# Facilitator's Guide

For students aged 7-8


Expect THE UNEXPECTED™

Canadian Red Cross

Canadian Red Cross



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Ce programme est également publié en français.

# It can happen, be ready.

***Expect the Unexpected*™ Emergency Preparedness Program for students aged 7-8**

## Facilitator's Guide

# Acknowledgements

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This program continues to be offered through the media sponsorship of:

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# Introduction

The Canadian Red Cross plays an essential part in emergencies. It provides numerous services to people affected by disasters to fulfill part of their essential needs such as food, clothing and shelter. It also provides personal services for moral support and first aid. During evacuations, it is often responsible for registering and informing evacuees.

The Canadian Red Cross has developed a resource to help teachers educate their students about natural disasters and other emergencies: *Expect the Unexpected™*. It is the only educational program in Canada that relates to provincial and territorial study curricula, while also aiming to change attitudes and behaviours regarding disaster preparedness.

*Expect the Unexpected* is intended for youth, aged 7 to 13, their parents, as well as educators who work with them. The program consists of three kits, which include a facilitator's guide and an activity booklet: *It can happen, be ready*, for youth aged 7 and 8; *Facing the unexpected, be prepared*, for youth aged 9 to 11; and *Be ready, be safe* for youth aged 12 and 13. An activity booklet is also available for parents: *Let's plan for the unexpected.*

This facilitator's guide is intended for educators of students aged 7 and 8. It is part of a series of teaching resources for this age group.

The guide is divided into four parts. The first part describes the overall preparedness program. The second part identifies concepts and the preferred teaching approach. The third part pertains to activities corresponding to the sheets provided in the activity booklet intended for students, and the fourth part provides additional information that will be useful in implementing the program.

# It can happen, be ready.

## Program objectives

This section of the preparedness program is intended for 7- to 8-year-olds and is designed to provide them with skills and information required to face unexpected situations that could occur in their daily life.

More specifically, the students will:

- Discover the natural and human elements of their community;
- Become familiar with daily safety rules;
- Know what to do to be better prepared for unexpected situations such as a power failure, lightning storm, heat or cold waves or fire;
- Become familiar with climate change and its role with regard to increased natural disasters;
- Know what attitudes and behaviours to adopt during unexpected situations;
- Learn the school evacuation plan;
- Learn about emotions that may be experienced after certain emergencies have occurred.

## Links to the study programs

Educators are asked to teach a variety of programs from the Ministry of Education and must take into consideration a great number of teaching objectives. This program can be linked to the objectives of some provincial and territorial programs across Canada, and helps complement class teaching and learning.

## Tools

This section of the preparedness program includes five types of teaching and communication tools:

- **Facilitator's guide**

The guide is intended for teachers. It provides information that allows the educator to lead youth through the learning process and relies on the use of the various teaching and communication tools developed for the program.

The facilitator's guide includes answer keys that allow the teacher to correct participants' answers. Educators can also create transparencies from the activity booklet, which simplifies the review of answers in a large group.

- **Activity booklet**

The booklet is intended for students. It facilitates learning and the development of attitudes and skills by reading information, recording observations from research results, answering questions, playing games (some of which are interactive) and using the Internet, etc. It ensures that information is permanently available as well as being a reference tool for youth. Several of the activities can be carried out with the assistance of parents. These activities, identified by this symbol  , were modified to become preparedness activities intended for families and they are combined in a special booklet, available on the Red Cross Web site at: www.redcross.ca/expecttheunexpected.

The activity booklet was designed as a series of activities from which teachers can choose exercises that best suit their students' needs. These activities can be conducted on theme days, on half days and can also be integrated in the daily planning. They can be linked to other activities or be done independently from one another.

**• Activity booklet and certificate of participation for parents and students**

The activity booklet *Let's plan for the unexpected*, is intended for parents as a reference and simulation resource. It offers preparedness activities for the whole family to do at home. The activity booklet is available on the Canadian Red Cross Web site (www.redcross.ca/expecttheunexpected), in the section devoted to teaching materials for parents. It can be printed or consulted online.

The certificate of participation is found at the end of the activity booklet intended for families. Parents and their children can fill it out as soon as they have completed the suggested activities.

**• Video**

This video is used to introduce situation scenarios for a number of activities. It will pique the students' curiosity, arouse their interest, prompt questions and encourage group discussions and exchanges. The video is available on the Canadian Red Cross Web site, (www.redcross.ca/expecttheunexpected) in the section devoted to teaching materials for educators. Participants should be encouraged to watch the video with their families.

**• Mini-posters**

The facilitator's guide includes four small posters that are detachable and can be used as part of simulations within certain activities. They stimulate curiosity and interest, and facilitate questions and group discussions. (Please note that mini-posters are only included in facilitator's guides which have activities that reference them.) The mini-posters are also available on the Canadian Red Cross website (www.redcross.ca/expecttheunexpected), in the section devoted to teaching materials for educators. They can be printed or consulted online.

**• Poster**

The poster can be consulted or downloaded from the Canadian Red Cross Web site (www.redcross.ca/expecttheunexpected), in the section devoted to teaching materials for teachers. The poster can be placed on walls in the school or classroom. It will make students more aware of the need to prepare for emergency situations. It can also be used as a trigger to introduce activities in the preparedness program.

