

## FIRE SPRINKLER FACTS

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- Eight of out 10 fire deaths occur in the home.
- Fire sprinklers save lives, reduce property loss and can even help cut homeowner insurance premiums.
- Home fire sprinklers can contain and may even extinguish a fire in less time than it would take the fire department to arrive on the scene.
- Installing both smoke alarms and a fire sprinkler system reduces the risk of home fire death by 82%, relative to having neither.
- Only the sprinkler closest to the fire will activate, spraying water directly on the fire. Ninety percent of fires are contained by the operation of just one sprinkler.\*
- Nationally, on average, home fire sprinkler systems add 1% to 1.5% of the total building cost in new construction.
- Home fire sprinklers use only a small fraction of the water used by fire department hoses.
- Modern residential sprinklers are inconspicuous and can be mounted flush with walls or ceilings.
- For more information go to the Home Fire Sprinkler web site at: [www.homefiresprinkler.org](http://www.homefiresprinkler.org).

\*Automatic Sprinklers: A 10-Year Study, Scottsdale, AZ

## FREQUENTLY ASKED QUESTIONS (FAQs)

### **If one sprinkler goes off, do they all go off?**

Sprinklers activate independently; only the sprinkler(s) closest to the fire will activate. In most home fires only one sprinkler is needed to control a fire.

### **If I burn the toast will the sprinkler activate?**

Fire sprinklers do not respond to smoke; they respond to the high temperature of a fire – about 135° to 165°F. Smoke caused by cooking or cigars cannot and will not cause a sprinkler to activate.

### **Will my sprinklers leak?**

Sprinkler mishaps are generally less likely and less severe than home plumbing system problems.

### **Is post-fire water damage from sprinklers worse than fire damage would be without sprinklers?**

Fire damage and water from high-pressure fire hoses is far greater. A residential sprinkler flows 10-26 gallons of water per minute, for approximately 10 minutes (or less if the fire department turns the water off sooner). An uncontrolled fire will cause far greater fire destruction and smoke damage, requiring a tremendous amount of water from fire department hoses – more than 10 times the water per minute. The property loss in a sprinklered home fire is typically only a fraction of the loss in an unsprinklered home fire.

### **Won't the fire department be able to put out the fire and save my things?**

A 9-12 minute fire department response time is considered good in most communities. In that time, an uncontrolled fire will have grown and spread through the home, causing tremendous smoke and fire damage before the fire department can get there.

### **Will my sprinklers freeze in the winter?**

Freezing is not a problem with proper installation. The national sprinkler installation standard provides guidance for proper installation in cold regions, including appropriate additional insulation and anti-freeze usage.

### **Since I have smoke alarms why do I need fire sprinklers?**

Smoke alarms are essential in every home, but they can only detect a fire. To be effective, residents must be willing and able to respond quickly to the alarm.. Fire sprinklers detect the fire and automatically control or extinguish it, paving the way for residents to make a safe escape – and also protecting property and valuables. The best protection from fire is having both smoke alarms and a fire sprinkler system.

### **Are sprinklers allowed by my homeowner's insurance?**

Most insurance companies provide financial incentives to encourage homeowners to protect their homes from fire loss. HFSC research shows that fire sprinkler discounts range from 5% to 30% off homeowner policy premiums. Insurance rates and discounts vary by state. Check with your insurer and shop around for the best discount.

### **Are fire sprinklers expensive?**

The cost to install home fire sprinklers varies. In areas where competition is brisk, sprinklers are well below \$1 per square foot; in areas without many residential installers the cost is higher. On average, a good rule of thumb is about 1- 1.5 percent of the total cost of new construction.

### **Will fire sprinklers ruin my décor?**

Residential fire sprinklers are actually smaller than most recessed lighting. Unlike sprinklers in warehouses and public buildings, residential sprinklers are designed to blend into ceiling and wall paint and can be completely concealed beneath plates.

### **Are fire sprinklers difficult to maintain?**

No maintenance is needed. Regular flow tests should be conducted and homeowners can do these simple tests themselves or have the sprinkler contractor do it every year or so. It's a good idea to check sprinklers and pipes occasionally to be sure nothing is obstructing potential water flow. Water valves should be routinely checked or kept padlocked in the "turned on" position.

## OVERVIEW OF NFPA 13D STANDARD

NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes

The Home Fire Sprinkler Coalition (HFSC) recommends that contractors install sprinkler systems in accordance with NFPA 13D. This national installation standard is developed by the nonprofit National Fire Protection Association (NFPA). The purpose of the standard is to aid in "...the detection and control of residential fires..." and provide "...improved protection against injury, life loss and property damage." Learn more about NFPA 13D at [www.nfpa.org](http://www.nfpa.org).

### Overview

NFPA 13D is only appropriate for one- and two-family structures and manufactured homes. (See NFPA 13 and NFPA 13R for protection of other structures.) Be aware that local code authorities may have certain requirements that exceed or differ from NFPA 13D.

HFSC and the standard recommend that sprinkler systems be designed and installed by "...persons trained and skilled in the design and installation of residential sprinkler systems."

When a sprinkler system is installed in accordance with NFPA 13D, the system improves the chance for occupants to escape and prevents flashover in the room where the fire starts. (Flashover is when the entire room and its contents ignite.)

NFPA 13D requires a minimum 10-minute water supply (7 minutes under certain conditions – see standard for details). The standard allows Independent, Multipurpose (serving both domestic and fire protection supplies) and Network systems (supplies domestic and fire protection and each sprinkler is supplied by a minimum of three separate paths), as well as listed Dry Pipe systems. (See the standard for details.)

NFPA 13D recommends, but does not require, sprinklers in all areas of a dwelling. The standard permits sprinklers to be omitted from the following spaces:

- Bathrooms smaller than 55 sq. ft.
- Closets and pantries smaller than 24 sq. ft.
- Garages, open attached porches, carports and similar structures
- Attic spaces that are not used for living space
- Covered, unheated projections of the building at entrances and exits
- Ceiling pockets

Please read the standard for compliance with the above exceptions.

NFPA 13D includes information for installation of sprinkler systems in areas where freezing may occur.

