



INSTITUTE OF
**READING
DEVELOPMENT**

Nonfiction

Program 4

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Masters of Disguise: How Animals Hide From Danger

For many animals, staying safe from predators is a top priority. Some creatures hide from danger by using camouflage to disguise themselves. They blend in with their surroundings so well that they're almost invisible!

The walking leaf insect looks just like a real leaf, which keeps it safe from predators. Their green wings have veins that look just like the veins you see on a leaf. When they walk, they sway back and forth, just like a real leaf blowing in the breeze. These bugs blend in with trees really well. This makes it easy for them to hide from birds that want to eat them.

The owl butterfly scares away predators with the markings on its wings. Each wing has a large round spot that looks exactly like the eye of an owl. When a bird sees these spots, it thinks it's looking at a scary owl instead of a tasty snack! The bird flies away, and the butterfly is safe once again.

Another creature has a clever kind of camouflage. The decorator crab covers its shell with objects to disguise itself. These crabs pick up things like seaweed, coral, and rocks and stick them on. Their shells are covered in burrs that hold everything in place. When the crab is all dressed up, it's really hard for a fish to see it. It just looks like any other rock in the ocean!

Picturing the Past: Hieroglyphics in Ancient Egypt

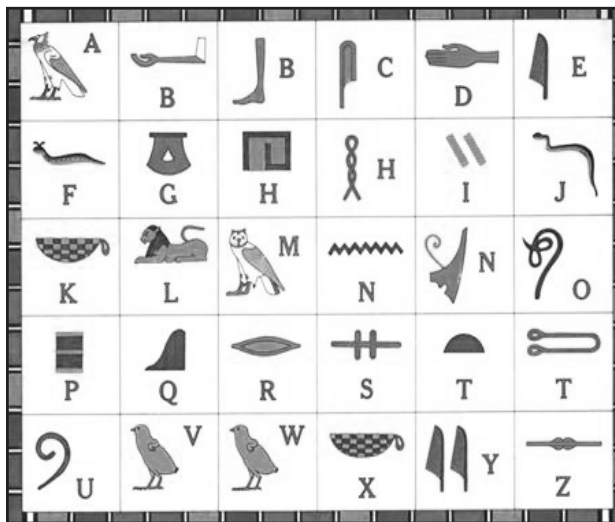
If you lived in ancient Egypt, reading and writing would look very different from what you're used to. The ancient Egyptians used symbols called **hieroglyphics** (HI-ruh-GLIF-iks). It means "holy writing" because the Egyptians thought the symbols came from the great god Thoth.



Hieroglyphics at the Kom Ombo temple

Pictures Tell a Story

Hieroglyphics are pictures or symbols used to write messages. Some are pictures of living creatures, like a snake. Others are symbols for common objects, like a basket. Some pictures are parts of the body, like a foot.



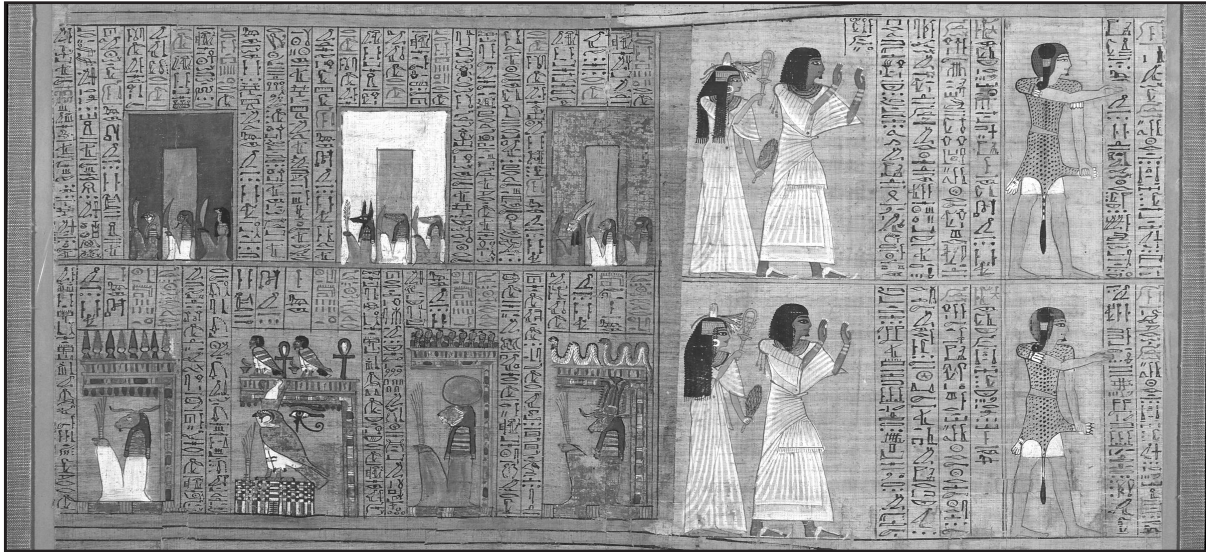
Egyptians carved hieroglyphics on monuments, stone tablets, and tombs all over their cities.

