



Dear Second Grade Teachers,

Rural Metro Fire Department is dedicated to providing health and emergency services as well as education for our community. We feel passionately that educating young people is imperative to saving lives and reducing preventative accidents through education.

We know that you are extremely busy with lesson plans that are filled with an abundance of standards that have to be taught and we want to help you teach them. We have developed a health and safety curriculum that is based on the Arizona State Standards, which meets many of the Second Grade requirements as well as the messages and lessons that we want to teach your students for their safety and well-being.

We know that the lessons that you will teach them, as well as the lessons that we have developed, could work together to teach our children life-saving concepts that they need to know, while teaching the standards that Arizona has developed.

We would like to schedule a time that a few representatives from our department could come and teach a very valuable 45 minute lesson to your class. We will have great assessment worksheets, as well as a follow-up lesson for you to teach after we leave. Please contact us to schedule a convenient time for our lesson. We look forward to meeting you and your students.

Sincerely,

Rural Metro Fire Department

The following is a list of the Arizona State Standards that will be taught through our lesson as well as the follow-up lesson.

Comprehensive Health Education

Standard 2: Students demonstrate the ability to access accurate health information

2CH-F7 Identify when and how to seek emergency medical assistance and shelter

- PO 1. Demonstrate how to contact parents and/or emergency services in emergency situations
- PO 2. Recall emergency numbers

Standard 3: Students demonstrate the ability to practice health-enhancing behaviors and reduce health risks

3CH-F3 Identify hazards found in the home, school and community and demonstrate ways to avoid or reduce the threats

- PO 1. List hazards found in the home, school and community
- PO 2. Discuss ways to avoid and/or reduce the threats

3CH-F5 Demonstrate first aid procedures and appropriate responses to common emergencies in the home, school and community

- PO 1. Describe a minimum of three first aid procedures
- PO 2. Determine correct response in case of accident or sudden illness

Math

Strand 2: Data Analysis, Probability, and Discrete Math

Concept 1: Data Analysis (Statistics)

- PO 1. Formulate questions to collect data in contextual situations
- PO 2. Make a simple pictograph or tally chart with appropriate labels from organized data.



Level: *Second Grade Lesson*

Lesson: *Fire Chemistry, Burn Awareness*

Time: *45 minutes*

Supplies: *whiteboard, marker, oranges (one quarter per student), paper napkins, Burn Awareness and Fire Safety worksheet. One per student.*

Arizona State Standards that are taught: 3 CH-F3 PO 1, 3CH-F3 PO 2, 3CH-F5 PO 1, 3CH-F5 PO2, 2CH-F7 PO 1, 2CH-F7 PO 2

Time:	Action:	Supplies:
2 min.	Introduction: Introduce yourself; tell the students where you work and what you do. Tell them that today we are going to learn about Fire Chemistry and Burn Awareness.	
3 min.	Discussion of Fire Chemistry: Ask students how many of them have ever eaten a Peanut Butter and Jelly Sandwich. What are the three ingredients that you need to make one? peanut butter, jelly and bread. What if you leave out the jelly? Do you have a PB &J anymore? NO. What about if you leave out the bread? NO. That is like fire in that it has 3 ingredients that it needs to be a fire. This is called Fire Chemistry .	
10 min.	Illustrate: Draw a large triangle on the board. Explain that the three points represent the three ingredients that fire needs to live. Ask the students if they can name the three ingredients. Write them up on each tip as they get them, or help them out. HEAT, FUEL, OXYGEN. Ask for examples of heat and fuel. Write them on the board under that heading. Look at how many things can burn and how many things can get these things hot enough to burn. There is always OXYGEN in the air, so why aren't there fires all the time? Because we are being FIRE SAFE. Being Fire Safe means that we don't let these three ingredients mix or come together to make fire.	whiteboard
1 min.	Discussion of Burn Awareness: The other thing that we came to talk about today is Burn Awareness . We all know that if fire touches your skin, it will do what? BURN YOU. But did you know that there are different kinds of burns? Did you know how important your skin is to your body?	

