W1380

Kitchen Fire Safety

Your Recipe for Prevention

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Kitchen Fire Safety
Your Recipe for Prevention

Skill Level
Beginner (4th/5th graders)
Intermediate (6th-8th graders)
Advanced (9th-12th graders)

Educational Standards
Chemistry 2 – PSI 15

Learner Outcomes
The learner will be able to:
- Understand small steps in fire prevention
- Identify safe practices in the kitchen
- Discuss ways to prevent kitchen fires
- Understand what P.A.S.S means
- Understand when to call 911

Tag(s)
Safety Science

Time Needed
30-45 minutes

Materials Needed (per group)
- Trivia cards
- Word search for younger students
- Printouts of the grease fire visual
- Printouts of the fire classes
- Student handout (1 per student)

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Introduction to Content
The purpose of this lesson is for students to understand what it means to be prepared if a fire emergency happens in a kitchen.

Everyone enjoys eating, and sometimes cooking requires working with elements that can cause fire. This lesson is to provide confidence that the students know what to do in case of a fire emergency. Students will learn what P.A.S.S means when using a fire extinguisher, as they never know when a fire may happen!

Introduction to Methodology
Students will engage in discussion throughout the class. Students will play Fire Safety trivia, and a word search puzzle will be offered for younger students to complete.

Terms/Vocabulary/Concepts
- Different Types of Fire Extinguishers–A, B, C, D, K
- A Class K extinguisher is what should be used in the kitchen with cooking oils and grease.
- It is important to explain why you can't use water on a grease fire.

Teacher Talk
Review different types of fire extinguishers and what they are used for will be helpful this lesson.

Strategies to Increase Student Engagement

- Ask students if they know where a fire extinguisher is in their classroom
- Ask students if they know where a fire extinguisher is in their school
- Locating fire extinguishers around the school would be a great way to engage the students when learning about P.A.S.S
- When talking about three components needed for a fire, ask if anyone know what the elemental sign for oxygen is
- When speaking about the grease fire, ask the students what foods typically produce grease

Setting the Stage/Opening Question
Say, "Who enjoys cooking or knows someone who does?" Allow students to answer or raise their hands.

Continue, "That's great! Can you tell me how you can stay safe in the kitchen while you are cooking?" Allow students to answer.

Give assurance. Say, "Those are all great answers! Today, we will be learning about fire safety in the kitchen. Before we get started, let's play some fire safety trivia!"

Split the class into four or five groups. Play "Fire Safety Trivia."

Experience
Begin with the trivia question, "What is needed for a fire to start?" Allow students time to answer the question. **ANSWER: Air, fuel and heat**

After sharing the answer, ask, "What are some examples of heat in the kitchen?" **ANSWER: Stove top eye, oven, microwave or a grill if cooking in an outdoor setting.**

Continue to the question, "Can water put out a grease fire?" Allow students to answer. **ANSWER: No.**

Tell them water actually makes the grease fire spread. When water is used on a grease fire, it has a reaction to the grease which can cause large splashes of hot burning liquid to splash or cause an explosion of burning hot grease.

Follow up with the "True or False question: There is only one type/class of fire." After students have answered, tell them the **ANSWER is False.**

Ask, "If that is false, how many types or classes of fire do you think there are?" **ANSWER: 5 – Classes of fires are A, B, C, D, K.**

Then share the Class Fire Description on the Student Handout.

Continue with the trivia questions.

Ask, "What does P.A.S.S stand for?" Allow students to answer. **ANSWER: Pull, Aim, Squeeze and Sweep.**

Tell the students that understanding P.A.S.S. means helps you learn how fire extinguishers work and what trained individuals do in a fire emergency. An important part of the first safety is knowing when it is safe to act and when it is time to get out and call 911.