Each symbol can stand for a whole word or just one letter. Look at the chart on this page. The zigzag under 'n' is the symbol for 'water'. It can stand for the whole word 'water'. It can also stand for the letter 'n' because the ancient Egyptian word for water starts with 'n'. Can you find the letters in your own name?

Papyrus

Egyptians wrote hieroglyphics on a type of paper. It was called **papyrus** (puh-PIE-rus). Papyrus was made from a tall reedy plant that grew near the Nile River. Egyptians soaked the reeds to soften them. They mashed the soft reeds together into flat sheets. Egyptians could write on the dried sheets.

Egyptians used papyrus to make books called **scrolls**. They stuck sheets of papyrus together into long strips. The scrolls could be rolled up to make them easier to carry around. Some scrolls were over 150 feet long. That's as long as two tennis courts put together.



Papyrus from *The Book of the Dead* depicting the funeral of the scribe Ani

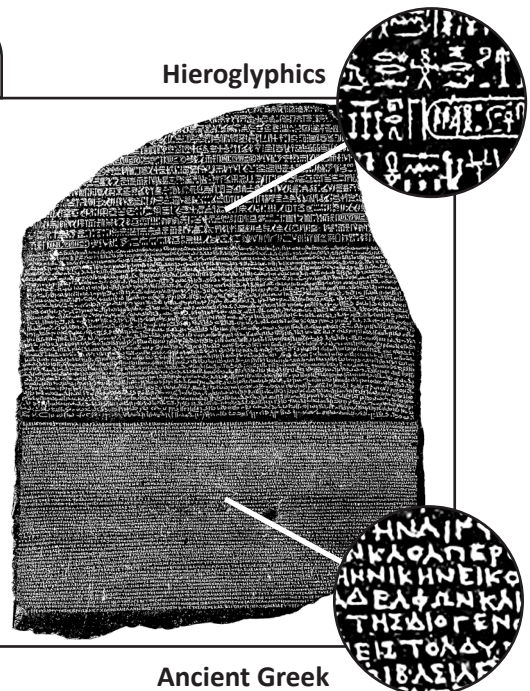
Scribes

Only highly skilled people called **scribes** could read and write hieroglyphics. It was a very difficult system to learn. There were over 700 symbols. Each symbol could stand for more than one thing. Plus, writing could go in any direction. It might go from left to right, from right to left, or even top to bottom.

Scribes held a special position in Egyptian society. They started training at age 6 and studied for twelve years. Scribes were highly respected and were paid a lot of money. They didn't have to pay taxes or join the army like other Egyptians.

The Rosetta Stone Cracks the Code!

In 1799, the Rosetta Stone was discovered. This stone tablet had the same message written in both Greek and hieroglyphics. Historians knew how to read the Greek part. They used it to figure out how to read the hieroglyphics. Once they could read the Rosetta Stone, they could read other hieroglyphics. That's how we know so much about ancient Egypt today!