## Program evaluation

An evaluation form is provided at the end of this facilitator's guide and on the Canadian Red Cross Web site (www.redcross.ca/expecttheunexpected), in the section devoted to teaching materials for teachers. It allows for the teacher or facilitator to comment on the program. Youth's comments can also be obtained by asking them to write a collective letter to the Red Cross.

# General orientation

## Content

Throughout the entire preparedness program, the content is presented in sequence, in order to suit the levels of the various age groups. Thus, the 7- to 8- and 9- to 11-year-old students are faced with unexpected situations that are simple and of a local nature. On the other hand, the 12- to 13-year-olds are asked to deal with more complex situations, on an international scale.

For the 7- to 8-year-olds, the activities cover the following topics:

Red Cross – natural and human elements – dangers and benefits – safety rules – preparation – emergency – lightning storm – snowstorm – heat or cold wave – extreme heat – climate change and natural disasters – power failure – fire – evacuation – evacuation plan – smoke detectors – emotion – attitude – behaviour.

As students become more familiar with the natural and human elements in their environment, students are taught to distinguish between the benefits and dangers associated with some of these natural elements. The concept of a safety rule is discussed and linked to the natural elements. It is then discussed more generally in relation to unexpected events such as power failures, lightning storms, snowstorms and heat or cold waves. Students are then sensitized to climate change and its impact on natural disasters. Next, they learn about their own preparation to enable them to react effectively in emergencies. They again examine attitudes and behaviours to adopt in emergencies, as well as reflect on the emotions that can be experienced when an unexpected event occurs. Finally, emphasis is placed on fire prevention at school and at home.

## Teaching approach

### For each activity

Each activity in the first section of the preparedness program is designed according to the three steps of the teaching approach: situations, research and objectives.

- **Situations**

In this first step, students become familiar with the content and teaching objectives linked to the activity. The teacher makes the content meaningful by linking it to their experience and prior knowledge.

- **Research**

In the second step, students learn the contents of the activity using diversified and adapted teaching strategies. They collect data, organize and record information.

- **Recap**

In this last step students recap the activity. They summarize what they have learned, compare it to their initial understanding and evaluate their degree of success.

## In each section

Each section of the preparedness program features three types of activities that correspond to the three steps of the teaching approach.

- Questions related to the situation;
- Research;
- Summary and review of learning.

# Activities

| Sheet | Type of activity | Objective | Means | Method | Intellectual and technical skills | Duration |
|---|---|---|---|---|---|---|
| 1 | | Name Red Cross services. | Association activity. | Individual. | Identify and establish relationships. | 30 min. |
| 2 | | Identify the natural and human elements in one's environment. | Environment observation activity. | Group. | Identify. | 30 min. |
| 3 | | Distinguish the negative and positive aspects of some natural elements. | Happy / sad faces. | Individual. | Identify and establish relationships. | 30 min. |
| 4 | | Name the safety rules known for certain natural elements. | Association activity. | Individual. | Identify and establish relationships. | 30 min. |
| 5 | | Recognize the safety rules to follow during a rainstorm. | Mini-poster as trigger /statements marked with X or underlined. | Individual or in teams. | Identify and establish relationships. | 20 min. |
| 6 | | Recognize the safety rules to follow during a snowstorm. | Mini-poster as trigger /statements marked with X or underlined. | Individual or in teams. | Identify and establish relationships. | 20 min. |
| 7 | | Explain climate change and its impact. | Research, crossword puzzle, reading and drawing. | Individual. | Identify and establish relationships and summarize. | 60 min. |
| 8 | | Recognize the safety rules to follow during a heat or cold wave. | Statements to check. | Individual. | Identify and establish relationships. | 20 min. |
| 9 | | Become familiar with the concept of extreme heat as a natural hazard and raise the student's awareness of its effects on human health. | Discussion; drawing; questions and answers. | Class; individual (with help of parents). | Identify, establish relationships. | 60 min. |
| 10 | | Describe heat by referring to the four variables that constitute heat: temperature, radiant heat, humidity and wind. | Discussion; experiments; puzzle. | Class. | Identify, establish relationships. Summarize. | 30 min. |
| 11 | | Associate the four variables that constitute heat to the sentences that correctly describe them. | Association activity. | Groups. | Identify, establish relationships. | 15 min. |
| 12 | | Discuss how the body regulates itself. | Storytelling; experiments; brainstorm. | Class. | Establish relationships. | 30 min. |