## SUCCESSFUL HOME FIRE SPRINKLER ACTIVATION REPORT

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Use this form to report home fire sprinkler activations in your area.

Please print clearly.

Date \_\_\_\_\_ Time \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Brief description of incident \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

How many sprinklers activated \_\_\_\_\_ Estimated property damage/estimated property saved \_\_\_\_\_

Example: (*"The sprinkler system did a great job. One sprinkler had activated, containing the fire prior to our arrival on scene. There were no injuries and property damage was limited to an estimated \$500."* – Lt. John Smith, ABC Fire Department)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Permission for HFSC to use the quote in HFSC educational/promotional outreach:  YES  NO

Your Name \_\_\_\_\_ Title \_\_\_\_\_

Fire Department \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

E-Mail \_\_\_\_\_

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Please return to \_\_\_\_\_ via fax \_\_\_\_\_

or mail form to \_\_\_\_\_

## Tips for Improving Home Fire Sprinkler Educational Outreach to Varied Audiences

### REACHING YOUNG CHILDREN

When presenting about home fire sprinklers to young children (Kindergarten-Grade 2), your primary goal should be awareness. Introducing people to fire sprinkler technology at a young age can be a powerful overall community learning tool. Reaching this young audience will be most effective if there is a “take-home” component and/or if teachers, parents and caregivers are involved in your presentation.

#### Put sprinklers in context

Fire sprinklers should be presented in context. Include discussion of home fire sprinklers as part of your general home fire safety presentation. Remember that home fire sprinklers are part of an overall system of safety. Every home – even those with fire sprinklers – must have working smoke alarms on each level and regularly practiced fire drills.

#### Be visual

Children are especially responsive to visual learning, so be sure to bring some simple props with you when you present fire safety topics to young children. Suggested visual aids:

- A battery-powered smoke alarm
- A laminated home fire escape grid
- A residential fire sprinkler

#### Simple and brief is best

Use easy-to-understand words and concepts. Avoid all technical jargon. Try not to scare your audience. Give just enough information to fully introduce children to home fire sprinklers. Children this age do not need to understand how a fire sprinkler works, or how it is installed. Suggested main messages:

- Fire sprinklers are safety tools
- Sprinklers save lives and protect homes
- Sprinklers work by putting water on the fire while it is still small
- Sprinklers are not play things

Young children can help grown ups by reminding about the importance of regular smoke alarm testing and fire drills. Similarly, they can point fire sprinklers out to parents/caregivers and bring activities home from your presentation.

#### HFSC verbal quiz

Download a free verbal quiz on HFSC’s Web site. This quiz is a fun way to introduce young children to home fire sprinklers and to engage them in a broader discussion of home fire safety.

#### Age-appropriate activities

In addition to the verbal quiz, there are many ways that you can reinforce the information you’ve presented. Suggested activities:

- Draw a picture of a home fire sprinkler
- Draw a picture showing a home with a fire sprinkler system
- Tell a story about fire sprinklers
- Tell the places where you have seen fire sprinklers

## Tips for Improving Home Fire Sprinkler Educational Outreach to Varied Audiences

### REACHING MIDDLE SCHOOL STUDENTS

When presenting about home fire sprinklers to middle school students, your primary goal is awareness. However, this age group will likely have curiosity about fire technology so you'll have the opportunity to increase knowledge about home fire sprinkler systems and encourage students to talk about sprinklers at home. Because so much of the false information about fire sprinklers is spread through the media (such as special effects in movies and television), you'll also be able to utilize presentations to dispel myths with facts.

#### Put sprinklers in context

Fire sprinklers should be presented in context. Try to include home fire sprinklers as part of your general home fire safety presentations.

*Key point: Home fire sprinklers are part of an overall system of safety. Every home – even those with fire sprinklers – must have working smoke alarms on each level and regularly practiced fire drills.*

#### Be direct

Use easy-to-understand words and concepts. Avoid all technical jargon. Try not to scare your audience. Be prepared to answer questions as students this age will likely have curiosity about fire sprinkler technology, where it is used, and how it works. Suggested main messages:

- Fire sprinklers are safety tools with a long record of success
- Sprinklers save lives, prevent injuries and protect homes
- Sprinklers work by putting water on the fire while it is still small
- By working so quickly, sprinklers can prevent flashover
- Sprinklers are not play things

#### Effective teaching tools

HFSC offers a variety of free teaching tools that are ideal for middle school students. Many of these can be downloaded and incorporated directly into your own PowerPoint® presentations or simply printed for handouts. Visit HFSC's Web site to order and/or download these and other helpful educational materials:

- Flashover chart handout
- Home fire timeline FLASH movie for students
- Home fire sprinkler quiz for students
- Animated sequence demonstrating fire hose vs. fire sprinkler
- Animated sequence illustrating fire sprinkler activation

#### HFSC quizzes

Among the tools HFSC offers is a free quiz handout for middle schools students. This quiz is a fun and challenging learning tool.

#### “Fire Science”

The Home Safety Council (HSC) has developed an educational program for middle school students in cooperation with HFSC. “Fire Science” helps students understand the concept of time during a fire emergency, the science of fire, and life-saving technologies, such as fire sprinklers. Visit HSC's Web site to download this free program: [www.homesafetycouncil.org](http://www.homesafetycouncil.org).

#### Use props

Visual aids and other props can help you keep the students attentive and help you explain technical concepts. Suggested visual aids:

- A battery-powered smoke alarm
- A laminated home fire escape grid
- Residential fire sprinkler samples
- Mock-up of an installed fire sprinkler (use a ceiling tile to create this visual aid)
- A small piece of CPVC pipe
- Photographs of sprinklers in homes
- Photographs of fires in homes with and without sprinklers

#### Sprinkler demonstrations

Work with local fire sprinkler contractors to coordinate more dramatic visual aids, such as side-by-side burn demonstrations to illustrate how quickly fire sprinklers put out a fire. If available in your area, a fire sprinkler trailer is another good way to help students and adults appreciate the speed of fire and the power of fire sprinklers.