The Lost Colony: The Mystery of Roanoke

In 1587, a group of 117 men, women, and children arrived in Roanoke, Virginia. They planned to set up the first British colony in the New World. But the colony didn't survive. The story of what happened is still a mystery today.

The Roanoke settlers faced a lot of challenges. They didn't get along with local Native Americans. They didn't have enough supplies. They built homes and planted crops, but they still worried about surviving. Finally, their leader, John White, made a decision. He would sail to England and come back with supplies.

When White got back three years later, no one was there! The entire colony had disappeared. There was no sign of a struggle. There were no bones or graves. All the buildings had been neatly taken apart. The fields were filled with weeds. There was only one clue. The word "Croatoan" was carved into a fence post. This was the name of a nearby island.



John White returns to Roanoke

There are different theories about what happened. Maybe the colonists moved to Croatoan. But White looked and didn't find them there. Maybe they all died of disease. But there would have been graves. And there was no evidence that they were captured by local tribes. To this day, no one knows what happened to the lost colony.

Paragraph 1:

You probably use salt every day, but what do you know about it? Salt is a mineral that exists all over the earth. It's found underground and in our oceans. Humans have used salt for thousands of years to flavor food. Salt is also a great way to preserve food. Many germs can't live on salt, so packing food in salt makes it last longer. In ancient times, salt was so valuable it was used as money!

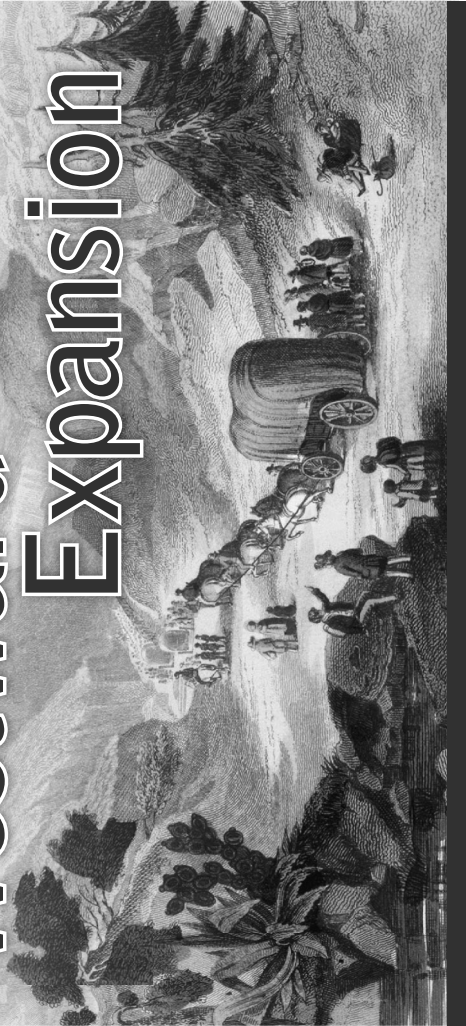
Paragraph 2:

Making table salt involves many steps. First, water is pumped underground into salt deposits to make brine. Brine is a mixture of salt and water. Next, the brine is pumped back up to the surface. It's collected in large tanks. Then, the brine is boiled until water evaporates and the salt forms crystals. This process is repeated until all the water is gone. Finally, the salt crystals are dried in big machines. They're ready for your kitchen!

Paragraph 3:

Salt and sugar may look alike, but they are actually quite different. They both come from natural sources. However, salt is a mineral while sugar comes from living plants. And they have very different tastes. It might be hard to tell them apart by sight, but don't mix them up. You don't want to wind up adding salt to your cookie dough instead of sugar!

Westward Expansion



Westward, Ho!

