

Exploring Fire Safety

Preschool Classroom

Phase 1



A parent donated a “pop-up” fire truck to use in the dramatic playroom as we began the fire safety project.

The topic of fire and fire safety was intriguing. Teachers knew that they could not let children start fires at school. So what could preschool students learn about fire? The children really seemed interested in the concept of fire and more so, fire safety.

Teachers were interested, too. The staff had an expert speak to them about fire safety before school began. The expert shared a video on fires and how to be safe. Teachers were amazed at how quickly a fire can take over and destroy a room.

In September, students and teachers had to evacuate the classroom because there was a small fire in another part of the building. Unfortunately, no fire alarm or smoke detector warned the students about the fire. The fire marshal came to the classroom and requested everyone to go outside. The teachers took attendance and waited for an all-clear sign from the fire fighters. As the fire fighters were leaving, they gave the students permission to examine the fire truck. The fire truck enthralled the children. The fire fighters explained a few things about the truck. The children were very interested.

In October, the preschool teachers took the children to a local shopping mall to see an exhibit commemorating Fire Safety Month. The children rotated among several stations that explained various aspects of fire safety. They watched a fire fighter put on and explain each piece of his equipment. The students watched a puppet show and listened to local fire fighters perform a rap song. They took a close look at a brand new fire truck. And last but not least, the children slid down a fire pole.

The two activities sparked a curiosity and enthusiasm for community helpers such as fire fighters. Several children dressed up as fire fighters for Halloween. They liked wearing their costumes to school.

When planning began for the next project, the teachers inquired about the children's interests during a large group meeting. Children responded:

KM: fire trucks
ER: pictures
WK: smoke alarm
ML: fish
IF: metals
CB: fire safety
TM: butterflies
JG: fire
RS: Santa
MP: plates
ER: dogs
MJ: fish in aquarium
BL: fire alarm
MJ: ladybugs

There was a major interest in fire equipment and fire safety. The teachers decided to pursue the topic of fire safety.

In November, the preschool teachers (head teacher, and two assistants) began the project by brainstorming their ideas about fire safety. They categorized their ideas and physically manipulated their ideas (on sticky notes) on chart paper to create a Teacher Fire Safety Topic Web. They hung their web on the bulletin board to share with students and parents the next day. The teachers also generated a list of "Essential Learnings" or "Big Ideas" that they wanted students to gain through their investigation of Fire Safety. Their "Big Ideas" included:

- *Fire can be useful, but also dangerous.
- *There are fire safety items in your home.
- *There are some ways that you can protect yourself when faced with a fire.
- *Fire fighters help rescue and save us during a fire.
- *Fire fighters are specially trained and use special equipment to put out fires.

In Phase I, the teachers planned for ways to find out what students had already experienced and understood about fire safety. Teachers began large group meetings with discussions about fire. The teachers tape-recorded the sessions to capture group discussion and to determine what students understood about fire.

T: What do you know about fire? Have any of you had any experiences with fire?
WK: Smoke alarm. It makes itself go off when smoke comes from a fire.
TK: You need water to go on a fire to make it go away.
T: Why do you need the water?
JG: Fire.
T: What do you do with it?
JG: Water. Go away.

- T: Water makes fire go away?
JG: Yeah.
KM: We were trying to make a fire. But when we were outside, we couldn't.
T: I heard that some people were trying to make a bonfire outside.
KM: But we couldn't. We were trying to use rocks to make a fire.

Students held some misconceptions about what starts a fire. The teacher noted this as a question to pursue further. The next day, the teacher asked for other students to share their experiences with fire.

- TM: Firemen come to rescue people and put the fire out with a fire hose. And they have all this water. This water puts the fire out.
T: Where do you get this water?
TM: From the sink and a fire hose. I have more. (to say)
MJ (interrupting): Water lets out fire. Fire burns wood. Fire can kill anything except water.
T: Can fire kill us?
MJ: Yep.
WK: Stop, drop and roll. Fire can kill you.
IPL: I know how to make fire. Two smooth rocks or matches or a stick.
TK: Smoke goes with fire.
ESR: If you put the smoke into the fire.
T: Do you put smoke into fire? Is there fire in smoke?
Everyone : Yes, yes, yes."
RS: A fire alarm tells you when there's a fire.
NS: Fire can make you burn.