<p>4 min.</p>	<p>How important is our skin?: The skin is the largest organ of the body, and the only one you can see. All of the other organs are inside the body. Can we name some of them? (heart, stomach etc.) Our skin is very important to our bodies. Can we name some of the skins' jobs? (ask for student involvement –second grade science curriculum includes the human body)-Hold our body together, grows hair that keeps us warm, keeps water inside the body, sweats to cool us off etc.</p>	
<p>10 min.</p>	<p>Types of skin: PASS OUT THE ORANGES AND NAPKINS. Have two volunteers pass out the oranges-one to each student. Ask the students not to eat or play with the oranges yet. We have to use them to learn first.</p> <p>Epidermis: Your skin is very much like the orange you have in front of you. Compare the skin of the orange to your own skin. Refer to the outside of the orange. Mention how it is tough. The outside of our skin is tough too. The outside of the orange protects the fruit inside. The outside of your skin is called the <u>epidermis</u>. Refer to the orange.</p> <p>Dermis: Now turn the orange over like you are going to eat it. Look at the white ring just under the epidermis. This is called the rind of the orange and it's a lot like the part of our skin that is under the epidermis, which is called the <u>dermis</u>. Refer to the orange. The dermis is where the new skin cells are waiting to come to the surface. The skins cells in the dermis are waiting in water to keep them fresh because every day when you take a shower or bath you wash some skin cells from the epidermis away and the dermis send new ones up to take their place. The ring around the tub or the dirt in your wash cloth has old skin cells in it. Your body calls new skin cells up from the dermis every day. Some of the water your body needs is in the dermis of your skin!</p> <p>Fatty Tissue: The fruit of the orange that you eat is a lot like the <u>fatty tissue</u> of your skin. This part of your skin is very important too. This is where your hair grows from, this is where you have your nerves that tell you whether something you touch is hot or cold, smooth or rough, prickly or soft. It's also the place where the new skin cells are made before they go to the dermis.</p> <p>Allow children to eat their orange and then set the "epidermis and dermis" of the orange to the corner of their desk on their napkin.</p>	<p>Oranges, napkins</p>

8 min.	<p>Types of Burns: How many different ways can skin get burned? –sun burn, touching hot things, chemicals, friction, electricity, direct flame contact. There are 3 different types of burns that can occur to your skin.</p> <p>1: When your skin gets burned and it turns <u>red</u> and it's sore, you've burned the <u>epidermis</u> of the skin. This is called a 1st degree burn. You can remember this because you have burned through the 1st layer of skin. To treat this type of burn, run it under cool water to help it feel better faster.</p> <p>2: When your skin gets burned and a <u>blister</u> forms, you've burned through the epidermis and into the dermis where there's a lot of water. This is called a <u>2nd degree</u> burn. You should also run this type of burn under cool water to help it feel better faster.</p> <p>3. Now if you get a really bad burn, the burn will look different. It may look <u>brown or black</u> and may even be <u>white</u>. This burn is VERY serious because you have burned through the epidermis, dermis and into the fatty tissue. This is a <u>3rd degree</u> burn. This type of burn kills part of the fatty tissue of the skin and it will not grow back. It requires a visit to the hospital right away.</p>	
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<p>7 min.</p>	<p>Q & A: Tell the students that before you go, you are going to quiz them on some of the things they need to know about fire safety and emergencies. The students can just shout out the answers after you ask the questions:</p> <ul style="list-style-type: none"> -What number do you call in case of an emergency? (911) -What is the very top layer of skin called? (epidermis) -What is the layer of skin called that is full of water? (dermis) -What is the layer of skin called that if it is burned will not grow back? (fatty tissue) -Whisper your address to the student sitting next to you. If you don't know it, you need to learn it! <p>Thumbs up, Thumbs Down: Have students show you with their thumbs whether or not the situation given is a situation that require a call to 9-1-1.</p> <ul style="list-style-type: none"> -Give 3 or 4 situations that would merit a call to 9-1-1, and 3 or 4 that would not. Talk about why they are or are not appropriate calls. Be sure to have a few situations that include police & poison control as well as firefighters. <p>Have students raise their hands to answer the following questions:</p> <ul style="list-style-type: none"> -What would be the appropriate first aid treatment for a first degree burn? (run under cool water) -What would be the best first aid treatment for a small cut on the knee? (Clean it with warm soapy water and put a bandage on it. Show it to an adult) -What would be the best plan for a 3rd degree bun? (Go to the hospital immediately) 	
	<p>Leave them with the <u>Burn Awareness and Fire Safety</u> worksheet.</p>	<p><u>Burn Awareness and Fire Safety</u> worksheet. One per student.</p>

