

FIRE SCENE INVESTIGATION

Did You Know

The first known female firefighter was an African American slave named Molly Williams. Molly served as a member of Oceanus Company No. 11 in the city of New York. In 1818 she took her place with the men and helped pull the pumper through the snow to fight a fire. Molly fought fires in a calico dress and a checkered apron.

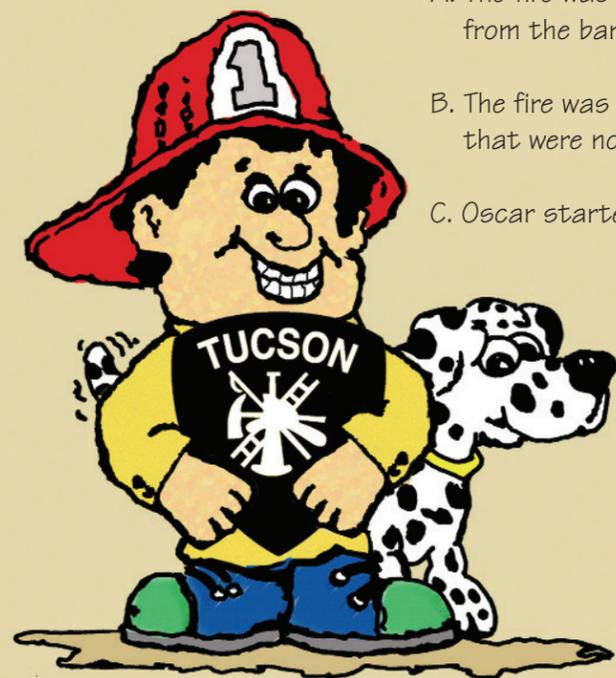
Did You Know

Hundreds of years ago most homes were made of wood and were heated with open hearths or fireplaces. The threat of a fire starting in one house and

spreading throughout a city or town was very real. To handle this threat many cities created fire-fighting clubs. The members of the club would pledge to help each other if their house caught fire. The members also pledged to help save the goods inside of the home and to protect the building from looters. Each member was required to provide at least two buckets for carrying water and several cloth bags for carrying goods from the home. Once a month the club would meet and practice firefighting techniques. One of the original fire fighting clubs started in the U.S. was created by Benjamin Franklin. The clubs became very popular and led to the creation of professional fire departments.

Now that you have put all the clues together, can you solve the mystery of how the fire was started. Your choices are listed below. Look in the bottom right hand corner for the answer.

- A. The fire was started by a spark from the barbeque grill.
- B. The fire was started by birthday candles that were not disposed of properly.
- C. Oscar started the fire



<http://www.usfa.dhs.gov/> - U.S. Fire Administration

<http://www.nfpa.org/> - National Fire Prevention Association

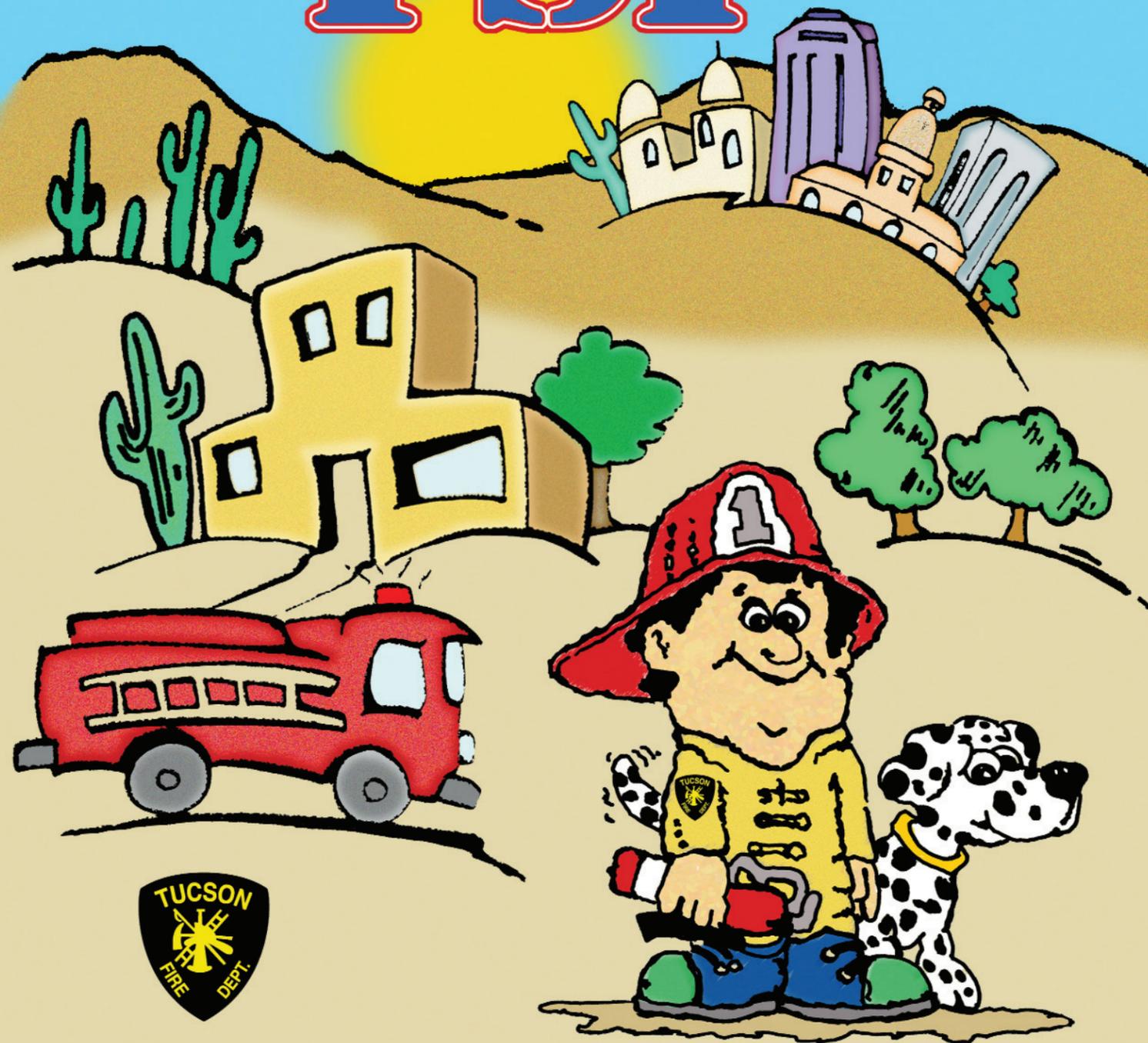
<http://www.greece.k12.ny.us/instruction/ela/6-12/Tools/Index.htm>- Greece Central School District - Tools for Reading, Writing and Thinking