From the conversation, it seemed that some students had experience learning about safety tips such as "stop, drop, and roll," and knew about fire alarms. Others were curious about the relationship between smoke and fire. Some students held misconceptions about where the water comes from that puts out fires. One student told a joke that introduced the concept that "Big People" handle fire:

- ES: Why did the fire burn the house?
T: I don't know, why did the fire burn the house?
ES: Because it fell down.
MJ: The smoke and the fire go together.
ML: It burns you. Big people can do it.

Their discussion stopped because it was time to go home. All of the students had opportunities to share their ideas about fire, but some chose not to speak into the tape recorder. The teachers continued the discussion the next day to probe further about what students understood about fire.

- MP: Fire can burn your hand.
RM: My daddy makes fire in a fireplace. *Good Night Moon* had a fire in the fireplace.
EG: We have a fireplace at our house.

- T: What do you put in there?
EG: Fire.
NH: I have a fireplace at my house. Make fire. My dad puts some fire and you watch the fire go on when it's night.
IF: Fire is hot.

This discussion introduced the idea that people make fires in their houses and also that fires are hot and can burn you. The next day, the teacher asked them to recount their experience in the fall when the fire truck came to the school.

- T: Do you remember the day that the fire truck came? Why did the firemen come to our school?
TM: A fire drill.
T: Do you remember what happened that day?
WK: Because we were just practicing.
T: We were not just practicing. WK's dad took me out in the hallway. "Sniff, sniff. I think something is on fire," he said. There was a fire but we didn't hear an alarm. Someone came to our class and told us to leave. Where did we go for a safe place?
AW: We go in the hallway.
T: That's right if there's a tornado. But what do we do for a fire?
AW: We go outside to the field.
IPL: We go outside where we have races.
T: What does the teacher do then?
RS: Make sure everyone's okay.
IF: Make sure everyone's there.
WK: Just say they're okay.
ESR: A lady was coming and she had a lot of stuff to do.
T: I'll tell you what I do. I take attendance. If you are not here, I find a fire fighter to go find you.

The teachers gleaned from this discussion that the students were confused about the difference between a tornado drill and a fire drill. They also were not aware why the teachers took attendance during the fire drill. The teachers reviewed the procedures of other fire drills that took place during the school year.

The teachers designed several choices for students to pursue during project/activity time that would elicit more of their current knowledge and understandings about fire safety. One choice was to write or dictate "fire rules." Students also made books about what they know about fire safety or fire.

Teachers placed chalk and colored pencils at the writing table for them to illustrate their experience stories. Students finger-painted with yellow, red, and orange to represent fire. The next day, they cut out their finger-painted flames and put them in their pictures about fire.



This student used chalk to draw a raging fire.



The student finger-painted flames to illustrate his story, "The house is on fire. Flames are shooting out of the windows!"

One child wanted to practice STOP, DROP and ROLL. This became a choice for other students to do while the student supervised. At the next large group meeting time, students shared their activities with the rest of the group.

- AW: There are lots of fire rules. We talked about rules.
RS: We made books about fire. But I didn't finish mine today.
KM: We drew pictures.
RM: I drew a picture of fire with chalk.
WK: Stop, drop and roll practice.
BL: We drew fire.

To find out more about their experiences with fire, the teacher asked students if they had a fireplace in their homes.

- MJ: Yes, in the living room.
ER: Yes, in the room.
BL: No
WK: Yes, in my living room.
ES: Yes.

The teacher then decided to make a video of a fire roaring in her home fireplace. She could not take the children on a field study to see a fire because it would not be safe. Before she showed the video in class, she asked the students to make predictions about the color of the fire. Some children had no idea what color to predict.

- BL: nothing
WK: nothing
ER: nothing
MJ: I think fire is orange.
TM: It's red.

During a rainy day recess the next day, the whole group of children watched the video and looked for colors in the fire. Later during project/activity time, a small group of students drew their own fire pictures. They used the materials that teachers put on the art table: watercolor pencils, water and watercolor paper. After watching the fire video, the students reported the colors that they saw in the fire and they shared their pictures.