#### For students currently living in sprinklered homes

HFSC has created a new educational program entitled “Living with Sprinklers.” Targeted specifically at communities with a large number of sprinklered homes, the materials are intended to educate adults about the fire sprinklers in their homes, as well as their simple maintenance. Consider providing “Living with Sprinklers” to parents and caregivers of students who live in sprinklered homes. The program, which is available at no charge from HFSC, includes:

- “Living with Sprinklers” video on DVD
- Riser hangtag illustrating home fire sprinkler system and explaining a flow test

## Tips for Improving Home Fire Sprinkler Educational Outreach to Varied Audiences

### REACHING ADULT CONSUMERS

When presenting about home fire sprinklers to adults, your primary goals are awareness and education. Because there is so much false information about fire sprinklers, another goal will be to dispel myths with facts.

#### Put sprinklers in context

Fire sprinklers should be presented in context. Try to include home fire sprinklers as part of your general home fire safety presentations.

#### Main messages

Use easy-to-understand words and concepts. Avoid all technical jargon. Be prepared to answer questions and address concerns and myths. Suggested main messages:

- Fire sprinklers are safety tools with a long record of success
  - Sprinklers save lives, prevent injuries and protect homes
  - Sprinklers work by putting water on the fire while it is still small
  - By working so quickly, sprinklers can prevent flashover
  - Instruct children that sprinklers are not play things
  - Never hang anything from a sprinkler; do not paint sprinklers
- Key point: Home fire sprinklers are part of an overall system of safety. Every home – even those with fire sprinklers – must have working smoke alarms on each level and regularly practiced fire drills.*

#### Effective teaching tools

HFSC offers a variety of free teaching tools that are ideal for adult consumers. Many of these can be downloaded and incorporated directly into your own PowerPoint® presentations or simply printed for handouts. Visit HFSC's Web site to order and/or download these and other helpful educational materials:

- Flashover chart handout
- Home fire timeline FLASH movie
- Home fire sprinkler quiz handout
- Home fire sprinkler FAQs handout
- Animated sequence demonstrating fire hose vs. fire sprinkler
- Animated sequence illustrating fire sprinkler activation
- "Protect What You Value Most" brochure
- "Protect What You Value Most" video
- "Living with Sprinklers" materials

#### Use props

Visual aids and other props can help you keep your audience attentive and help you explain technical concepts. Suggested visual aids:

- A battery-powered smoke alarm
- A laminated home fire escape grid
- Residential fire sprinkler samples
- Mock-up of an installed fire sprinkler (use a ceiling tile to create this visual aid)
- A small piece of CPVC pipe
- Photographs of sprinklers in homes
- Photographs of fires in homes with and without sprinklers

#### Sprinkler demonstrations

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#### For adults currently living in sprinklered homes

HFSC has created a new educational program entitled "Living with Sprinklers." Targeted specifically at communities with a large number of sprinklered homes, the materials are intended to educate adults about the fire sprinklers in their homes, as well as their simple maintenance. The program includes:

- "Living with Sprinklers" video on DVD
- Riser hangtag illustrating home fire sprinkler system and explaining a flow test

## Tips for Improving Home Fire Sprinkler Educational Outreach to Varied Audiences

### EXTENDING YOUR REACH TO HOMEBUILDERS, DEVELOPERS, REAL ESTATE AND INSURANCE PROFESSIONALS

HFSC has identified several professional groups related to the new-home construction and purchase process that will specifically benefit from educational outreach. They should be a priority audience because homebuyers interact with them and may be influenced by their support for or opposition to home fire sprinklers.

Just as when presenting about home fire sprinklers to adult consumers, your primary goals with this audience are both awareness and education. This group will be equally susceptible to false information about fire sprinklers, so part of your presentation should focus on dispelling the myths with facts.

Follow HFSC's tips for reaching adult consumers and incorporate the extensions for this audience.

#### **"Built for Life"**

HFSC's home builder education program, "Built for Life," is uniquely designed to answer questions of importance to those involved in the new-home process. Visit HFSC's Web site to order and/or download these "Built for Life" educational materials:

- "Built for Life" kit
- "Built for Life" video
- "Built for Life" brochure

#### **"Living with Sprinklers"**

HFSC has created a new educational program entitled "Living with Sprinklers." Targeted specifically at communities with a large number of sprinklered homes, the materials are intended to educate adults about the fire sprinklers installed in their homes, as well as their simple maintenance. The program, which is available at no charge from HFSC includes:

- "Living with Sprinklers" video on DVD
- Riser hangtag illustrating home fire sprinkler system and explaining a flow test

#### **HFSC quizzes**

Download the free adult quiz handout with "bonus round" questions on HFSC's Web site. This quiz is a great ice-breaker for the home-building audience and will help you engage them in a broader discussion of home fire safety in your community. An interactive electronic "Built for Life" quiz is also available online.



## Tips for Working with Local Media To Raise Awareness of Home Fire Sprinklers

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Establishing a good working relationship with local media representatives can be a valuable asset to your fire sprinkler awareness efforts. HFSC offers these tips for making the most of these important community relationships.

### Be Proactive

Interviews and press conferences are obviously ideal, but they may be few and far between. Be on the lookout for additional opportunities to work with local media to communicate the facts about sprinklers.

Consider setting up meetings with representatives of key media outlets to help educate them about the value of residential fire sprinkler systems. These meetings can help you explain the relevance sprinklers have to general coverage of local fire safety issues and their role in local fire and building code debates.

You should expect media representatives to have many of the same concerns and misunderstandings about fire sprinkler technology as the general public. Educating the media is your first step to educating the public.

Utilize HFSC's customizable news releases and print public service announcements to tailor fire sprinkler messages to your community.

### Maximize Every Encounter

You can gain an edge in public safety education by maximizing your interaction with the media to drive home important points.