# Activities

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 |  | Name various ways to prepare for hot temperature. | Crosswords. | Groups. | Identify. | 30 min. |
| 14 |  | Prepare an extreme heat kit. | Research; drawing. | Individual (with help from parents); Class. | Application. | 60 min. |
| 15 |  | Name the attitudes to adopt in emergencies. | Fill in the blanks. | Individual. | Identify. | 30 min. |
| 16 |  | Identify objects that can be used in case of power failure. | Mini-poster as trigger/ Statements to check. | Individual or with parents' help. | Identify, locate and establish relationships. | 20 min. |
| 17 |  | Prepare a list of important telephone numbers. | Reminder to be completed. | With parents' help. | Identify. | 30 min. |
| 18 |  | Identify on a house plan potential places where a fire could start. | Mini-poster as trigger/ Locating on a plan. | Individual or with parents' help. | Identify, locate and establish relationships. | 30 min. |
| 19 |  | Prepare a home evacuation plan with the help of one's parents. | Mini-poster as trigger/ Drawing an evacuation plan. | With parents' help. | Identify, locate and establish relationships. | 30 min. |
| 20 |  | Become familiar with the smoke detector at home. | Investigation at home. | With parents' help. | Identify, locate and establish relationships. | 30 min. |
| 21 |  | Know the school evacuation plan. | Locating a point on a plan. | Individual or in teams. | Identify, locate and establish relationships. | 30 min. |
| 22 |  | Distinguish the emotions experienced after an emergency. | Decoding activity. | Individual. | Identify, locate and establish relationships. | 30 min. |
| 23 |  | Depict a happy and a sad emotion after experiencing an emergency. | Drawing. | Individual. | Identify. | 30 min. |
| 24 |  | Review the notions learned during the preparedness program. | Fill in the blanks. | Individual or in teams. | Identify, and summarize. | 30 min. |

The activities identified with this symbol can be carried out with the parents' help. These activities have also been modified for preparedness activities to be done by the whole family and are part of a special activity booklet available on the Red Cross Web site at: www.redcross.ca/expecttheunexpected. The teacher is encouraged to refer parents to the educational materials for them on the Red Cross Web site.

The activities identified with this symbol indicate that the educator can use Internet resources to lead the activity.

# The Red Cross: anywhere, anytime

30 min.

## Task description

By matching pictures to statements, students learn about the services provided by the Red Cross.

## Method suggested

1. Show a red cross to students. Ask them if they have ever seen this symbol (on a building, shirt, truck, etc.)

2. Explain that the red cross is an emblem. If necessary, explain what an emblem is. Explain that it's the emblem of an organization called the Red Cross. Tell them about the history of the emblem and the Red Cross, with the help of Annex 1.

3. Ask them if they know what the organization does and how it serves the public. With the students, read the instructions on sheet 1 of the activity booklet and have them complete it on their own by associating the picture to the corresponding statement.

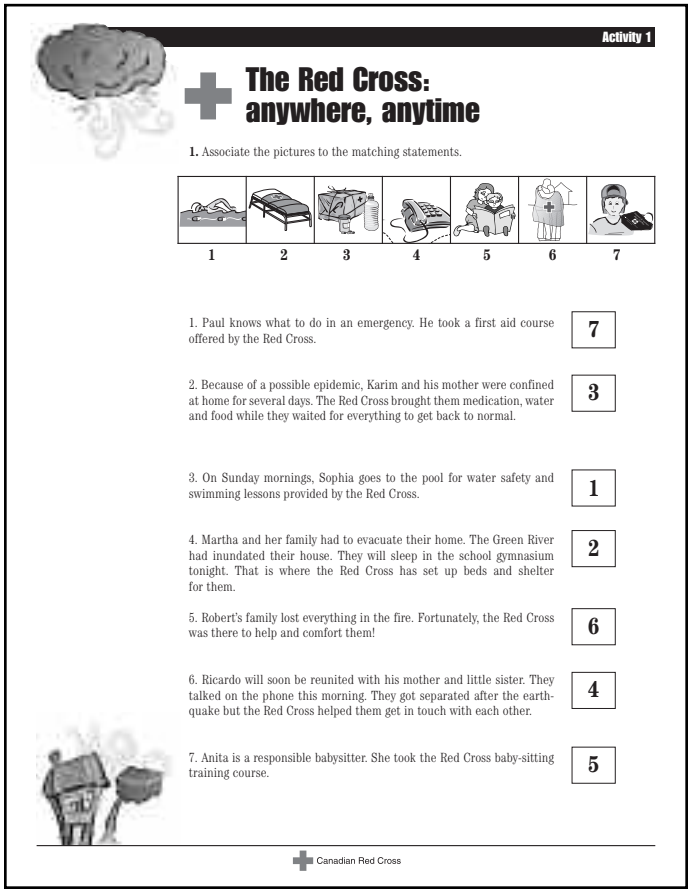
4. Once the sheet is filled out, review answers with them. Have them name the various activities of the Red Cross, covering both humanitarian services (prevention and relief for victims of disasters or conflict — medication, water, food, blankets, reunification of families) and educational services (first aid, water safety and babysitting courses). Mention that this preparedness program was created by the Red Cross as part of its prevention activities.

5. Answer any questions.

## Materials required

- Sheet 1 from the activity booklet
- Annex 1 – The International Red Cross and Red Crescent Movement

## Answer key



Activity 1

The Red Cross: anywhere, anytime

**1.** Associate the pictures to the matching statements.

1 2 3 4 5 6 7

1. Paul knows what to do in an emergency. He took a first aid course offered by the Red Cross. **7**

2. Because of a possible epidemic, Karim and his mother were confined at home for several days. The Red Cross brought them medication, water and food while they waited for everything to get back to normal. **3**

3. On Sunday mornings, Sophia goes to the pool for water safety and swimming lessons provided by the Red Cross. **1**

4. Martha and her family had to evacuate their home. The Green River had inundated their house. They will sleep in the school gymnasium tonight. That is where the Red Cross has set up beds and shelter for them. **2**

5. Robert's family lost everything in the fire. Fortunately, the Red Cross was there to help and comfort them! **6**

6. Ricardo will soon be reunited with his mother and little sister. They talked on the phone this morning. They got separated after the earthquake but the Red Cross helped them get in touch with each other. **4**

7. Anita is a responsible babysitter. She took the Red Cross baby-sitting training course. **5**

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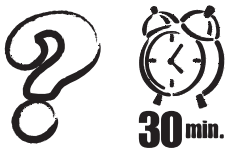
# What do I see around me?