WK: Fire is yellow.
ER: It's orange fire.
BL: My fire is red.
MJ: Fire is black.
ES: I can draw a fire.

The teachers also made play dough and clay available during project/activity time for students to make three-dimensional representations of fire and fire safety. Children shaped the clay and play dough into fire hats, firehouses, and fire axes.



A student molds the play dough to make a fire hat from her memory.



A play dough fire hat is created from memory.

Teachers or adult volunteers facilitated students' writing and recording of their memories. In many cases, the students dictated stories that the adults wrote down for them. The teacher typed the stories later in the day and left space for students to add their illustration the next day. During large group time, the children shared their stories by reading them aloud or having a teacher read for them while they held up their illustrations. Sometimes students drew their pictures first and then went to an adult to give their dictation. The teachers shared some of their illustrations and memory stories on the classroom project display wall.



This student reads his memory stories about fire to the class.

As students continued to share their experiences and memories, the teachers probed their thinking to uncover their misconceptions. Students had many ideas about what is on a fire truck and what is at the fire station.

- ER: Sometimes they use the ladder for fire station.
WK: There are fire stations.
ER: Sometimes boats are on fire. Then they have to stop, drop and roll. But boats do not know how to do this. So people need to help the boats.
MJ: Gas can make a fire. If you put gas on the fire, you can make a bigger fire.
WK: When there is a fire on you . . . Do STOP, DROP and ROLL.
AW: Pumpkins use fire.

The teachers documented what individual children knew about fire safety. Obviously, MJ had experience with building fires outside and using gasoline or lighter fluid. WK knew what to do if his clothing caught on fire. ER misunderstood how fires were put out on boats. AW knew that pumpkins use fire. Upon further questioning, AW explained that she meant that jack-o-lanterns needed a candle to provide light.

In one group meeting, students discussed jobs that involved fire. They listed a fire-eater, fire dancer and fire juggler. No one had seen any of these in person but had watched them on television or on videotape. In another group meeting, students held a discussion about fire trucks.

- ER: There is fire truck a lot by my house.
KM: There's a lot by our house.
JG: Some are yellow.
IF: Airports have fire trucks.
ER: Some are red.
MP: Some are green in Chicago. The hose is green.

The students used construction paper to create memory representations of fire hats and fire coats. One child wanted fasteners for his coat and suggested Velcro strips. The teacher found some Velcro in the cabinet and soon the jackets closed nicely. The children brainstormed how to

attach the sleeves to the body of the jacket. Finally, they discovered that large unwound paper clips would allow them to clip the sleeve to the jacket.



This student is modeling his paper fire hat.



A fire hat created from memory covers this fire fighter's entire face.



A fire coat with arms created from a child's memory of a fire fighter's gear.



This memory creation is a fire coat that has red stripes to reflect during a fire.



During large group meeting, the student explained how he made his fire jacket.

During Phase 1 teachers evaluated and documented what students knew. They listened to conversations, read their memory stories, and observed the children's drawings for details that illuminated understandings and misconceptions.

The teachers concluded Phase 1 by asking the students to brainstorm their ideas about fire safety into a web ([Student Fire Safety Topic Web 1](#)). This provided a baseline for their experiences as well as their understandings about fire. The students' initials were placed next to their ideas. During the discussion of their ideas for the web, students began asking questions. The teachers wrote them on sentence strips to make them visible for everyone.

What equipment is used in fire fighting?

What starts a fire?

What is a fire?

What is at the fire station?

What is a smoke alarm?

What is a fire extinguisher?

TK was interested in finding out what starts a fire. Other students were most interested in finding out about fire detectors and fire extinguishers. Some children just wanted to share their knowledge. WK wanted to share how to "stop, drop and roll."

The teachers helped the students categorize their questions to put children with similar interests together. The teachers reformulated the three main questions to make them researchable for young students. These questions guided the next phase of the project.

- 1. What can catch fire?**
- 2. Where do we find smoke alarms and fire extinguishers?**
- 3. What equipment does a fire fighter use?**