<http://www.nlm.nih.gov/medlineplus/ency/article/000030.htm> - Medline - ADAM inc. AKA American Accreditation Healthcare Commission

C. Oscar started the fire

FIRE SCENE INVESTIGATION

FSI



Student Workbook

FIRE SCENE INVESTIGATION

A Sound In The Dark

The night was still and dark. Marco was sleeping soundly as the wind rustled the leaves outside his window. His bedroom seemed warm and safe, but a danger was growing just beyond his door. It began with a crackle, and a spark, and a faint puff of smoke, soon it would grow into a raging monster hungry for fuel and gasping for oxygen.



First, stay lower than the smoke. Stay low and go he thought, as he started for the door.

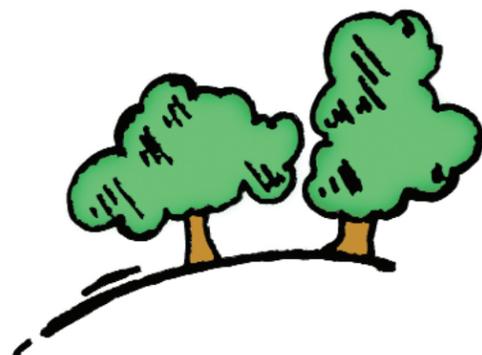
Next, crawl to the door and feel it with the back of your hand. When he felt the door with the back of his hand, he let out a painful shout. The door was hot, so he knew that the fire was growing just beyond it.

Beep! Beep! Beep! Beep! Beep!, Marco turned over and buried his face in the pillow. Beep! Beep! Beep! He tossed once more and then his eyes sprang open, suddenly awake and aware of the danger. He recognized the sound of the smoke detector immediately. In an instant he rolled out of bed and was lying face down on the floor beside it. The room had grown dark and a dense cloud of smoke had settled along the ceiling. Fear gripped him as he became more alert. He tried to calm himself as he focused on the danger growing around him.

He remembered not to open the hot door. The only other way out of the room was through his second exit, the window. He crawled quickly to the window. After he opened it, he checked the ground outside for anything that could injure him.

The coast is clear, he thought. He carefully crawled out of the window to the ground below. Once he was safely outside, he ran for his families meeting place. Fortunately, his family practiced their E.D.I.T.H drills (or Exit Drills In The Home) regularly, so he knew that everyone should meet at the mailbox. Once outside Marco raced for the mailbox. When he arrived he found his little brother Oscar sitting on the ground waiting for him. Together they anxiously waited for the rest of his family to meet at the mailbox.

At last he saw his mother



He was trying to decide what he should do. Luckily, the fire department had visited his school and taught his class how to escape from a fire. The fear made it hard for him to remember everything they had taught him. So he closed his eyes and focused hard on how to escape. Sweat was beading on his forehead as he struggled to remain calm. Finally, it came to him, he remembered his family escape plan.

FIRE STATION TOUR



Sleeping Quarters:

When a firefighter is on shift, they are working for 24 hours straight. This means that when everyone else is in bed and sleeping, firefighters are still at work. In between late night calls, firefighters try to get enough sleep to stay rested for the remainder of their shift. Each firefighter has a room to sleep in for the night.



Apparatus Bay:

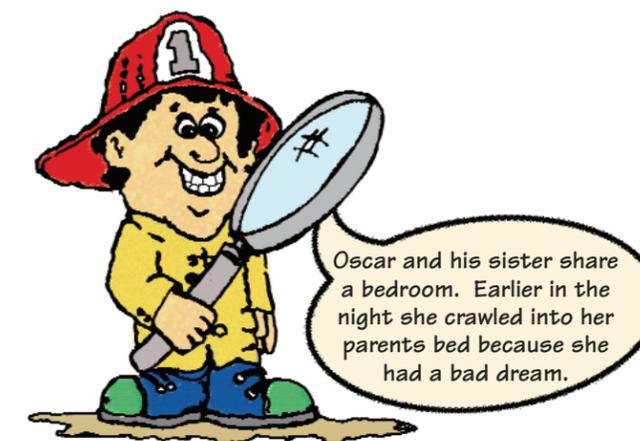
The apparatus bay is the heart of a fire station. All of the trucks, rescue equipment and firefighting gear are kept in the apparatus bay. At the beginning of each shift the firefighters must check their gear and safety equipment to ensure everything is working properly. They must also restock supplies and inspect their vehicles.