### Task description

By looking out the windows in the classroom or during a walk around the school, students can see the immediate environment and identify the natural and human elements.

### Method suggested

1. Ask students to go to the windows in the classroom or to take a walk around the school. Ask them to observe carefully and to name what they see. To facilitate observation, ask the following questions:
- What is the ground covered with?
- What is the landscape like?
- Are there animals, vegetation?
- Are there stretches of water?
- Are there buildings and roads?
- Can these elements be dangerous?
- Other.

2. Write the main elements observed by students on the board. Ask them to find a way of classifying these elements. To help them, ask which of these elements are natural and which are man-made. Then, ask students to sort them in the proper category.

3. Ask them to write on Sheet 2 certain natural and human elements found on the board. Check their understanding of each of these concepts by asking them to name what they have written.

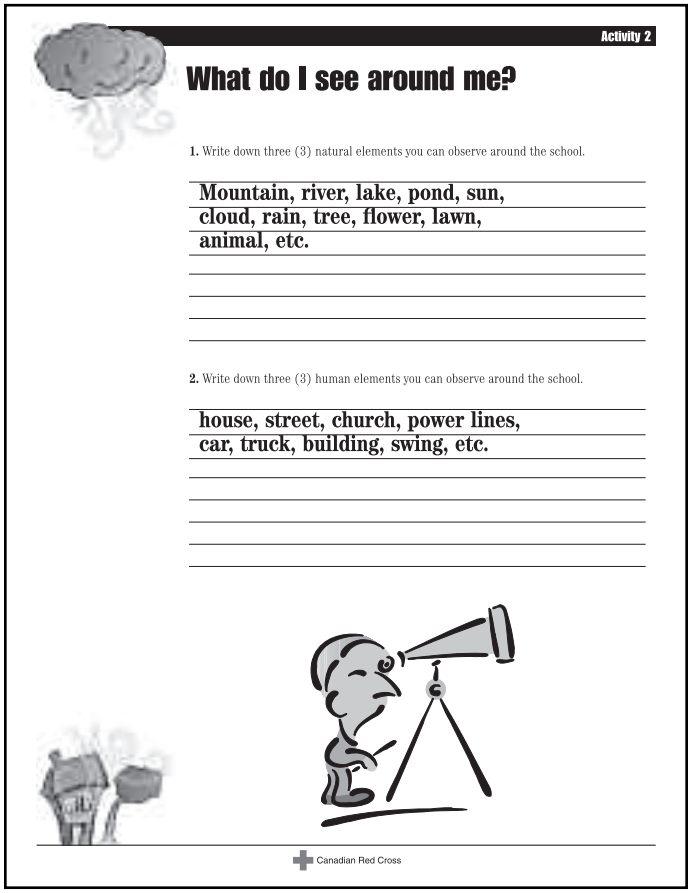
4. Answer any questions.

### Material Required

- Sheet 2 of the activity booklet
- Binoculars (optional)

Write down three (3) natural elements you can observe around the school: mountain, river, lake, pond, sun, cloud, rain, tree, flower, lawn, animal, etc.

### Answer key


Activity 2

What do I see around me?

1. Write down three (3) natural elements you can observe around the school.

Mountain, river, lake, pond, sun, cloud, rain, tree, flower, lawn, animal, etc.

2. Write down three (3) human elements you can observe around the school.

house, street, church, power lines, car, truck, building, swing, etc.

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# What are the benefits and dangers of the natural elements?


## Task description

Using a happy or sad face, students distinguish the benefits (positive aspects) and the dangers (negative aspects) of the natural elements.

## Method suggested

1. Ask students how the natural elements identified in their previous activity can be sources of benefits (positive aspects) and dangers (negative aspects) in their life.

2. Read the instructions on sheet 3 with them. Ask them to fill in the sheet individually by distinguishing the benefits and dangers of the natural elements in their life. They identify them by drawing happy faces (benefits) or sad faces (dangers).

