension. When each drop falls, it deposits a small ring of limestone crystal, or **calcite**. This gradually forms into a narrow, straw-like, hollow tube called a **soda straw**. When plugged by debris, water will flow over the outside, adding more calcite and typically forming a cone-shaped **stalactite**.

The water that drips on the floor of the cave below also leaves mineral deposits, eventually resulting in a rounded or cone-shaped **stalagmite**. Unlike stalactites, stalagmites never start out as hollow soda straws. Over time, these formations can meet and join to create a column or pillar of calcium carbonate.

An average growth rate is 0.005 inches (0.13 mm) per year. The quickest growing stalactites are formed by fast-flowing water rich in calcium carbonate and carbon dioxide, which can grow at rates up to 0.12 inches (3 mm) per year.

**Largest stalactite:** 27 ft (8.2 m) in the White Chamber in the Jeta Grotto in Lebanon.

**Largest stalagmite:** 204 ft (62.2 m) in the cave of Cueva Martin Intiemo, Cuba.

**3**  **3** 

**2**  **2** 

**CAVE LIFE**  
**LIFE ZONES**

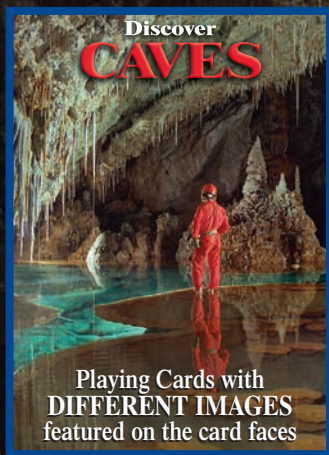


Animals that live in caves and troglodytes - live in different parts of caves. The **Entrance Zone** is most similar to the environment above ground. It receives sunlight and has variable temperatures and green plants. Animals like raccoons or nest under this space to eat cover. Other organisms can be found including: moss, ferns, owls, snails and salamanders.

The **Twilight Zone** is found deeper into the cave. There is minimal light so almost no plants will grow there other than mushrooms. Animals found here include moths, bats, spiders and millipedes.

The deepest realm is the **Dark Zone** where there is no light whatsoever and the temperature remains constant. **Troglodytes** that have adapted to live in this environment are the only organisms found here.

**2**  **2** 



Playing Cards with DIFFERENT IMAGES featured on the card faces

Superior Print Quality

**5**  **5** 

**CAVE LIFE**  
**CRAYFISH/MILLIPEDES**



Several species of **Cave Crayfish** have adapted to living in caves as **troglodytes** (animals that never leave a cave environment). In order to survive in these ecosystems, which have stagnant air with relatively little oxygen and very limited food supplies, these crayfish have evolved extremely slow metabolisms. This results in a very slow growth rate, a low reproductive rate and a long lifespan - some species can live as long as 175 years. Cave crayfish are blind and translucent - they have developed extraordinary senses of touch and smell to compensate, and they feed on blind fish and aquatic insects.

Millipedes are very commonly found in caves, including some species that have adapted to living entirely in the darkness. These albino **Cave Millipedes** are blind with numerous rows of long legs that allow them to move around cave environments in search of food. Other larger millipedes also come and go from caves.

**5**  **5** 

**J**  **J** 

**CAVE FACTS**  
**EARLY CAVE DWELLERS**



While the "caveman" is a popular character in films, cartoons and comics, the fact is that only a small portion of our ancient ancestors actually lived in caves since caves are not well distributed throughout the regions of the world. There early humans lived. That said, there is evidence of human activity in a cave in France dating back to one million years ago, and the **Neanderthals** lived in caves in Europe and western Asia 100,000 years ago, and **Cro-Magnons** also inhabited there from about 35,000 years ago until approximately 8,000 B.C.

Generally, these cave-dwelling humans would live in shelters or tents near the mouth of the cave, using the darker interior for shelter in extreme weather or for storage of ceremonial purposes. Some of the earliest cave dwellers also made known forms of art by painting images on cave walls.

**J**  **J** 

- LIST OF ALL 52 TITLES IS AVAILABLE
- EYE CATCHING DISPLAY BOX POP-UP PHOTO
- SAMPLE DISPLAYER AVAILABLE

**A**  **A** 

**CAVE TYPES**  
**LAVA CAVES**



**Lava Caves** are formed by volcanic processes. The most common type is a **Lava Tube**, which is formed during an active flow of volcanic lava. Generally, the lava flows downhill following the path of least resistance. As the outer layers cool and harden, an insulating shell is formed, which allows the lava within to continue to flow without hardening as quickly. This means the molten rock can flow farther and farther. When the flow abates, the exterior tube is left behind. Often, subsequent eruptions will bury these tubes with more volcanic rock. Lava tubes can be interconnected forming a network of caves.

Other types of caves can also be formed through volcanic processes. **Inflationary Caves** can be formed by pressurized lava exerting pressure on surrounding rock or by volcanic gases creating a bubble or blister in lava. **Open Vertical Conduits** are vertical passages through which lava rose to the surface and then receded.

**A**  **A** 

**3**  **3** 

**WORLD FAMOUS CAVES**  
**CARLSBAD**



Now one of the most famous caves in the world, **Carlsbad Cavern** was initially prized for an enormous deposit of bat guano, an ideal fertilizer for farming, which was discovered there by cowboys in the 1880s. They dug out more than 100,000 tons that had accumulated there over many centuries. One of those cowboys, Jim White, explored the caves beyond, building trails so other visitors could see his discoveries, too. Word spread and the caves became a popular destination. The U.S. government decided to make it a National Park in 1930.

Since then, **Carlsbad Caverns National Park** has become the most popular tourist cave in the world with more than 400,000 visitors per year on average and many amenities to make tourist visits easy and enjoyable, including elevators, a cafeteria in the cave itself and easily accessible trails. There are numerous chambers to see throughout the cavern, with the highlight being the **Big Room**, which is almost 4,000 feet (1,220 m) long, 625 feet (191 m) wide, and 255 feet (78 m) high. It is the **third largest chamber** in North America and the seventh largest in the world.

Carlsbad was formed by sulphuric acid dissolution in the same manner as neighboring **Lechugilla**.

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**WORLD FAMOUS CAVES**  
**MAMMOTH**



networks might be connected to Mammoth through links that have yet to be found, which would make it significantly larger still. The local geography and geology is perfect for cave development: the bedrock is extremely stable and the nearby **Green River** periodically sent tributaries through the cave system over the eons to erode new channels.

Kentucky's **Mammoth Cave** is the largest cave system in the world with more than 400 miles (640 km) of surveyed passages. New discoveries add several miles to that total each year. The name "Mammoth" dates back long before its true size was known, referring to the size of the passages just inside the entrance, but it has certainly proved to be apt. It is believed that other nearby cave systems might be connected to Mammoth through links that have yet to be found, which would make it significantly larger still. The local geography and geology is perfect for cave development: the bedrock is extremely stable and the nearby **Green River** periodically sent tributaries through the cave system over the eons to erode new channels.

Numerous guided and self-guided tours are available within the cave itself as part of **Mammoth Cave National Park's** programs. There are more than 9 miles (15 km) of accessible underground trails, with other areas that are accessible only to experienced cavers.

**2**  **2** 