Fire Trucks:

Fire trucks come in many styles and sizes but each truck is designed for a specific job. The three most common types are the Fire Engine, Ladder Truck and Medic Truck. A fire engine can carry and pump water and usually carries a large supply of fire hose in the rear compartment. A ladder truck contains a large ladder that can reach over 10 stories high. A ladder truck also carries many different types of hand ladders that can be used to climb onto buildings or rescue people from windows.

Medic Trucks or ambulances are used to transport injured people to the hospital. The medic truck contains a lot of medical equipment and supplies and serves as a hospital room on wheels. There are many other trucks and tankers used by the fire department for various jobs including hazardous material trucks, water tenders and ladder tenders.



Oscar and his sister share a bedroom. Earlier in the night she crawled into her parents bed because she had a bad dream.

FIRE STATION TOUR

A fire station is a very unique place to work. When firefighters go to work, they don't return home again for 24 hours. For this reason, a fire station resembles a home more than an office or a place of business. When on duty firefighters work, cook, eat, sleep, and exercise at the fire station. Therefore, each fire station contains a kitchen, sleeping quarters, and an exercise room. Let's go inside a fire station and take a closer look.



Office:

Each fire station has an office space that provides the captains, firefighters and medics with a space to check e-mail, complete paperwork and create reports. Like most professionals, firefighters must be able to effectively communicate with coworkers and the general public.



Common Area:

Each station also has a common area where the firefighters can socialize, relax between emergency calls, read the paper and eat their meals. The common area is also used to host groups of students and community members during educational visits to the station.



Kitchen:

One of the most important rooms in a fire station is the kitchen. The firefighters share meals together while they are on duty. At each station the crews plan meals, purchase groceries, prepare food and eat together. After the meal is over they clean their dishes and wait for another call. Many times emergency calls won't wait for the firefighters to finish their meal. When the alarm sounds the firefighters have to leave their meals finished or not.



Exercise Room:

Firefighters have a very physically demanding job, and they are required to stay in great physical shape. Each fire station is equipped with an exercise room so that the firefighters can maintain their health and protect themselves from injury.

FIRE SCENE INVESTIGATION

and then his father carrying his little sister. Everyone had made it safely out of the house. As Marco's dad took attendance at the meeting place, Marco called 9-1-1 from his neighbors phone.

The minutes felt like an eternity as Marco and his family stood watching their home burn before them. At last the firefighters arrived ready to battle the fierce blaze. Marco was thankful that his family had planned for an emergency. Moments later, fire investigators arrived on the scene. They were determined to find the cause of the fire. The clues collected from the fire scene are

included on each page of this workbook. As you read and learn, try to piece together the clues to solve the mystery of how the fire was started.



Dear Students,

I hope you had a chance to read the story "A Sound In The Dark" on the previous pages. The family featured in the story was very fortunate that no one was injured when the fire destroyed their home. This was a case of more than just luck however. The reason they were able to get out safely was because they had created an evacuation plan and practiced their E.D.I.T.H. drills (Exit Drills In The Home) regularly. This family also had, working smoke detectors in their home that alerted them of the danger before it was too late to escape. Without a smoke detector and a well thought out plan, this story may have had a different ending. I hope that you enjoy reading the articles and have fun trying to solve the mystery. Remember to share what you have learned with your family and friends and remember to practice your exit drills regularly.

Firefighter Stu

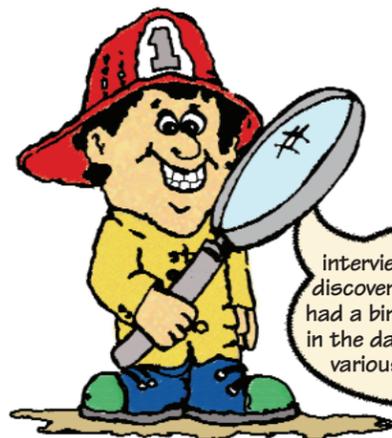
Your friend,
Firefighter Stu



FIRE SCENE INVESTIGATION

KWL Chart

What Do I Know For Sure About This Topic?	What Do I Think I Know, But Am Not Sure About This Topic?	What Would I Like To Learn About This Topic?	What can I do to prepare my family for an emergency?



During witness interviews, investigators discovered that the family had a birthday party earlier in the day. Many guests of various ages attended the party.