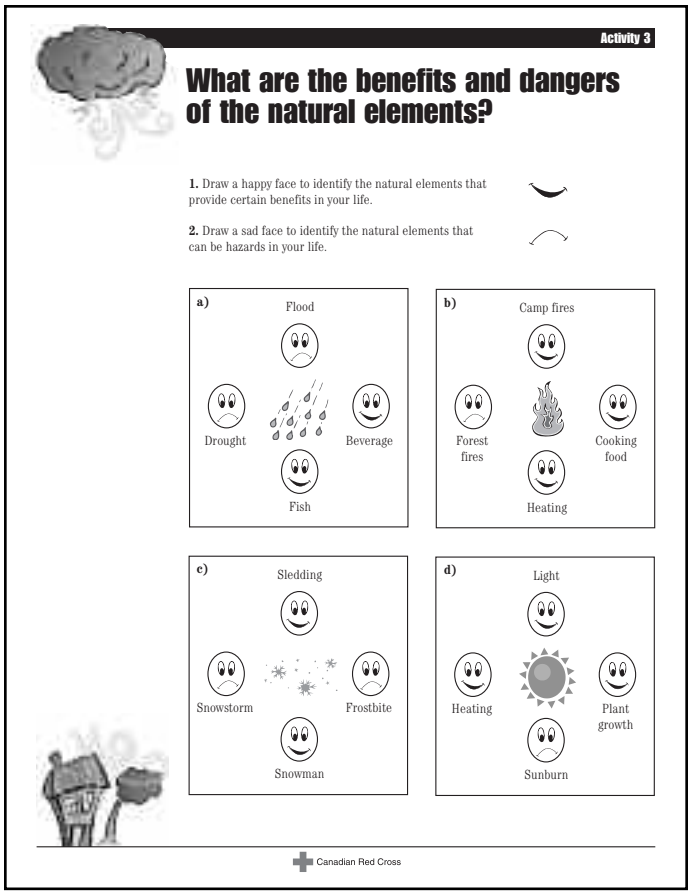
3. Once the sheets are filled out, review them as a group, to check the answers given. Have them reflect on the fact that natural elements can be both sources of benefits and dangers. Make them aware that these two aspects are essential to life on Earth.

4. Answer any questions.

## Material required

- Sheet 3 of the activity booklet

## Answer key



# What safety rules do I know?


## Task Description

Based on their past experience, students identify the safety rules for certain natural elements.

## Method suggested

1. Ask students if they know the safety rules for the natural elements: fire, water, sun and snow.

2. Read the instructions on sheet 4 with them and ask them to fill out the sheet individually by linking the natural elements to the safety rules.

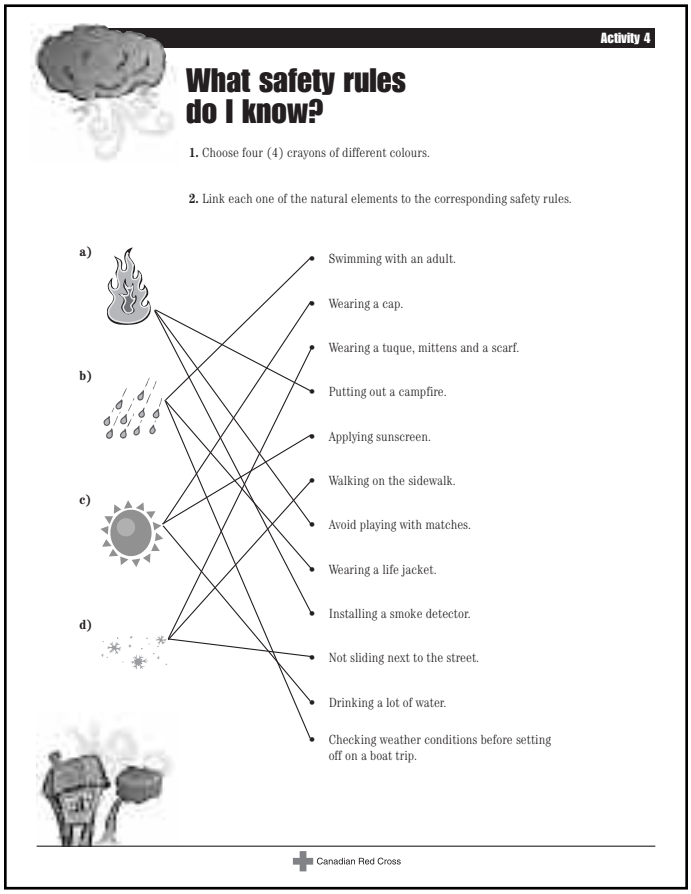
3. Once the sheets are filled out, review them as a group to check answers. Have them reflect on the meaning of these rules and the necessity to follow them to ensure their safety.

4. Answer any questions.

## Material required

- Sheet 4 of the activity booklet

## Answer key



# How to behave in case of a lightning storm


## Task description

In a group discussion, students distinguish which safety rules to follow during a lightning storm.

## Method suggested

1. Show mini-poster 1, depicting a lightning storm. Ask the following questions:
   - What does the illustration represent?
   - What elements indicate that this is a lightning storm?
   - What are the characteristics of this natural phenomenon?
   - Have you ever experienced a lightning storm?
   - Were you inside or outside?
   - Did you do anything specific during the storm, such as closing windows and doors, disconnecting electrical appliances, etc.?
   - What are the dangers of a lightning storm?
   - What are the safety rules to follow during a lightning storm?
   - Other.

2. Read the instructions on Sheet 5 with them. Ask them to fill out the sheet individually by stating the rules to follow during a lightning storm and what behaviours to avoid.