Each time a fire occurs in your community, it presents an opportunity to reach your audience. People will be watching, listening and reading the news reports. For a limited period of time, they are likely to have a heightened interest in fire safety. Following a home fire, use interviews and/or a press conference to take advantage of the public's attention:

- State the presence or absence of fire sprinkler systems in the home
- If sprinklers were present, underscore the role fire sprinklers played in saving lives, preventing injuries and protecting property from loss
- If the home was not sprinklered, underscore how fire sprinklers would have saved lives, prevented injuries and/or spared property loss

A fire that occurs in a sprinklered home presents a unique opportunity to emphasize the benefits of sprinklers and also to refute some of the recurring myths about the technology.

- Explain how fire sprinklers work generally; avoid technical jargon
- Show a residential sprinkler or provide reporters with photos/video
- Provide an estimate of how quickly the sprinklers activated in response to the fire
- Point out the limited area in which water flowed, explaining how damage was restricted to a small area
- Discuss the way sprinklers prevented flashover from occurring
- Provide an estimate of the property damage compared to the loss that would have resulted without fire sprinklers
- Provide photos of the limited damage if possible; provide photos of a similar fire in an unsprinklered home

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## Tips for Working with Local Media To Raise Awareness of Home Fire Sprinklers (continued)

### Be Prepared

Any time you have the opportunity to talk about fire sprinklers, be prepared with materials that can help you tell their story. Visual aids help all of us understand complex technologies; they are essential for television and print media.

- Keep on hand samples of residential fire sprinklers and small pieces of CPVC pipe
- Use a ceiling tile to create a mock-up of an installed fire sprinkler so you can demonstrate how they look and explain how they work
- Download video and animated sequences from HFSC's Web site to help underscore your points

Personal stories are especially potent because people can relate to other people. Get in the habit of utilizing local home fire stories in your media interactions.

- If you live in a sprinklered home, consider talking about how sprinklers have increased your personal sense of safety and security from fire.
- If the living areas of your fire station are sprinklered, consider inviting the media inside to see for themselves how sprinklers are installed.
- If you know of a local builder who has built a sprinklered housing development or offers fire sprinklers as an option, consider incorporating his/her story into your media outreach activities.
- Coordinate a media visit to a sprinklered model home
- Collect "testimonials" from new home buyers, quoting their reasons for wanting to live in a sprinklered home
- Keep track of local residents willing to discuss their personal home fire stories and ask for their participation when appropriate.
- Whenever your community experiences a home fire sprinkler success – i.e., the sprinklers activated in response to a fire – connect with the residents and determine their interest in sharing their story. Collect photographs and video if possible; request "before" photos the residents may have so you can provide the media with a "before and after fire" display. Their unique experience will be a powerful demonstration of the life-saving home fire sprinkler technology.
- Download HFSC's Successful Home Fire Sprinkler Activation Report and share your story.

Be prepared with facts, statistics, illustrations, videos and other educational materials that you can share with reporters and producers. Visit HFSC's Web site to download and order these free materials:

- HFSC Public Education Kit
- Home Fire Sprinkler FAQs
- Home Fire Timeline Video
- Animation of How Sprinklers Work
- Animated Comparison of Water Usage (sprinkler vs. fire hose)
- Local sprinkler experience

Be prepared to dispel common myths about fire sprinkler technology. These inaccuracies – often perpetuated through movie and television special effects – can lead to confusion or mistrust of sprinklers. Realize that media representatives, officials, and other local professionals may fall victim to the same belief in myths that the general public often do. It's best to assume the myths are prevalent in your community and to constantly reiterate the facts. Visit HFSC's Web site to download Home Fire Sprinkler FAQs.

## Educational Quiz

# A VERBAL QUIZ FOR CHILDREN IN KINDERGARTEN THROUGH GRADE 2

Use these fun and informative educational tools designed by the nonprofit Home Fire Sprinkler Coalition (HFSC) to quiz audiences of every age about the value of home fire sprinkler systems. HFSC also offers free Tips for Improving Home Fire Sprinkler Educational Outreach to Varied Audiences to help you increase the effectiveness of local sprinkler presentation and outreach.

This verbal quiz is suggested to follow a basic home fire safety discussion, where the dangers of fire have already been covered. The purpose is to introduce young children to fire sprinklers. Follow HFSC's guidance for young children and incorporate this verbal quiz into your fire safety outreach.

**1. How many of you have heard of fire sprinklers?**

**2. Who can tell me what a fire sprinkler is?**

- a. Provide a very basic definition, such as: A fire sprinkler keeps you safe if fire breaks out. It does this by putting water on the fire right after it starts. A sprinkler keeps the fire small so you and your family can get outside safely.

**3. Has anyone seen a fire sprinkler (hold up sample residential sprinkler)?**

**4. Where have you seen a fire sprinkler?**

- a. Point out the sprinklers in the building where you are presenting if they are installed. If not, hold up the sample sprinkler again.
- b. Suggest the types of places where the children may have seen sprinklers, such as: Hotel, grocery store, high-rise building.

**5. Has anyone seen a fire sprinkler in a house or apartment?**

**6. Is it OK to play with fire sprinklers?**

- a. Make sure the children understand the answer is "no."

**7. Who can tell me why it isn't OK to play with a fire sprinkler?**

- a. Explain in very simple terms why not, such as: Fire sprinklers are safety tools. They aren't toys. Playing with them or throwing anything at them could cause them to break.

**8. Is it OK to hang anything from a fire sprinkler?**

- a. Make sure the children understand the answer is "no." Provide a simple answer why not, such as: Fire sprinklers are safety tools.

**9. If your home has a fire sprinkler system, should you also have family fire drills?**

- a. Explain that every family should know how to get outside if fire starts. It's best to practice getting out with fire drills.

## Educational Quiz

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### A QUIZ FOR MIDDLE SCHOOL STUDENTS

Use this fun and informative educational tool designed by the nonprofit Home Fire Sprinkler Coalition (HFSC) to quiz middle school students about the value of home fire sprinkler systems.