DID YOU KNOW

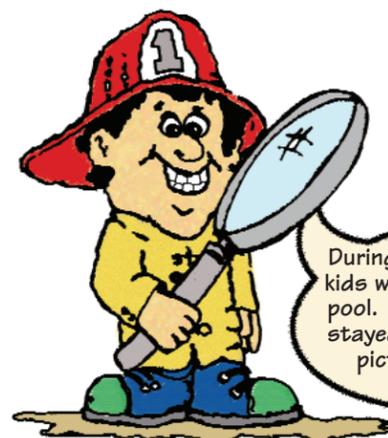
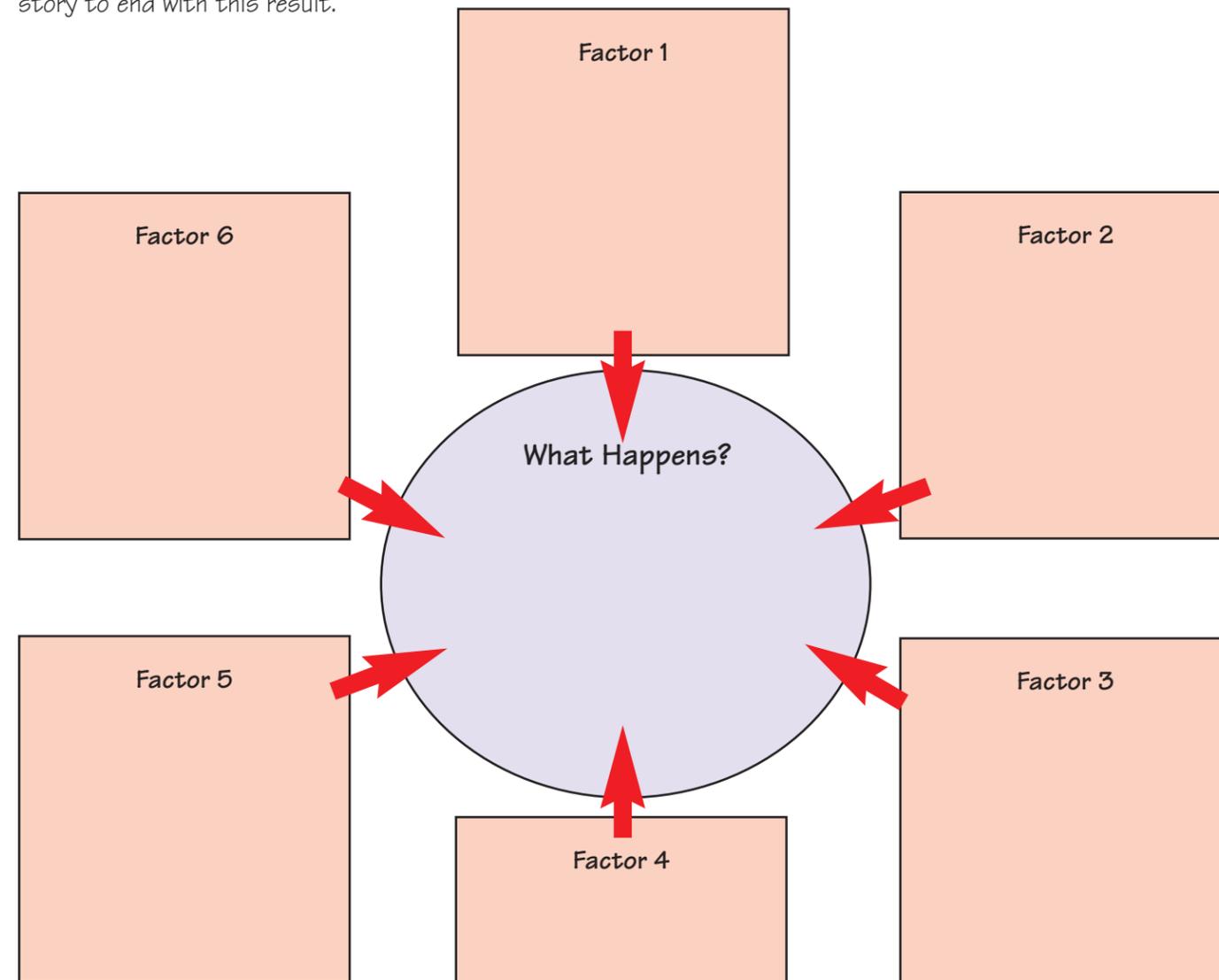
First attempts at firefighting can be traced as far back as the 2nd century. It was then that an Egyptian from Alexandria named Ctesibus built a basic hand pump that could squirt a jet of water, but the idea was lost until the fire pump was reinvented about AD 1500. After nearly being destroyed by large fires, the ancient Romans developed a fire department consisting of approximately 7,000 paid firefighters. These firefighters not only responded to and fought fires, but also patrolled the streets with the authorities to punish those who violated fire prevention codes.

FIRE SCENE INVESTIGATION

Safety Training Saves Lives

Cause and Effect Web

In the center of the web below briefly explain how the story ended. In each box list one factor that caused the story to end with this result.



During the party the older kids went to the swimming pool. The younger children stayed behind and colored pictures. Oscar loves to swim.



Investigators found a Lego building surrounded by toy fire trucks on the floor of the children's bedroom. One of the trucks could actually pump water.

FIRE SCENE INVESTIGATION

Safety Training Saves Lives



In the early morning hours of January 6, 2002, the Strait family was **awakened** by the sound of smoke alarms and banging pipes. An electrical fire in the basement had shorted the hard-wired smoke alarms in the home, filling the basement and main floor with smoke. The **intense** smoke triggered the battery-operated smoke alarms outside the family members' bedrooms. The Straits immediately put their escape plan into action. Eight-year-old Greg and his mom crawled low under the smoke and out the front door.

His two teenage sisters, Julie and Laura, went with their dad out a second **route** through the kitchen. Once they were outside at their meeting place, the family took a head count and called the fire department. The fire was put out quickly, although the house suffered **severe** damage from the smoke. When asked how her family knew what to do Mrs. Strait said, "Greg made us do it. Every year the kids bring home the assignment to draw the escape map and check smoke alarms and every year my husband and I would roll our eyes...last September Greg insisted that we needed to do his map and escape plan as part of the school's Risk Watch® program. So we did it and it really helped us the morning of the fire." The family cat was even saved, because the Strait's knew the importance of being prepared for a fire.

Vocabulary

Definition: to be disrupted from sleep.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: very strong or overpowering.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: a path of travel.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: inflicting extreme or serious harm.