Dear Second Grade Parents,

Rural Metro Fire Department is dedicated to providing health and emergency services as well as education for our community. We feel passionately that educating young people is imperative to saving lives and reducing preventative accidents through education.

Your child's teacher has arranged for us to come into your child's class and teach some extremely important life-saving and accident prevention lessons. We wanted to keep you in the loop and give you some of the language and lessons that we will be teaching your child so that you can follow-up with them and reinforce these lessons in your home and in your life.

We will be teaching a lesson on Fire Chemistry. One of the main points that your child will learn, is that fire needs three ingredients in order to burn. They are OXYGEN, FUEL and HEAT. We will be teaching your child that in order to prevent unwanted fires, we must all be very careful not to mix those three ingredients together. Since there is almost always oxygen, we need to be responsible for fuel (cardboard, wood, gasoline etc) and heat (friction, magnified light etc). This is called being "Fire Safe".

We will also be covering Burn Awareness. This includes the three parts to our skin; Epidermis (top layer), Dermis (second layer) and Fatty Tissue. We will also be teaching the three different types of burns; First Degree (skin turns red and sore, burn to the epidermis), Second Degree (a blister forms, burn to the dermis), and Third Degree (looks black or brown or maybe even white, burn to the fatty tissue- very serious- go to the hospital!)

Your child's teacher will also be teaching a lesson on safety precautions that we should all be practicing, so don't be surprised if your child starts to ask about using seat belts, helmets, swimming precautions or smoke alarms! Take that moment as a great teaching moment with your child- indulge them! Quiz them and see what they know!

Rural Metro Fire Department is committed to safety and education and we are delighted to work with your child and to give him/her some life-saving and accident-prevention tools to keep them healthy and safe. We hope that you find these lessons valuable, and if you have any questions, please feel free to contact us.

Sincerely,

Rural Metro Fire Department





Level: *Second Grade Teacher Follow-Up*

Lesson: *Safety Graphing*

Time: *80 minutes (Can be split into to 2 time slots)*

Supplies: *whiteboard, pieces of paper labeled 1-10, Data Collection paper(1 per group), paper to make the charts*

Arizona State Standards that are taught: *Math Strand 2 Concept 1 PO 1, PO2, 3CH-F3 PO1, 3CH-F3 PO2*

Time:	Action:	Supplies:
6 min.	<p>Introduction: On the whiteboard, as a class, brainstorm some safety precautions that we should be using every day to be safe. (some examples are: <i>wearing seatbelts, using sidewalks, looking both ways before crossing a street, using crosswalks, not playing with matches or lighters, wearing a helmet on a bike or skateboard or roller skates, following playground rules, swimming with an adult, washing your hands after going to the bathroom, knowing your address and phone number by heart, have an escape plan with your family in case of a fire in your home,)</i></p> <p>Introduce the idea of taking a survey to find out how many people are using safety precautions in their every day live. Today we are going to work in pairs to create questions, collect data, make a chart and then present our findings to the class.</p>	Whiteboard
1 min.	<p>Break into groups of twos. Go around the class and let each group pick a number. That is the order in which they will get to pick their topic.</p>	Numbers 1-10 (or however many groups you have) on pieces of paper.
3 min.	<p>Take 3 minutes to decide what your group wants to find out. Pick your top 3 because you may not get your favorite one.</p>	
5 min.	<p>Go around the room and let the groups (1-10) choose off of the board. Have them write it down after they choose. Cross of the choices as groups pick.</p>	

5 min.	Working in pairs, Groups will formulate their question to collect their data. Write your question out in a complete sentence exactly like you will ask it on the top of you paper called "Data Collection". Make sure your question can be answered "yes" or "no".	Data Collection paper for each group, pencil for each group.
30 min.	The students will have 30 minutes to go around the room and read their question to 15 students. They will need to write the student's name and then check the "yes" or "no" box according to their answer. Remind the students that they need to answer the questions truthfully in order for the results to be accurate.	
15 min.	The students will be given 15 minutes to chart their findings. They can choose to make a simple pictograph or bar graph to show their findings.	Paper to make charts
15 min.	Give the students just about 1 minute for each group to read their question and then display the results with a short description of their findings.	