Say, “We have one final trivia question. What is the leading cause of cooking fires? Your choices are
1. Faulty Ovens

2. Leaving Equipment Unattended

3. Using the wrong pan

4. Leaving the stove on

ANSWER: While all these answers are possible ways to start a fire, the leading cause is #2 - leaving equipment unattended. According to the U.S. Fire Administration, leaving equipment unattended accounts for an estimated 37 percent of home fires in the United States.

Share/Process
Say, “Share with your neighbor two things that surprised you about kitchen fires.”

Generalize
Ask, “Can someone tell me the three components needed for a fire to start?” **ANSWER: Fuel, Heat, Oxygen**

Apply
Say, “Fire prevention starts with everyone. Learning to be safe in the kitchen is an important rule we will use throughout our lives. Learning about fire safety as soon as possible may help you and others stay safe.”

Ask: “What is one thing you could tell your family members about being safer in the kitchen?”

Ask: “Could you tell your family members which fire extinguisher is more effective with a grease fire? Which one is it?”

Tell: When it is not safe to use a fire extinguisher, you need to follow these actions. 1) Get out, 2) Stay out, 3) Call 911 from a safe location.

Adaptations
For Beginner (4^{th}/5^{th} graders), focus on identifying hazards and recognizing fire extinguisher types.

For Intermediate (6^{th}-8^{th} graders), add why we do certain things (i.e. fire triangle reactions, grease behavior, etc.).

For Advanced (9^{th}-12^{th} graders), discuss decision-making skills (when to fight vs. leave a fire).

Notes

Optional Visual:
Use a baking sheet and pan to demonstrate how to smother a fire. Explain how the lack of oxygen caused the fire to go out.

References

Cooking fire safety. U.S. Fire Administration. (n.d.). https://www.usfa.fema.gov/prevention/home-fires/prevent-fires/cooking/

O'Connor, B. (2023, October 4). *Fire extinguisher types: NFPA*. nfpa.org. https://www.nfpa.org/news-blogs-and-articles/blogs/2023/08/01/fire-extinguisher-types

Education.com - Generated a word search puzzle and answer key

https://www.nfpa.org/en/news-blogs-and-articles/blogs/2024/08/12/What-Is-a-Class-K-Fire-Extinguisher (used for grease fire information).

Fire Triangle



Supplemental Information
Educational Standards Met

TIPPS
Life Skills

4th Grade

Heart – Actively listening to what others are saying, be able to restate or summarize what has been said

5th Grade

Head – Communicate information learned from a specific project area

Heart – Understand one's ability, strengths, and limitations

Hands – Define issues of a given problem or situation

Hands – As part of a group, identify and agree on a common task or goal

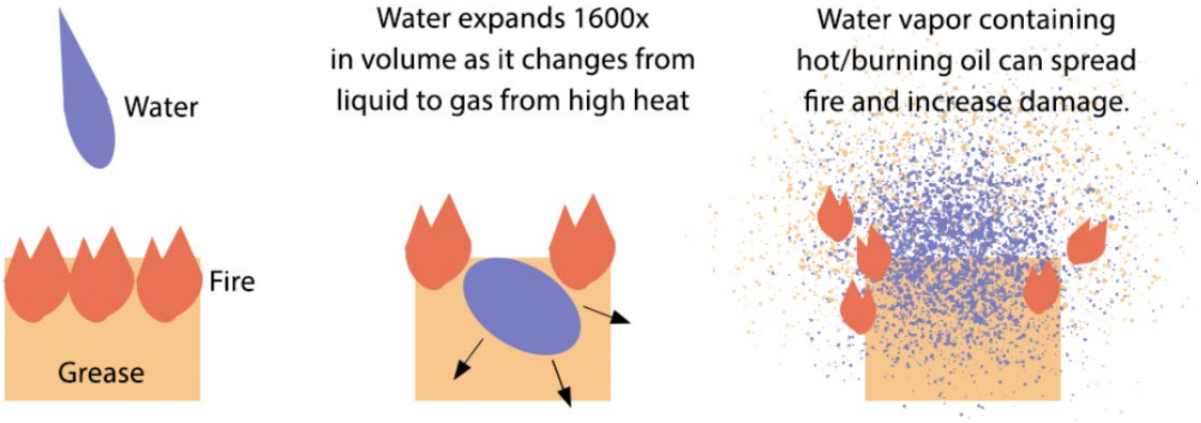
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Student Handout: Kitchen Fire Safety