Term: _____

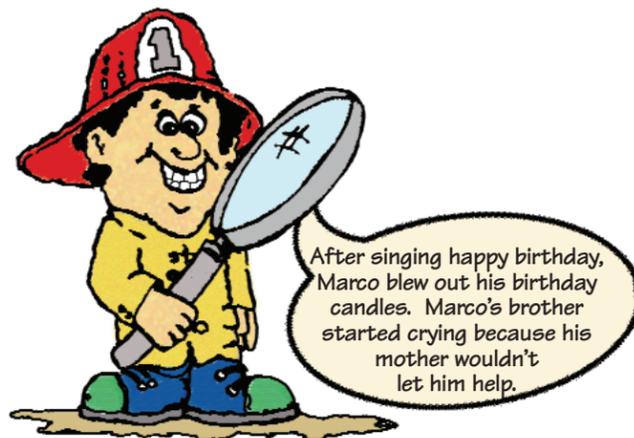
Antonym: _____

Synonym: _____

Sentence: _____

Word Bank

Route, Awaken, Severe, Intense



FIRE SCENE INVESTIGATION

Quick Write Journal



Quick Write 1:

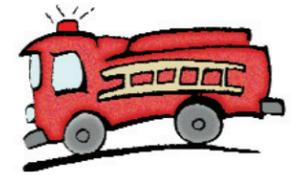
NAME: _____

Quick Write Prompt: What would you do if you heard the sound of a smoke detector while you were in your home?

Quick Write 2:

NAME: _____

Quick Write Prompt: When you imagined yourself escaping from your home, was it difficult or easy? Why?

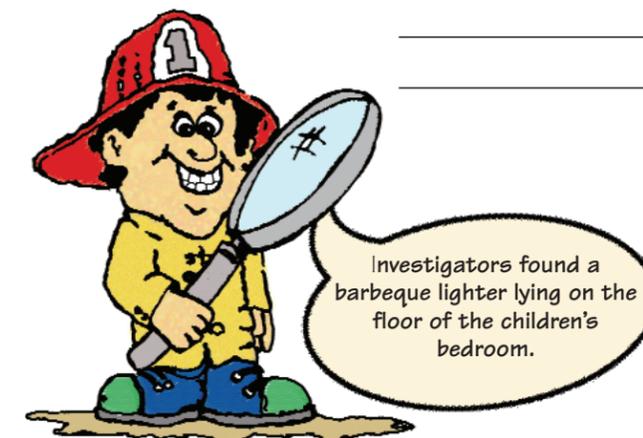


Quick Write 3:

NAME: _____

Quick Write Prompt: How can you prepare yourself for an emergency and why is it important to be prepared?





Did You Know

The Dalmatian has been the fire dog since the fire department used horses. Dalmatians were bred for endurance and stamina. Dalmatians are not fast dogs but are able to run for long periods of time without rest. Dalmatians were trained to escort the horse drawn engine to the fire scene and prevent stray dogs from interfering. The spotted Dalmatians were easy for the horses to distinguish from other dogs. Once at the fire scene Dalmatians would continue to protect the horses from other animals.

FIRE SCENE INVESTIGATION

Vocabulary

Definition: to live through an event or series of events.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: to flow over and enclose.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: to breathe in.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: poisonous to the body.

Term: _____

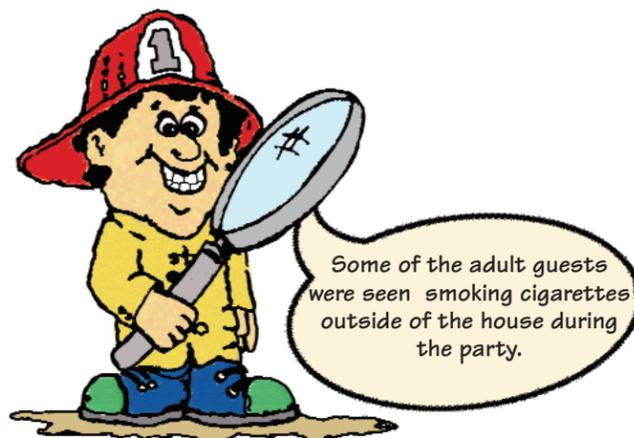
Antonym: _____

Synonym: _____

Sentence: _____

Word Bank

Inhaling, Experience, Toxic, Engulfed

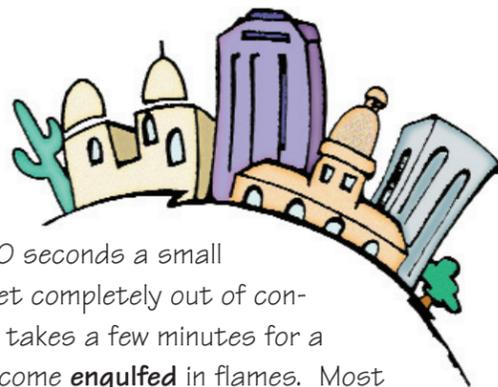


The Facts About Fire

Have you ever wondered what it would be like to experience a real fire? Every day Americans **experience** this horrible event, but most don't understand it's true nature.

Fire is FAST!

There's no time to waste! In less than 30 seconds a small flame can get completely out of control. It only takes a few minutes for a house to become **engulfed** in flames. Most house fires occur when people are asleep. If you wake up to a fire, get out quickly. You won't have time to grab your valuables, because fire spreads too fast and the smoke is too thick.



Fire is HOT!

A fire's heat can kill. Room temperatures in a fire can be 100 degrees at floor level and rise to 600 degrees at eye level. **Inhaling** super hot air can burn your lungs. The heat can be so great that it melts your clothes to your skin. In five minutes a room can get so hot that everything in it ignites at once: this is called a flashover.