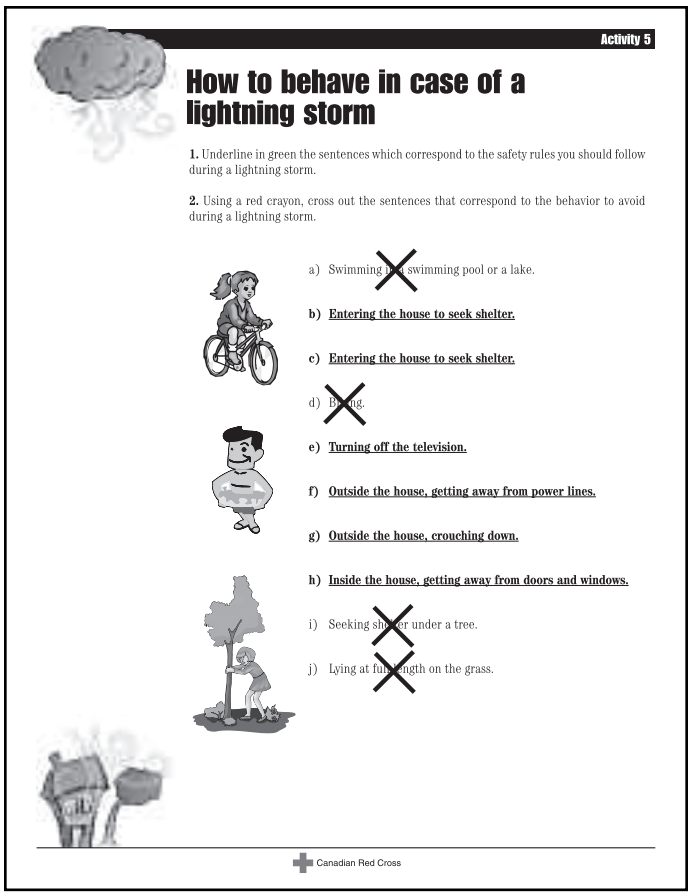
3. Once the sheets are filled out, review them as a group. To check their answers, ask them to state the safety rules to follow and justify their choice. Have them reflect on the reason why these rules should be respected.

4. Answer any questions.

## Material required

- Mini-poster 1 – Lightning storm (www.redcross.ca/expecttheunexpected)
- Sheet 5 of the activity booklet

## Answer key



# How to behave in case of a snowstorm


## Task description

In a group discussion, students learn the safety rules to follow during a snowstorm.

## Method suggested

1. Show the mini-poster 2, depicting a snowstorm. Ask the following questions:
   - What does the illustration represent?
   - What elements indicate that this is a snowstorm?
   - What are the characteristics of this natural phenomenon?
   - Have you ever experienced a snowstorm?
   - Were you inside or outside?
   - What did you observe during the snowstorm?
   - Did you do anything in particular?
   - What are the dangers of a snowstorm?
   - What are the safety rules to follow during a snowstorm?
   - Other.

2. Read the instructions on sheet 6 with them. Ask them to fill out the sheet individually or in teams, by stating the safety rules to follow during a snowstorm and what behaviours to avoid.

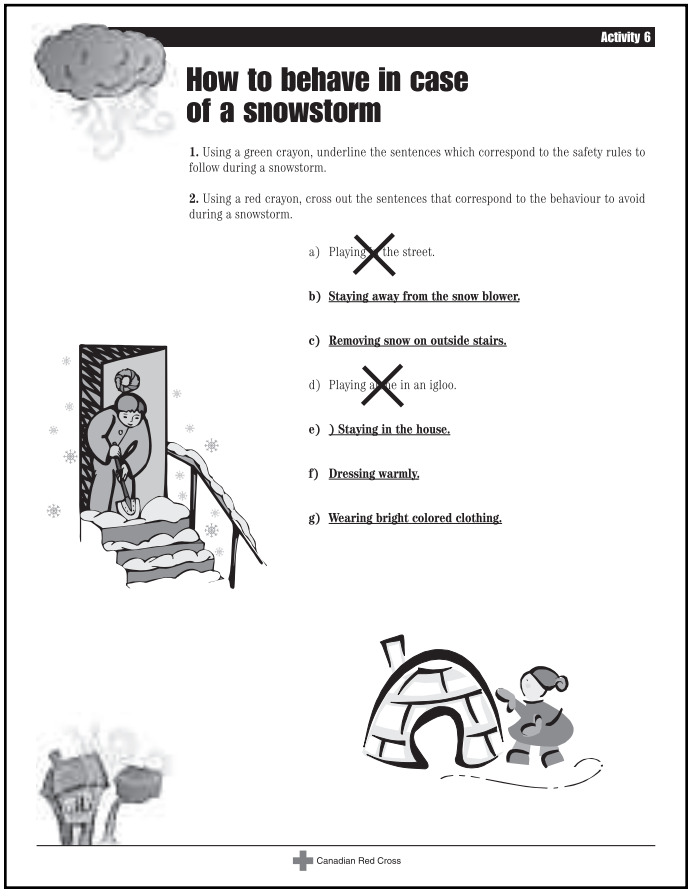
3. Once the sheets are filled out, review them as a group. To check participants' answers, ask them to state the safety rules to follow and justify their choice. Have them reflect on the reason why these rules should be respected.