- 1. Fires kill more people in the U.S. than all natural disasters combined.**  
True  
False
- 2. What percent of all fire deaths take place in the home?**  
A: 10%  
B: 30%  
C: 60%  
D: 80%
- 3. Who is at greatest risk from a home fire?**  
A: College students  
B: College students and professors  
C: Grade school and high school students  
D: Preschool children and older adults
- 4. The majority of fatal home fires happen when?**  
A: After breakfast  
B: During lunch  
C: Before dinner  
D: Late at night
- 5. How many minutes does it take for a home fire to become deadly?**  
A: 3  
B: 6  
C: 12  
D: 30
- 6. Which of the following will cause a fire sprinkler to operate?**  
A: Thick smoke  
B: Breaking glass  
C: "Override" switch  
D: Heat from a fire
- 7. If a fire breaks out in a home, all the sprinklers will operate at once.**  
True  
False
- 8. Compared to fire department hoses, home fire sprinklers use how much water?**  
A: Twice as much  
B: About the same  
C: Somewhat less  
D: Only a fraction
- 9. Which of the following offers as much protection as fire sprinklers?**  
A: Smoke alarms  
B: Fire extinguishers  
C: Security monitoring  
D: None of the above

## Educational Quiz

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### A QUIZ FOR MIDDLE SCHOOL STUDENTS

#### ANSWER KEY

- 1 True** – According to NFPA, fires are actually more common than natural disasters – and many times more deadly. Fire departments responded to 1.6 million fires in the United States in 2005.
- 2 D** – Research conducted over the years has documented that people tend to feel safest at home, yet homes are where we are at greatest risk from fire.
- 3 D** – According to NFPA, Preschool age children and older adults have a home fire death rate that is roughly twice the national average.
- 4 D** – The majority of fatal home fires happen at night, when people are typically sleeping.
- 5 A** – The National Institute of Standards and Technology (NIST) research shows there are typically three minutes or fewer to escape from a home fire. The intense heat and toxic gases are deadly. If the fire isn't stopped, flashover takes place and everything in the room bursts into flames. No one can survive flashover.
- 6 D** – Fire sprinklers are designed to operate when they detect the high temperature resulting from a fire, usually between 135°-165° F. Smoke cannot trigger a fire sprinkler; only heat can.
- 7 False** – Although Hollywood movies often show inaccurate special effects depicting all the fire sprinklers operating at once, that doesn't happen in real life. Fire sprinklers operate individually and independently.
- 8 D** – A fire sprinkler flows 10-26 gallons of water per minute. Fire departments use fire hoses that apply water at 125 gallons per minute.
- 9 D** – Fire sprinklers are widely accepted as the ultimate home fire protection technology. Smoke alarms are essential in every home, but they can only detect a fire. Fire sprinklers detect the fire and automatically control it. No other device can do that.

## Educational Quiz

### A QUIZ FOR ADULTS

Use this fun and informative educational tool designed by the nonprofit Home Fire Sprinkler Coalition (HFSC) to quiz adults about the value of home fire sprinkler systems.

- 1. Fires kill more people in the U.S. than all natural disasters combined.**  
True  
False
- 2. What proportion of all fire deaths take place in the home?**  
A: 1 in 10  
B: 3 in 10  
C: 6 in 10  
D: 8 in 10
- 3. What is the leading cause of home fires?**  
A: Old construction  
B: Building materials  
C: People's activities  
D: Faulty electrical wiring
- 4. Who is at greatest risk from a home fire?**  
A: College students  
B: College students and professors  
C: Grade school and high school students  
D: Preschool children and older adults
- 5. The majority of fatal home fires happen when?**  
A: After breakfast  
B: During lunch  
C: Before dinner  
D: Late at night
- 6. How many minutes does it take for a home fire to become deadly?**  
A: 3  
B: 6  
C: 12  
D: 30
- 7. How long, on average, does it take the fire department to respond after receiving an alarm for a home fire?**  
A: 1-4 minutes  
B: 4-7 minutes  
C: 9-12 minutes  
D: 12-18 minutes
- 8. Fire sprinkler technology has been saving lives for how long?**  
A: More than 100 years  
B: More than 125 years  
C: More than 150 years  
D: Less than 100 years
- 9. Fire sprinkler technology has been saving lives in residential properties for how long?**  
A: More than 20 years  
B: More than 40 years  
C: More than 50 years  
D: Less than 20 years
- 10. Residential fire sprinklers look very similar to commercial fire sprinklers.**  
True  
False
- 11. Which of the following will cause a fire sprinkler to operate?**  
A: Thick smoke  
B: Breaking glass  
C: Override switch  
D: Heat from a fire
- 12. If a fire breaks out in a home, all the sprinklers will operate at once.**  
True  
False

## Educational Quiz

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### A QUIZ FOR ADULTS

#### ANSWER KEY

- 1 True** – According to NFPA, fires are actually more common than natural disasters – and many times more deadly. Fire departments responded to 1.6 million fires in the United States in 2005.
- 2 D** – Research conducted over the years has documented that people tend to feel safest at home, yet homes are where we are at greatest risk from fire.
- 3 C** – The top two causes of home fires are cooking and heating equipment. Improper use or maintenance of the equipment is most often involved in home fires.
- 4 D** – According to NFPA, Preschool age children and older adults have a home fire death rate that is roughly twice the national average.
- 5 D** – The majority of fatal home fires happen at night, when people are typically sleeping.
- 6 A** – The National Institute of Standards and Technology (NIST) research shows there are typically three minutes or fewer to escape from a home fire. The intense heat and toxic gases are deadly. If the fire isn't stopped, flashover takes place and everything in the room bursts into flames. No one can survive flashover.
- 7 C** – In a typical home fire, 9-12 minutes or longer will have passed from the time the fire starts, is discovered and reported to the time the fire trucks roll up to the scene.
- 8 A** – The first U.S. patent for an automatic fire sprinkler system was issued in 1872.
- 9 A** – Reduced labor costs and low-profile sprinklers have helped make fire sprinklers affordable for homes.
- 10 False** – All residential fire sprinklers are much smaller and lower-profile than the types of sprinklers used in commercial properties. There are several types made for homes; some are for installation on walls and others in ceilings. Some are concealed by a plate.
- 11 D** – Fire sprinklers are designed to operate when they detect the high temperature resulting from a fire, usually between 135° -165° F. Smoke cannot trigger a fire sprinkler; only heat can.
- 12 A** – Although Hollywood movies often show inaccurate special effects depicting all the fire sprinklers operating at once, that doesn't happen in real life. Fire sprinklers operate individually and independently.