Fire is DARK!

Fire isn't bright, it's pitch black. The flames of a fire are bright in the beginning, but are quickly darkened by thick, black smoke. If you wake up in the middle of a fire you may not be able to see where you are going.

Fire is DEADLY!

Smoke and **toxic** gases kill people more often than flames do. The gases in smoke can make you drowsy and confused. If you breathe the smoke into your lungs, you may fall into a deep sleep before reaching the door and you may not be able to wake up.

FIRE SCENE INVESTIGATION

Summary Paragraph

Topic: _____

Important Detail: _____

Important Detail: _____

Important Detail: _____

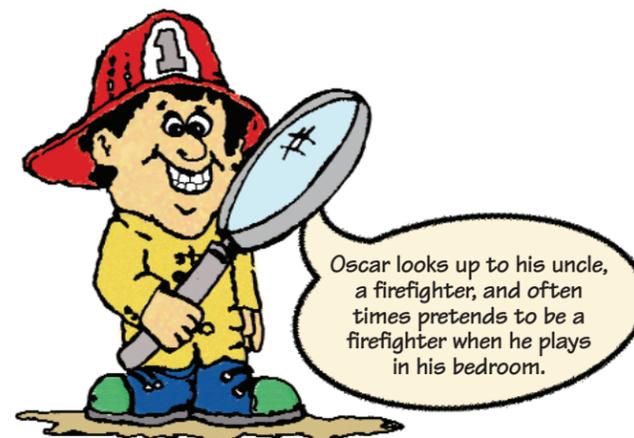
Important Detail: _____

Conclusion: _____

Summary: _____

Did You Know

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FIRE SCENE INVESTIGATION

Vocabulary

Definition: a part of the body that performs a function required to live.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: to burn with liquid or steam.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: to cause lasting injury.

Term: _____

Antonym: _____

Synonym: _____

Sentence: _____

Definition: a greasy medicine for the skin.

Term: _____

Antonym: _____

Synonym: _____

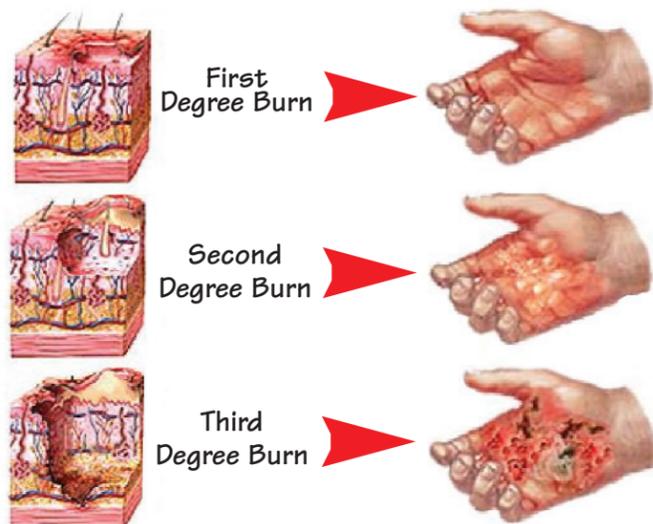
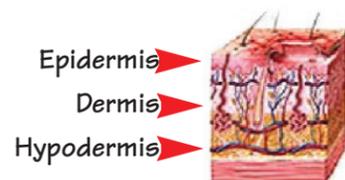
Sentence: _____

Word Bank

Scald, Organ, Ointments, Scar



Burns and Scalds -A Hot Topic



Did you know that your skin is the largest **organ** of your body? Like all of the other organs in your body your skin can be permanently damaged or destroyed. A burn or a **scald** is an injury to the skin. The number of skin layers it affects, determines the severity of a burn. A first-degree burn only affects the outermost layer or epidermis. Second- degree burns reach into the second layer of skin or the dermis. Third-degree burns affect all three layers of skin. Burns and scalds can be very minor or very serious, but they are almost always very painful. If a burn or a scald is severe enough, it can cause hospitalization or even death. A severe burn can also cause permanent **scarring**. In most cases, burns can be prevented by making your home safer and by using safe practices for cooking, cleaning and bathing. Some of the most common causes of burns and scalds include: hot liquids, fire, chemicals, electricity, sunlight and heated appliances.

If you suffer a burn or scald you should run the burned area under cool water for 10 minutes or more. Never use ice, butter, creams or **ointments** to treat a burn. You should then cover the burned area with a clean bandage. Blisters may form, do not try to pop them.

FIRE SCENE INVESTIGATION

Fire is fast

Fire is fast, like a run away train.

Simile

Simile

Simile

Fire is Dark

Fire is dark, like the sky at midnight

Simile

Simile

Simile

What is a simile?

Similes describe an object by comparing it to something with a similar characteristic. In a simile, the comparison is made by using the words like or as. For example: Fire is dark, like the sky at midnight.

Fire is Hot

Fire is as hot as a river of lava.

Simile

Simile

Simile

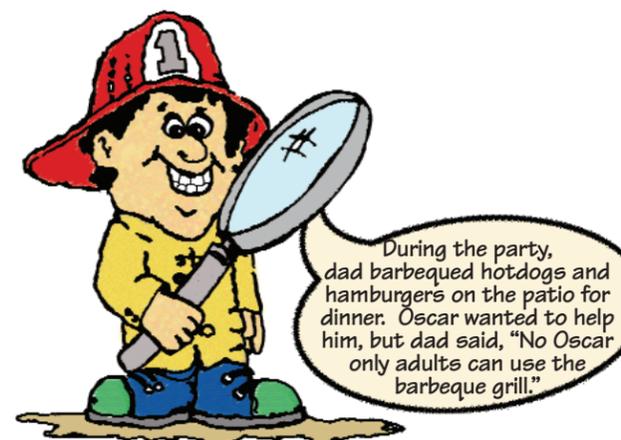
Fire is deadly

Fire is as deadly as a rattlesnake.