THE HOMESTEAD ACT

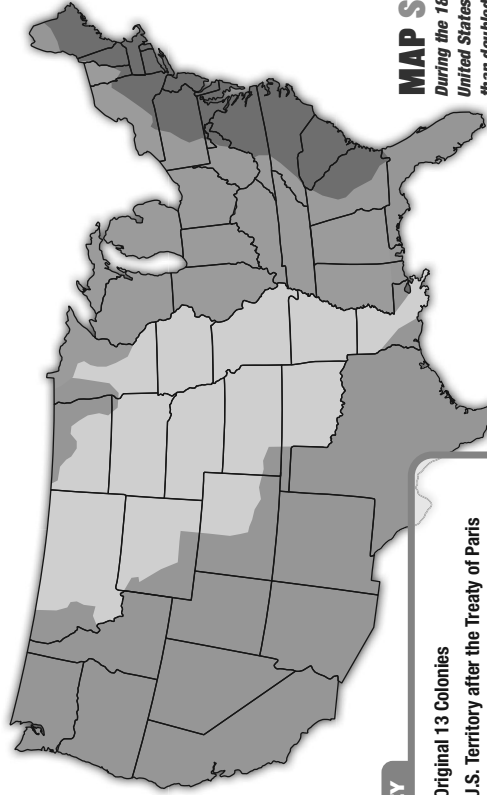
At first, not many people wanted to move into the territory the United States had gained in the Louisiana Purchase. It was far from the cities they were used to. They also wondered whether the land could be farmed.

To encourage settlers, the United States passed the **Homestead Act** in 1862. This law gave people free land in the new territory if they lived on it for five years. Thousands of pioneers decided to move west. A **pioneer** is the first person to settle in a new area.



The Great Plains

GROWTH OF THE UNITED STATES



KEY

- Original 13 Colonies
- U.S. Territory after the Treaty of Paris (1783)
- U.S. Territory after the Louisiana Purchase (1803)

MAP SKILLS

During the 1800s, the United States more than doubled in size.

Was your home state a part of the Louisiana Purchase?

Looking BACK

In 1803, the United States bought 530 million acres of land from France. This deal was called the **Louisiana Purchase**. It included much of what is now the central United States, or Great Plains. This deal doubled the size of the nation. The new area was called the **frontier**. A frontier is a wilderness area just beyond settled land.

VOCABULARY

- frontier
- pioneer
- prairie schooner
- sod
- boomtown

IMPORTANT EVENTS

- Louisiana Purchase
- Homestead Act
- gold rush

Time Line



Canvas bonnet

was rubbed with oil to make it waterproof.

The wagon bed

was packed with the family's possessions. It was water-tight so it could be floated across deep water.

Large wheels

made of wood and iron helped wagons roll more easily over bumps in the road.

Tools

would help pioneer's clear land and build their new homes.

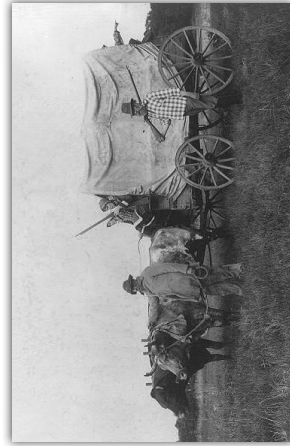
Diagram SKILL

Why were wagons a good way for pioneers to travel?

A LONG, HARD JOURNEY

Traveling west was very difficult. Pioneers had to carry everything they needed to begin new lives. There were few roads, and they faced many risks. People fell off horses or drowned at river crossings. They were bitten by rattlesnakes. They got sick from diseases like cholera and smallpox.

Pioneers carried their belongings in covered wagons called **prairie schooners**. Horses or oxen pulled the wagons. A full wagon weighed between 1600-2500 pounds. The heavy wagons moved slowly. They had little room for passengers, so most people walked. It could take months to get to their new home.



Their white canvas bonnets gave prairie schooners their name. A schooner is a kind of sailboat. Some people thought the wagons' bonnets looked like sails moving across the prairie.