## Educational Quiz

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### **BONUS ROUND: Questions For Home Builders, Developers, Realtors<sup>®</sup> and Others Involved in New Home Construction and Sales**

1. Most fire sprinklers operate off the household water main.  
True  
False
2. Fire sprinklers will freeze during winter in cold climates.  
True  
False
3. Many communities offer options, or “trade ups,” in return for putting in residential fire sprinklers. These trade ups can help a builder or developer save money by which of the following?  
A: Reducing street width  
B: Permitting tee turnarounds  
C: Increased hydrant spacing  
D: All of the above
4. Fire sprinklers cost approximately how much per housing unit, after deducting savings from trade ups?  
A: \$2000  
B: \$1000  
C: \$500  
D: \$200
5. Homeowners typically do not have a favorable opinion of homebuilders who offer sprinklered homes.  
True  
False
6. The majority of homeowners believe having a fire sprinkler system increases a home’s value.  
True  
False
7. Home fire sprinkler systems typically cost more than which of the following?  
A: Cabinet upgrades  
B: Carpet upgrades  
C: Countertop upgrades  
D: None of the above

Visit HFSC’s Web site to download the Built for Life Game for an entertaining and interactive quizzing tool especially suited for home builders, community leaders and other professionals.



## Educational Quiz

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### **BONUS ROUND: Questions For Home Builders, Developers, Realtors® and Others Involved in New Home Construction and Sales**

#### **ANSWER KEY**

- 1 **True** – When water pressure is a problem, the system is fed by a storage tank.
- 2 **False** – The national installation standard provides guidance for proper installation in cold regions and appropriate additional insulation and anti-freeze usage.
- 3 **D** – Development costs can be greatly reduced by sprinklering residential developments. Traffic lanes can be narrowed, the length of dead-end streets can be increased, steeper grades can be permitted, supply mains can be reduced and hydrant spacing increased. Plus, additional units may be permitted and the use of tee turnarounds can add one additional lot per cul-de-sac.
- 4 **D** – According to the Reese-Carr Report on Scottsdale, Arizona’s experience with a residential fire sprinkler ordinance since 1986, the final cost of fire sprinklers after savings from trade ups is less than \$200 per unit.
- 5 **False** – According to a Harris Interactive® national poll conducted for HFSC in December 2005, homeowners view these homebuilders as being “safety concerned” (70%), “innovative” (52%) and “caring” (51%).
- 6 **True** – In the Harris Interactive® national poll conducted for HFSC in December 2005, two-thirds (69%) of U.S. homeowners say having a fire sprinkler system increases a home’s value. Nearly half (45%) say a sprinklered homes is more desirable; most often (51%) because of added safety provided by the sprinklers.
- 7 **D** – Actually, sprinklers often cost less than these options. A good rule of thumb estimate is to add 1 to 1.5 % to the cost of new housing. In areas where sprinkler installations are very common, the cost is even lower. For example, in Scottsdale, AZ where sprinklers have been required in new homes for 20 years, the cost is less than \$1 per square foot.

## LOCAL PUBLIC RELATIONS TOOLS

### TALKING POINTS

Use these talking points as a guide to help you stay on-message when working with local media outlets and when making presentations to community groups. Visit HFSC's Web site to download free **Tips for Working with Local Media** and **Home Fire Sprinkler FAQs**.

#### **Home fire sprinklers save lives, prevent injury and preserve property and valuables**

Residential fire sprinkler systems are widely seen as the next generation of home fire protection.

From federal agencies such as the U.S. Fire Administration and the U.S. Consumer Product Safety Commission (CPSC) to national safety organizations such as the National Fire Protection Association (NFPA), the Home Safety Council, and Underwriters Laboratories, sprinklers are recommended as the most effective means to substantially cut the home fire problem.

Home fire sprinkler systems protect residents; they also protect first responders.

Installing home fire sprinkler systems helps the entire community and protects the homes where they are installed for generations to come.

#### **Most fatal fires occur at home**

Each year, more than 3,000 fire deaths occur in the U.S. Eight out of 10 fire deaths result from home fires.

Young children, older adults and people with disabilities are particularly vulnerable to fires.

For additional statistics on fires and fire sprinkler protection, visit the Web site of the National Fire Protection Association: [www.nfpa.org](http://www.nfpa.org).

#### **Fire sprinklers have a solid track record of safety**

Fire sprinklers have been saving lives and protecting property for more than a century.

Today, fire sprinkler systems are common in high-rise buildings, hospitals, offices, hotels and many other types of occupancies.

This same technology has been adapted in the past two decades in order to cost-effectively bring the powerful fire protection into homes. Reduced labor costs and low-profile sprinklers have helped make fire sprinkler systems a highly desirable option, especially in new construction.

#### **Home fire sprinkler systems add value**

According to a national Harris Poll, two-thirds (69%) of homeowners in the U.S. say having a fire sprinkler system increases a home's value.

Increasing demand for home fire sprinklers is driving down the cost. Nationally, a conservative estimate for sprinkler installation is 1 to 1.5% of the total building cost. In areas where installations are common the cost is well below \$1 per square foot.

Most insurance companies provide financial incentives to encourage homeowners to protect their homes from fire. HFSC research shows that fire sprinkler system discounts range from 5% to 30% off homeowner policy premiums. Shop around for the best discount.

To read more findings from the Harris Poll, visit HFSC's Web site.

#### **Ordinances requiring home fire sprinklers**

Installing fire sprinklers in homes is quickly catching on in communities of every size. Now, national codes require sprinklers be installed in new home construction.

Similar local ordinances are in place in hundreds of jurisdictions across the U.S. and Canada.

To learn about ordinances currently in place in the U.S., visit the Web site of the Residential Fire Sprinkler Institute (RFSI): <http://www.firesafehome.org/sprinklers/Jurisdictions.asp>

#### **Home fire sprinkler system design and installation**

HFSC recommends selecting a sprinkler contractor with residential experience to install a home system. Contractors should follow national installation standards, which help ensure proper operation.