Here are a few tips on preventing fires in the home:

- When cooking, do not leave your pan unattended.
- Clean up spills as you go.
- Keep flammable materials such as oven mitts, towels, papers, etc. away from the heat.
- Watch your temperature! Foods can burn or catch on fire when placed on high heat. Low and slow is the way to go!
- Keep the pan lid, or a baking sheet nearby. This can be used to smother the fire if one starts in the pan. Take away the oxygen to smother the fire.
- Do not wear clothing that has loose sleeves while cooking. Clothing can come in contact with the heat, causing a potential flame.
- Have a window next to the stove top? Keep your curtains short! Curtains do not need to touch the heating area.
- Is there a fire alarm in your kitchen? If so, test your fire alarm and replace the batteries.
- Anytime there is a fire, remember the phrase "When in doubt, get out!"
- Get out, stay out, and call 911 from a safe location.

What happens when water touches grease? This is why you never use water to try to put out a grease fire:



Classes of Fire	Description
Class A Fires	Fires in ordinary combustible materials, such as wood, cloth, paper, rubber and many plastics.
Class B Fires	Fires in flammable liquids, combustible liquids, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, alcohols and flammable gases.
Class C Fires	Fires that involve energized electrical equipment.
Class D Fires	Fires in combustible metals, such as magnesium, titanium, zirconium, sodium, lithium and potassium.
Class K Fires	Fires in cooking appliances that involve combustible cooking media (vegetable or animal oils and fats).

Trivia Questions and Answers
Instructor Copy

What is needed for a fire to start?



Air, fuel, and heat.
https://en.wikipedia.org/wiki/Fire_triangle

Can water put out a grease fire?

No!
Water can make a grease fire spread.

What does P.A.S.S stand for?

Pull, Aim, Squeeze, and Sweep

What is the leading cause of cooking fires?

1. Faulty Ovens
2. Leaving equipment unattended
3. Using the wrong pans
4. Leaving the stove on

Answer: Leaving equipment unattended! About 37% of home fires in the United States are caused by leaving the kitchen items unattended!

True or False:
There is only one type/class of fire.

False. There are five different types of fires. Known as classes. They are A,B,C,D, & K.

Name: _____

Fire Safety

G A I R M T S S Q U E E Z E B J Z G
C L A S S P P A V V M L Y A N B O U
H O X Y G E N F Y O X Y G E N M I W
Q K C Y A I M P V Q G G Q L X K W S
N D K O K S A F E T Y R Q V Y I D W
O O E X T I N G U I S H E R F I C E
X X A E B X T U O V W F I A Q U L E
O H E A T M G C A E Z B I A S V E P
W P U L L C P Z H Z M L O R E E D L
T P Y E B O P Q D E Z Q N Z E V Y S
J R L F I Y X J Q R N P G M U E B V
Z J X Q X V J B G P Y C G R G Z C B