4. Answer any questions.

## Material required

- Mini-poster 2 – Snowstorm (www.redcross.ca/expecttheunexpected)
- Sheet 6 of the activity booklet

## Answer key


Activity 6

How to behave in case of a snowstorm

**1.** Using a green crayon, underline the sentences which correspond to the safety rules to follow during a snowstorm.

**2.** Using a red crayon, cross out the sentences that correspond to the behaviour to avoid during a snowstorm.

a) Playing in the street.

**b) Staying away from the snow blower.**

**c) Removing snow on outside stairs.**

d) Playing inside an igloo.

**e) ) Staying in the house.**

**f) Dressing warmly.**

**g) Wearing bright colored clothing.**

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# Climate change


## Task description

Students will become familiar with climate change and its impact.

## Method suggested

1. Hand out sheet 7 to each participant and read the instructions with them. Ask participants to complete the activity by filling out the crossword puzzle by researching the concepts of "climate change" and "the greenhouse effect".

2. Once the activity is completed, review the answers as a group. Emphasize the important role they can play in relation to climate change, by reducing greenhouse gas emissions. Suggest to them that they read annex 1 – *Climate Change: What Can You Do?* and discuss it with them.

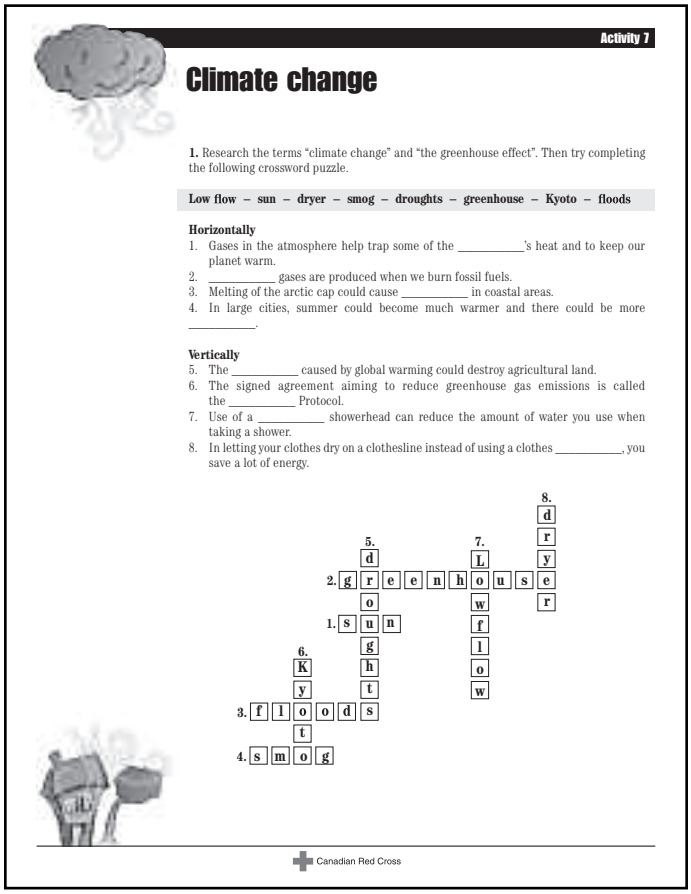
3. In conclusion, encourage the group to look up ways they can participate in taking care of the environment on the Internet.

4. Answer any questions.

## Material required

- Sheet 7 of the activity booklet
- Annex 1 of the activity booklet – *Climate Change: What can you do?*

## Answer key



Activity 7

Climate change

**1.** Research the terms "climate change" and "the greenhouse effect". Then try completing the following crossword puzzle.

**Low flow – sun – dryer – smog – droughts – greenhouse – Kyoto – floods**

**Horizontally**

1. Gases in the atmosphere help trap some of the _____'s heat and to keep our planet warm.
2. _____ gases are produced when we burn fossil fuels.
3. Melting of the arctic cap could cause _____ in coastal areas.
4. In large cities, summer could become much warmer and there could be more _____.

**Vertically**

5. The _____ caused by global warming could destroy agricultural land.
6. The signed agreement aiming to reduce greenhouse gas emissions is called the _____ Protocol.
7. Use of a _____ showerhead can reduce the amount of water you use when taking a shower.
8. In letting your clothes dry on a clothesline instead of using a clothes _____, you save a lot of energy.



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# What does heat mean to you?


### Objective of assignment

The objective of this assignment is to introduce the topic of extreme heat as a natural hazard and to raise the student's awareness of its effects on human health.

### Task description

This activity is a take-home assignment. Based on their own past experiences, ask the students to think individually about heat and what it means to them. The students may start this assignment in the classroom by drawing a picture of what heat represents to them. Ask them to bring the assignment home, and encourage them to discuss the concept of heat with their family. They will be asked to share their answers with the class.

### Method suggested

1. Inform the students that they will be discussing heat.

2. Ask the students what comes to mind when they think about the concept of heat. Give a few ideas if no one speaks (i.e. summer vacation, the beach, camping, melting ice cream, sun, pool, water, shade, etc.).

3. Write the students' answers on the board.

4. Once the students have had the opportunity to share and sufficient examples are on the board, instruct the students to turn to Activity 8 in their booklets.

5. Instruct them to draw what heat represents to them. Let them know that they can use one of the ideas on the board or come up with something else.