NFPA 13D, Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, is the national standard for home fire sprinkler systems.

NFPA 13D is appropriate for one- and two-family structures and manufactured homes.

Local code authorities may have certain requirements that exceed or differ from NFPA 13D.

For a list of contractors with residential fire sprinkler experience, visit HFSC's Web site.

*continues on next page*

## LOCAL PUBLIC RELATIONS TOOLS

### TALKING POINTS (continued)

#### How home fire sprinklers work

Fire sprinklers protect a home 24 hours a day, automatically. Each sprinkler system is unique to the home where it's installed.

Most fire sprinkler systems operate off the household water main. Where water pressure is a problem, the system is fed by a storage tank.

Fire sprinklers are linked by a network of piping. Today, most home fire sprinkler systems primarily use a strong, non-combustible plastic pipe known as CPVC. Just like plumbing, the piping is typically hidden behind walls and ceilings. In unfinished basements, you may be able to see the piping in the ceiling.

There are several types of fire sprinklers made for homes: some are for installation on walls and others in ceilings; some are concealed by a plate. All residential fire sprinklers are much smaller and lower-profile than the types of sprinklers used in commercial and industrial properties.

Sprinklers operate individually, in response to the high temperature of a fire.

Each fire sprinkler has a temperature-sensitive element. Sprinklers flow only when the temperature near the sprinkler reaches 135°F-165°F and they operate for approximately 10 minutes – sufficient time to keep a fire extinguished or controlled until the fire department arrives.

Each sprinkler is designed to operate independently – sprinklers will not release water all at once when a fire starts.

Smoke, cooking vapors or steam cannot cause a sprinkler to activate – fire sprinklers operate in response to the high temperature of a fire.

To learn more about home fire sprinkler installations, visit HFSC's Web site to view free video and animated sequences.

#### Fire sprinklers are part of a total system of safety

Fire sprinklers have no equal, but the best protection from home fire is a total system of safety: early warning (smoke alarms), suppression (fire sprinklers) and prompt evacuation (practiced fire drills).

Only fire sprinklers can detect the fire and automatically control or extinguish it, paving the way for residents to make a safe escape – and also protecting property and valuables.

Smoke alarms are essential in every home. But they can only detect a fire; and to be effective residents must be willing and able to respond quickly to the alarm.

The best protection from fire is having both smoke alarms and a fire sprinkler system.

#### Refuting stubborn myths about fire sprinklers

Sprinkler mishaps are generally less likely and less severe than conventional home plumbing system problems.

An uncontrolled fire will cause far greater fire destruction and smoke/heat damage than water damage from an activated sprinkler. From the time the fire starts and is discovered, it typically takes about 9-12 minutes for the fire department to arrive. In that time, an uncontrolled fire will have grown and spread through the home, causing tremendous smoke and fire damage before the fire department can get there.

The high heat, flames and smoke require a tremendous amount of water from fire department hoses – more than 10 times the water flow per minute of sprinklers.

The property loss in a sprinklered home fire is typically only a fraction of the loss in an unsprinklered home fire. A residential sprinkler flows 10-26 gallons of water per minute, for approximately 10 minutes (or less if the fire department turns the water off sooner).

The national sprinkler installation standard provides guidance for proper installation in cold regions, including appropriate additional insulation and anti-freeze usage.

## LOCAL PUBLIC RELATIONS TOOLS

*Customize this news release for your department:*

### **HOLLYWOOD SPECIAL EFFECTS DISTORT TRUE VALUE OF HOME FIRE SPRINKLERS**

Contact: (NAME)  
(NUMBER/EMAIL)

#### **(CITY/TOWN) FIRE CHIEF SAYS HOLLYWOOD SPECIAL EFFECTS DISTORT TRUE VALUE OF HOME FIRE SPRINKLERS**

(CITY/TOWN) – “Every year we can count on Hollywood to produce yet another movie with special effects that misrepresent fire sprinkler technology and mislead audiences,” says Chief (NAME) with the (CITY/TOWN) Fire Department. “The James Bond blockbuster “Casino Royale” is the latest on a long list of films that make our public safety jobs that much harder.”

When fire sprinklers are present in a house that catches fire, only the sprinkler closest to the flames will spray water. But Chief (NAME) says that many people see the Hollywood depictions of all sprinklers operating at once and believe them to be true. “Unfortunately, buying into that myth can and does affect homeowner interest in residential fire sprinkler systems and that ultimately hurts our community.”

According to the nonprofit Home Fire Sprinkler Coalition (HFSC), the recurring myth that all sprinklers go off at once is the most common of several misconceptions about home fire sprinklers. In fact, only the sprinkler closest to the flames will open to release water, controlling or extinguishing a fire while it is still small. In a recent study, 90% of fires that occurred in sprinklered homes were quickly controlled with a single sprinkler.\*

“Research shows that fire sprinklers are the ideal way to significantly lower residential fire injuries and deaths,” says Chief (NAME). “We’re working with our local home builders and developers to make sure they realize that offering their customers the fire sprinkler option adds tremendous value to the homes they build. Homeowners are very savvy; they inherently know that a safer home is a better one. Once we help everyone understand the facts vs. the fiction about fire sprinklers, people will be very receptive to the idea.”

The inaccurate sprinkler effects produced by Hollywood are a constant challenge to the (CITY/TOWN) Fire Department as well as HFSC and other national safety groups. “When millions of families see movies that undermine fire sprinkler technology, we have to take it seriously,” says HFSC Chair Gary Keith. “No matter how many laughs they produce in the theater, sight gags that turn off homeowners who would otherwise choose to install fire sprinklers to protect their families just aren’t funny.”

HFSC increases awareness about the dangers of home fires and the value of fire sprinkler technology through its Web site ([homefiresprinkler.org](http://homefiresprinkler.org)). The site utilizes effective animation and video to accurately portray how sprinklers work. “This isn’t about image, it’s about safety,” says Keith. “Getting any facts about home fire safety wrong can have serious consequences.”