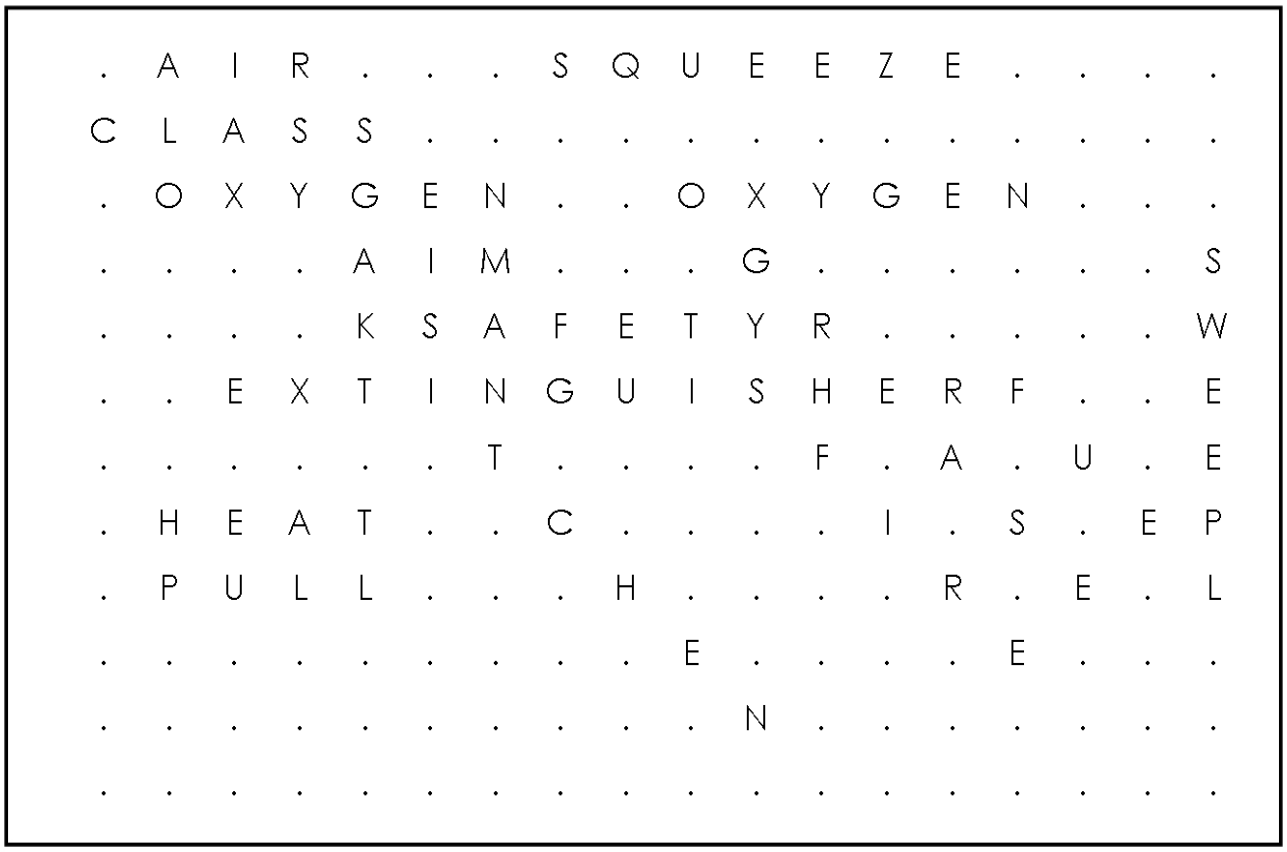
Find the following words in the puzzle.
Words are hidden →, ↓, and ↘.

EXTINGUISHER
SQUEEZE
KITCHEN
OXYGEN
SAFETY
GREASE
SWEEP
CLASS
FUEL
HEAT
FIRE
PULL
AIM
AIR

Created by Sarah Ballance using the Word Search Generator on
Super Teacher Worksheets (www.superteacherworksheets.com)

SOLUTION

Fire Safety



Word directions and start points are formatted: (Direction, X, Y)

EXTINGUISHER (E,3,6)
SQUEEZE (E,8,1)
KITCHEN (SE,5,5)
OXYGEN (E,2,3)
SAFETY (E,6,5)
GREASE (SE,11,4)
SWEEP (S,18,4)
CLASS (E,1,2)
FUEL (SE,15,6)
HEAT (E,2,8)
FIRE (SE,12,7)
PULL (E,2,9)
AIM (E,5,4)
AIR (E,2,1)



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