Simile

Simile

Simile



Did You Know

The first fire engines, which appeared in the 17th century, were simply tubs carried on runners, long poles, or wheels; water was still supplied to the fire site by bucket brigade. The tub functioned as a reservoir and sometimes housed a hand-operated pump that forced water through a pipe or nozzle to waiting buckets. The invention of a hand-stitched leather hosepipe in the Netherlands in 1672 enabled fire fighters to work closer to the fire without endangering their engines and increased the accuracy of water placement. At about the same time the development of pumping devices made it possible to draw water from rivers and ponds.

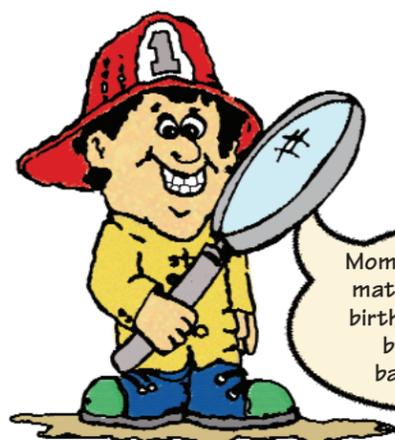
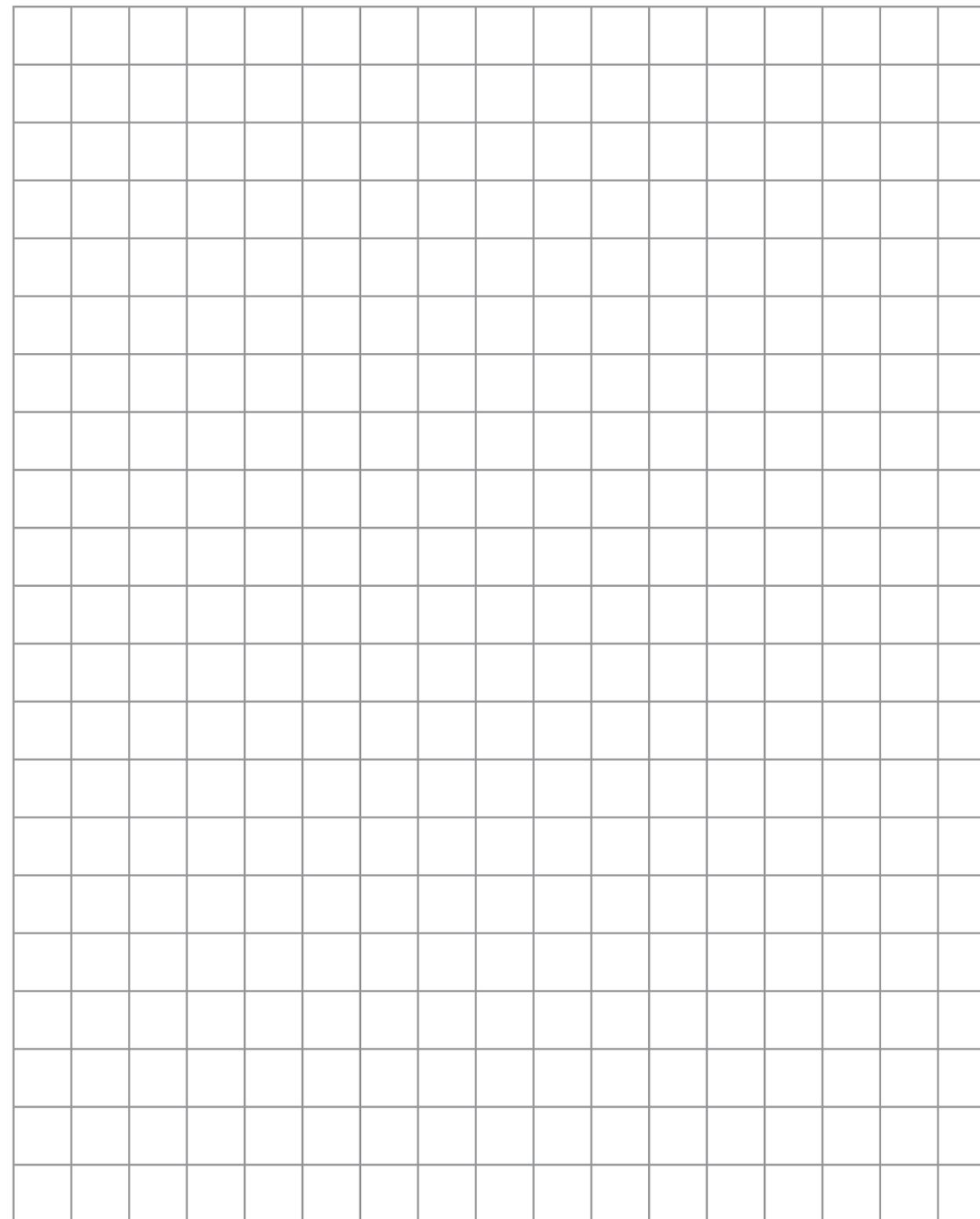
FIRE SCENE INVESTIGATION

What You Need To Know
About Smoke Detectors



FIRE SCENE INVESTIGATION

1-Centimeter Grid



Mom couldn't find the matches to light the birthday cake, so she borrowed dad's barbeque lighter.