Every year, more than 3,000 people are killed in U.S. home fires. Of all structures, homes are where people are at greatest risk. In fact, eight out of 10 fire deaths occur at home. “Every home in (CITY/TOWN) needs to have working smoke alarms and a well rehearsed fire escape plan,” says Chief (NAME). “Fire sprinklers take safety an important step further, providing automatic control of the fire, which no other fire protection technology provides. That saves lives and property and makes communities safer for everyone.”

Sprinklers are installed throughout a home along piping typically hidden behind walls and ceilings. Each sprinkler works independently. When the temperature from a fire reaches approximately 135°F-165°F, the sprinkler closest to the flames automatically opens and sprays water over the area. This fast response to danger provides plenty of time for a family to escape from fire unharmed.

To learn more about home fire sprinkler systems, visit HFSC’s Web site: [www.homefiresprinkler.org](http://www.homefiresprinkler.org).

\*Automatic Sprinklers: A 10-Year Study, Scottsdale, AZ

## LOCAL PUBLIC RELATIONS TOOLS

*Customize this news release for your department:*

### **FIRE SPRINKLERS ARE A SMART OPTION FOR NEW HOME BUILDERS TO OFFER**

Contact: (NAME)  
(NUMBER/EMAIL)

#### **FIRE SPRINKLERS ARE A SMART OPTION FOR NEW HOME BUILDERS TO OFFER, SAYS (CITY/TOWN) FIRE CHIEF**

(CITY/TOWN) – The (CITY/TOWN) Fire Chief says (HE/SHE) is encouraged by the findings of a national poll commissioned by the nonprofit Home Fire Sprinkler Coalition (HFSC). “We’re starting to see some real progress in the effort to educate America about the value and need for residential fire sprinkler systems,” says Chief (NAME). “But locally, we need to do more to overcome some of the myths and get more of the facts front and center.”

The survey, conducted by Harris Interactive® found that 69 percent of U.S. homeowners believe having a fire sprinkler system increases the value of a home; 38 percent would be more likely to purchase a new home with sprinklers than one without. HFSC commissioned the December 2005 survey of 1,019 U.S. adults (620 of whom own a house) in order to measure awareness of residential fire sprinkler systems and gauge feelings toward builders who install fire sprinklers as a standard feature of a new home.

“Fire sprinkler systems are widely recognized by leading safety groups as the single most effective built-in protection from home fire deaths,” says Chief (NAME). “But a general lack of knowledge about sprinklers interferes with our ability to improve our community’s infrastructure with the valuable technology. To make real progress, we need to work closely with homeowners, and also with builders, developers, real estate agents and others in (CITY/TOWN) to communicate the facts.”

Prevailing myths and misconceptions add to the public education challenge. For 48 percent of homeowners surveyed nationally, an unfounded fear of water damage would prevent them from installing a home fire sprinkler system.

In fact, fire sprinkler mishaps are rare and water damage is no more likely with sprinklers than it is with other household plumbing. Fire sprinklers activate individually, and only in response to the high temperature of a growing fire, typically 135°F-165°F. Smoke simply cannot cause a sprinkler to operate.

“HFSC’s national survey gives our local builders some valuable insight into the way prospective homeowners will view the option of sprinklered homes,” says Chief (NAME). The survey found that builders who offer fire sprinklers as a standard feature of new homes were seen by homeowners as being “safety concerned” (70%), “innovative” (52%), and “caring” (51%). Thirty-nine percent of homeowners said they would be more likely to hire such a builder vs. one who does not offer fire sprinklers as a standard feature.

Many homeowners said they would prefer to install a fire sprinkler system over other optional amenities, such as cabinet upgrades (35%) and hardwood floors (36%). “It’s not uncommon to see people spend thousands of dollars on high-end options in a new home,” Chief (NAME) says. “For a lot less money, they could also install a fire sprinkler system that would protect their family as well as their investment in the new house.”

For details about the Harris Poll survey and to learn more about home fire sprinkler systems, visit HFSC’s Web site: [www.homefiresprinkler.org](http://www.homefiresprinkler.org).

## LOCAL PUBLIC RELATIONS TOOLS

*Customize this news release for your department:*

### **FIRE SPRINKLERS OFFER THE ULTIMATE IN PROTECTION**

Contact: (NAME)  
(NUMBER/EMAIL)

#### **(CITY/TOWN) FIRE SPRINKLERS OFFER THE ULTIMATE IN PROTECTION, SAYS (CITY/TOWN) FIRE CHIEF**

(CITY/TOWN) – From national safety groups to federal agencies to local fire departments, the conventional wisdom is that fire sprinkler technology presents the best opportunity to make a sizeable dent in the U.S. home fire death problem. “By installing sprinklers in new homes, we can dramatically improve the safety of our own community for decades to come,” says Chief (NAME) of the (CITY/TOWN) Fire Department.

That fact is important (HE/SHE) says because every year, more than 3,000 people are killed nationally in home fires. Residences are where people are at greatest risk, with eight out of 10 fire deaths taking place where we tend to feel safest. “While every household needs working smoke alarms and a well rehearsed fire escape plan for basic safety, only fire sprinklers can automatically control a fire,” says Chief (NAME). “Installing fire sprinklers saves lives and property and protects housing for generations to come.”

Sprinklers are installed throughout a home along piping typically hidden behind walls and ceilings. Each sprinkler works independently. When the temperature from a fire reaches approximately 135°F-165°F, the sprinkler closest to the flames automatically opens and sprays water over the area. This fast response to danger provides plenty of time for a family to escape from fire unharmed. Unlike smoke alarms, fire sprinklers react only to the high temperature of a fire; they cannot be activated by smoke.

Chief (NAME) urges new home buyers to visit the nonprofit Home Fire Sprinkler Coalition (HFSC) Web site ([homefiresprinkler.org](http://homefiresprinkler.org)) prior to building. The free site contains helpful animation and video downloads that explain the dangers of home fires as well as the value of fire sprinkler technology. HFSC also offers free information for families currently living in a sprinklered home.

To learn more about home fire sprinkler systems, visit HFSC’s Web site: [www.homefiresprinkler.org](http://www.homefiresprinkler.org).