Arizona State Standards, that pertain to safety and the fire department as a profession: listed by grade level:

Kindergarten:

Comprehensive Health Education

Standard 2: Students demonstrate the ability to access accurate health information.

2CH-R1 Identify resources and health helpers from home and school that provide health and emergency information

PO 1. Name who are health helpers

PO 2. Identify emergency medical service (e.g., dial 911)

PO 3. Illustrate access to emergency medical service

2CH-R2 Demonstrate the ability to locate home and school health helpers

PO 1. State your name, physical address and phone number

PO 2. Describe resources (health helpers) available at home and at school

Standard 3: Students demonstrate the ability to practice health-enhancing behaviors and reduce health risks.

-3CH-R1 Identify the basic personal health needs and the roles exercise, nutrition, hygiene and relationships play in maintaining them

PO 1. Discuss the value of good health habits (e.g., adequate sleep, exercise, nutrition)

PO 2. Demonstrate universal precautions through examples (e.g., not touching blood/bodily fluids, hand washing)

-3CH-R2 Identify behaviors that are safe and those that are harmful

PO 1. List behaviors that are safe and harmful behaviors

PO 2. Name safety rules for walking, riding in a car and on a bike

-3CH-R3 Identify types of injuries and their causes

PO 1. List injuries and their causes

PO 2. Draw a picture of someone injured and show the cause of the injury

-3CH-R4 Identify stressful situations, feelings and physical responses

PO 1. Recognize stressful situations

PO 2. Recognize feelings and physical responses to stress

First – Third Grade:

Comprehensive Health Education

Standard 2: Students demonstrate the ability to access accurate health information

Students know and are able to do all of the Kindergarten standards, plus:

2CH-F2 Demonstrate the ability to locate resources from home, school and community that provide accurate health information

PO 1. Describe health/emergency agencies that provide services (e.g., community health agencies, schools, poison control centers, web sites)

2CH-F4 Demonstrate the ability to locate home and school health helpers

PO 1. Convey how to access appropriate health/emergency services

2CH-F5 Locate and describe the roles of resources (health workers and organizations) from the school and community

PO 1. State appropriate agencies to contact

PO 2. Identify resources (e.g., parents, health department, fire department)

2CH-F7 Identify when and how to seek emergency medical assistance and shelter

PO 1. Demonstrate how to contact parents and/or emergency services in emergency situations

PO 2. Recall emergency numbers

Standard 3: Students demonstrate the ability to practice health-enhancing behaviors and reduce health risks

Students know and are able to do all of the Kindergarten standards, plus:

3CH-F3 Identify hazards found in the home, school and community and demonstrate ways to avoid or reduce the threats

PO 1. List hazards found in the home, school and community

PO 2. Discuss ways to avoid and/or reduce the threats

3CH-F5 Demonstrate first aid procedures and appropriate responses to common emergencies in the home, school and community

PO 1. Describe a minimum of three first aid procedures

PO 2. Determine correct response in case of accident or sudden illness

Fourth- Fifth Grade:

Comprehensive Health Education

Standard 2: Students demonstrate the ability to access accurate health information

Students know and are able to do all of the Kindergarten through Third grade standards, plus:

2CH-E1 Obtain and utilize accurate health resources from home, school and community

PO 1. List accurate health information from home, school and community

PO 2. Utilize accurate health information

2CH-E5 Identify emergency preparedness and emergency resources (e.g., first aid, CPR)

PO 1. List what you need to be prepared for a medical emergency

PO 2. List emergency resources

Standard 3: Students demonstrate the ability to practice health-enhancing behaviors and reduce health risks