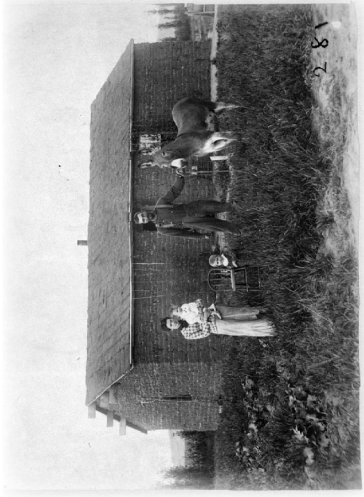
Life on the Frontier

Life on the frontier was very different from life back East. In eastern cities, there were stores, schools, and lots of other people. Living on the Great Plains was lonely. Neighbors were usually miles away. Looking out across the plains, pioneers saw nothing but miles of blowing grass.

Frontier life meant work from sun up to sun down. Pioneers had to make almost everything they needed. They sewed and mended their clothing.

They grew their own vegetables. They gathered berries and other plants to eat. Their livestock provided meat, milk, eggs, and wool. Settlers made candles and soap from animal fat.

Pioneers also built their own homes. Some lived in small one-room cabins. Others made homes from **sod**, or roots and grass attached to dirt. These houses were often built into the sides of hills or river banks. The sod kept them warm in winter and cool in summer. Often, an entire family of six or more people lived in a single room. Water leaks, mice, and snakes were common problems.



When they arrived at their new land, pioneers built simple log cabins or sod houses to live in.



Pioneer families cooked and heated water for washing over an open fire. To save space, pots, chairs, and other household items hung on the wall when not in use.

WhoWhat? WHEN

Laura Ingalls Wilder was born on February 7, 1867, in a log cabin outside of Pepin, Wisconsin. Her parents hoped to find a better life for their family out West. In the first twelve years of Laura's life, her family moved to Kansas, Minnesota, Iowa, and finally to South Dakota.

Life was not easy for Laura's family. They lived in small log cabins with thin walls. They faced harsh

winters with blizzards and freezing temperatures. One of Laura's sisters became very ill, and eventually went blind.

However, Laura also loved her life on the frontier. Years later, her childhood inspired her to write the *Little House on the Prairie* books. Her stories of adventure and hardship on the frontier still inspire people today.





The California Gold Rush

Settlers were also drawn to the West for a different reason – gold! In 1848, California became a U.S. territory.

That same year, a man named James Marshall found gold in the American River and a **gold rush** began. Thousands of people rushed to California. They hoped to find gold and get rich. These people were called **forty-niners**.

Life as a forty-niner was not easy. First, getting to California was difficult. You could travel by wagon or sail rough seas around South America and up the Pacific Coast. Also, mining was hard work. Some miners used picks and shovels to dig for gold in the ground. Others scooped dirt from the bottom of rivers and sifted through it in search of gold. Miners often got sick. In the end, some people found gold and got rich. Many more did not.

Miner's camp in El Dorado, California around 1850.



The earliest gold-seekers sometimes found thousands of dollars worth a day. Later miners were not so lucky.

The gold rush only lasted five years, but it changed California forever. Over 250,000 people flooded into the area. Small towns like San Francisco and Sacramento grew into big cities. Many boomtowns sprang up. A **boomtown** is a town that grows very quickly. These towns gave miners places to buy supplies and find entertainment. By 1850, California had enough people to become a state.



A forty-niner pans for gold in California's American River.



Lesson Review

1. VOCABULARY: Match each word to its meaning

FRONTIER	A covered wagon used to travel west
PIONEER	A wilderness area just beyond settled land
PRAIRIE SCHOONER	A town that grows very quickly
BOOMTOWN	The first person to settle in a new area

2. MAIN IDEA: What was the Homestead Act and why was it important?

3. **CRITICAL THINKING:** The U.S. government offered people land to move west in the 1800s. Why do you think the government wanted people to do this?

4. **MAP SKILLS:** Look at the map on page 19. What two agreements made the United States larger? In what years did they happen?

5. **MAIN IDEA:** How was life as a forty-niner difficult?

7. **CRITICAL THINKING:** If life on the frontier was so challenging, why do you think people chose to move there?

Writing Activity

Imagine you are a pioneer moving west. Write a letter to a friend back home describing your life, hardships you face, and what you do each day.