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Get Out and Stay Out

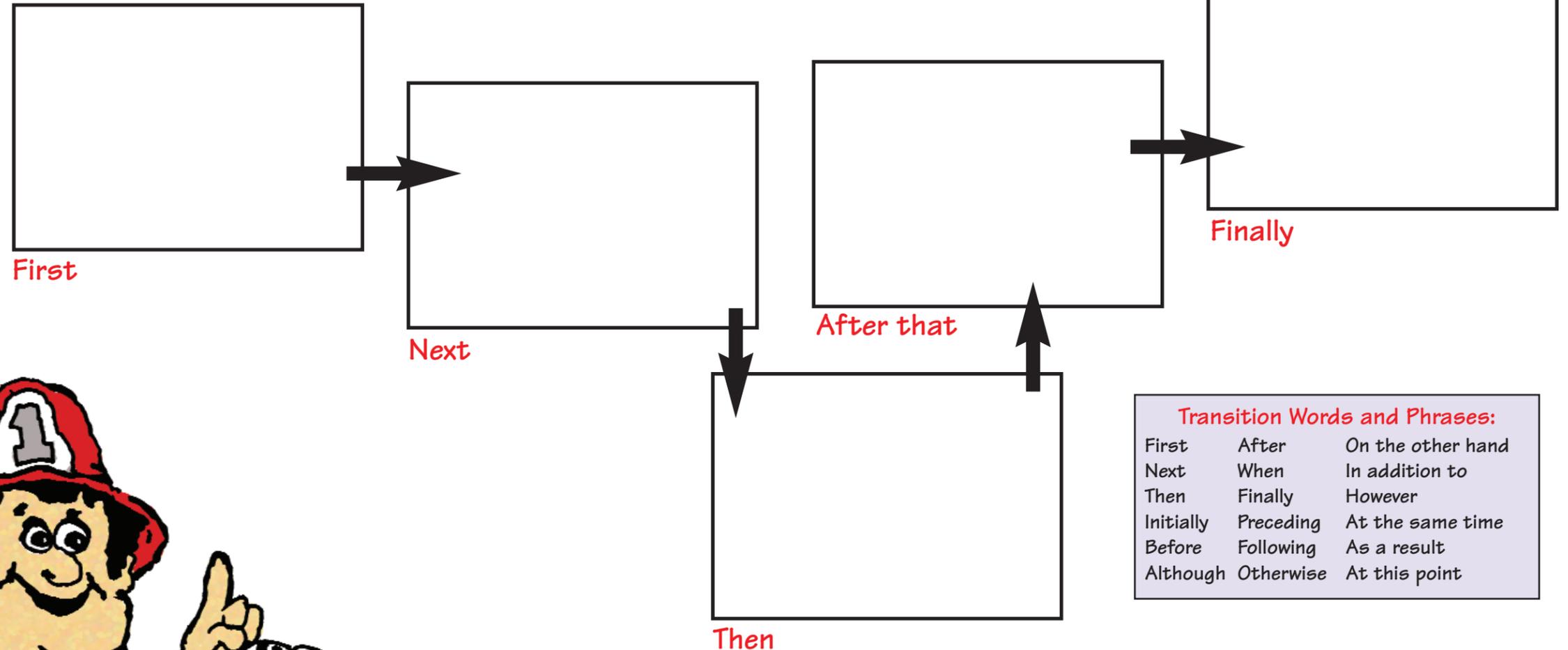
Each year more than 4,000 Americans die in fires. Fire death and injury can be avoided if you create a well thought out escape plan. Making a plan is easy to do, just follow these simple steps.

First, identify all the **exits** in your home. Decide which exits will allow you to escape the quickest. **Next**, check the exits, including windows, to make sure nothing will prevent you from escaping. **Then**, look outside of the windows and make sure you will not be injured if you have to exit the building. **After that**, find a meeting place, somewhere outside of your house and away from danger. Make sure the meeting place is something that will not be moved. A common meeting place for many families is the mailbox.

Finally, once you have an escape plan and a meeting place, practice E.D.I.T.H drills or Exit Drills In The Home with your family. Fires often occur while people are

asleep, so practice evacuating your home from your bedroom. Remember that smoke can be very deadly, as you escape stay low and go.

In the diagram below create an escape plan for your home. Use the underlined words in the article to help you. For example, the paragraph says that **first** you should identify the exits in your home. In the first box list the exits from your home.



Transition Words and Phrases:

First	After	On the other hand
Next	When	In addition to
Then	Finally	However
Initially	Preceding	At the same time
Before	Following	As a result
Although	Otherwise	At this point



Once you have a plan for getting out of your home you should practice E.D.I.T.H drills regularly. The procedure for an E.D.I.T.H drill is listed in the directions below. Each time you practice your E.D.I.T.H drill follow these directions.

How To Escape Your Home

1. As soon as you hear the smoke detector, roll out of bed and stay low.
2. Crawl to the door and feel it with the back of your hand.
3. If the door is hot, don't open it. Exit the building through the window.

4. If your window is on a second story, put a blanket or pillow under the door and wait for firefighters to help you.
5. If the door is cool, open it slowly.
6. Stay below the smoke and crawl to the nearest exit.
7. Exit the building and go to your meeting place.
8. Take attendance and make sure everyone is safe.
9. Go to a neighbor's house and call 9-1-1.
10. Wait for firefighters to arrive.