Students know and are able to do all of the Kindergarten through Third Grade standards, plus:

3CH-E4 Develop injury prevention and management strategies for personal and family health including ways to avoid and reduce threatening situations

PO 1. Identify ways to prevent personal and family injuries

PO 2. Identify ways to avoid dangerous situations for yourself and your family

3CH-E6 Perform basic safety, first aid and life saving techniques

PO 1. Demonstrate basic safety techniques

Sixth- Eight Grade:

Comprehensive Health Education

Standard 2: Students demonstrate the ability to access accurate health information

Students know and are able to do all of the Kindergarten through Fifth grade standards, plus:

2CH-E1 Obtain and utilize accurate health resources from home, school and community

PO 1. List accurate health information from home, school and community

2CH-E4 Describe situations requiring professional health services

2CH-E5 Identify emergency preparedness and emergency resources (e.g., first aid, CPR)

PO 1. Describe a variety of emergency situations

PO 2. List emergency resources

Standard 3: Students demonstrate the ability to practice health-enhancing behaviors and reduce health risks

Students know and are able to do all of the Kindergarten through Fifth Grade standards, plus:

3CH-E4 Develop injury prevention and management strategies for personal and family health including ways to avoid and reduce threatening situations

PO 1. Identify existing prevention and management strategies regarding personal and family health

PO 2. Identify ways to avoid threatening situations

3CH-E6 Perform basic safety, first aid and life saving techniques

PO 1. Apply basic first aid and basic life saving techniques

Science Standards Articulated by Grade Level

Strand 3: Science in Personal and Social Perspectives

Kindergarten: none pertain

First Grade:

Strand 3: Science in Personal and Social Perspectives

Concept 2: Science and Technology in Society

- PO 1. Identify various technologies (e.g., automobiles, radios, refrigerators) that people use
- PO 2. Describe how suitable tools (e.g., magnifiers, thermometers) help make better observations and measurements

Second Grade:

Strand 3: Science in Personal and Social Perspectives

Concept 2: Science and Technology in Society

- PO 1. Analyze how various technologies impact aspects of people's lives (e.g., entertainment, medicine, transportation, communication)

Third Grade:

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments:

- PO 2. Describe the beneficial and harmful impacts of natural events and human activities on the environment (e.g., forest fires, flooding, pesticides)

Concept 2: Science and Technology in Society

- PO 1. Identify ways that people use tools and techniques to solve problems
- PO 2. Describe the development of different technologies (e.g., communication, entertainment, transportation, medicine) in response to resources, needs, and values

Fourth Grade:

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments:

- PO 1. Describe how natural events and human activities have positive and negative impacts on environments (e.g., fire, floods, pollution, dams)
- PO 2. Evaluate the consequences of environmental occurrences that happen wither rapidly (e.g., fire, flood, tornado) or over a long period of time (e.g., drought, melting ice caps, the greenhouse effect, erosion)

Concept 2 : Science and Technology in Society

- PO 1. Describe how science and technology (e.g., computers, air conditioning, medicine) have improved the lives of many people
- PO 2. Describe benefits (e.g., easy communication, rapid transportation) and risks (e.g., pollution, destruction of natural resources) related to the use of technology

Fifth Grade:

Strand 3: Science in Personal and Social Perspectives

Concept 2 : Science and Technology in Society

- PO 2. Explain how scientific knowledge, skills and technological capabilities are integral to a variety of careers

Sixth Grade:

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environments:

PO 1. Evaluate the effects of the following natural hazards:

-sandstorm, hurricane, tornado, ultraviolet light, lightning-caused
fire

Name _____



Burn Awareness & Fire Safety

1. Name the three layers of skin.

_____, _____, and
_____.

2. What are the three things that a fire needs to burn?

_____, _____ and
_____.

3. Name 2 examples of fuel for a fire.

_____ and _____.

4. What will fire do if it touches your skin?

5. Name 2 jobs that skin has to do for our body.

6. On the back of this page, write a short story of a person who needed to call 9-1-1. What was their emergency? What happened? Be creative!

Arizona State Standards: Math Strand 2, Concept 1 PO1, PO2