6. Allow the students 15 minutes to start their drawings. Encourage them to make their drawings colourful.

7. Once the time is up, ask the students to bring their booklets home to finish the drawing and also to discuss extreme heat with their families.

8. Continue reading the instructions with them and ask them to answer the questions with their families.

9. Let the students know that the drawings and the results of their discussions at home will be presented to the class.

10. Answer any questions.

### Discussion of assignment

1. Ask the students to present their drawings and to briefly explain what inspired their choices.

2. Review the answers to the questions by asking the students to share the discussions they had with their families.

3. Answer any questions.

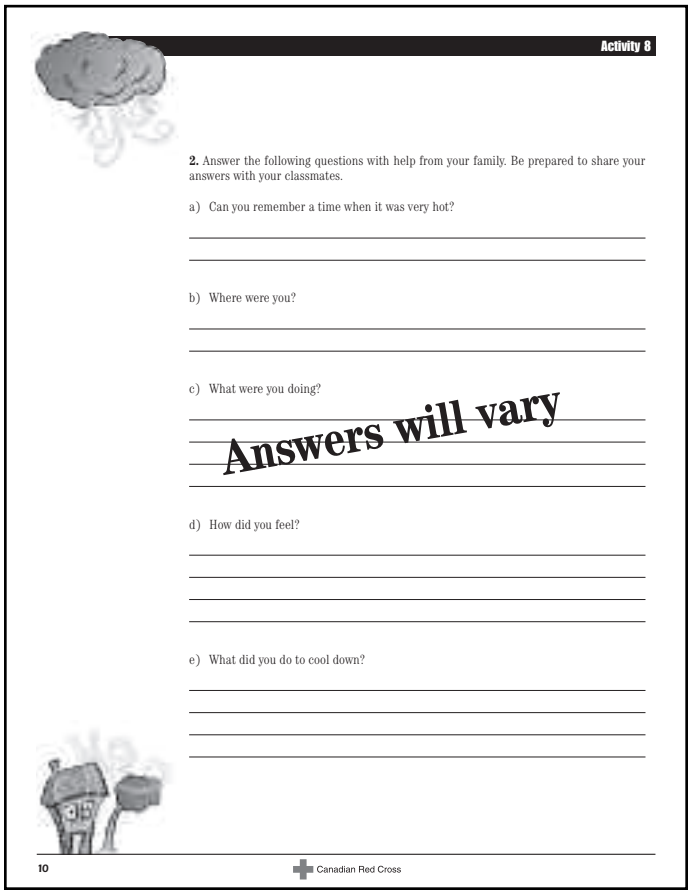
### Duration

- Class time: 45 minutes
- Home: 15 to 20 minutes

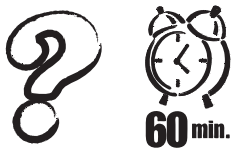
### Material required

- Activity booklet
- Crayons or markers

### Answer key



# What is heat?




### Objective of the activity

The objective of the activity is to have the students learn about what heat is and to have them describe heat by referring to the four variables that constitute heat: temperature, radiant heat, humidity and wind.

### Task description

The activity consists of a group discussion during which the students build a small puzzle. The puzzle has five (5) pieces. The elements that make up heat (temperature, radiant heat, humidity and wind) are each represented by one (1) piece. Heat is the fifth piece that goes in the centre of the puzzle.

### Method suggested

1. Introduce the topic by telling the students they will learn what heat is by building a small puzzle.

2. Have the students sit in a circle (if possible) and put the cardboard that will hold the puzzle together on a stand (flip chart stand).

3. Show the first piece of the puzzle.
*Note to the teacher: the first piece of the puzzle is the melting ice cream truck that represents heat. It is the centre piece of the puzzle.*

4. Ask the students if they know what heat is. Collect a few answers and write them on the board.

5. Continue by explaining that heat is more than the temperature that they see on the thermometer or on the weather report. On a hot day, what the heat feels like is determined by a combination of a few different factors.

6. Explain that heat is actually a combination of four elements and that the temperature is only one of them.

7. Ask one student to place the first piece of the puzzle in the centre and show the second piece of the puzzle to the class: the thermometer.

8. Ask the students if they know what that picture refers to. Continue by explaining that one of the four elements of heat is the temperature. The temperature tells you how hot or cold it is. It is measured with a thermometer. Temperature is measured in degrees Celsius in Canada (it is measured in Fahrenheit in the United States).

9. Show a thermometer and demonstrate to the students how to read the ambient temperature. Inform the students that it is ____°C in the classroom.

10. Have a few students experiment with the thermometer by having them take the temperature of cold water. Then ask them to take the temperature of hot or warm water so they can see how the temperature changes on the scale.

11. Ask another student to place the second piece of the puzzle in its place and show the third piece of the puzzle to the class: radiant heat.

12. Explain that the picture you are holding represents radiant heat. Radiant heat is the transfer of heat directly from the sun or from hot objects felt on the skin. For example, it is warmer in the direct sun versus the shade even though the temperature outside is the same.

13. Demonstrate radiant heat by asking a few students to place their hand near a light bulb. Explain that the light bulb is considered a direct source of heat. Students will feel the heat radiating from the light bulb.

14. Ask another student to place the third piece of the puzzle in its place and show the fourth piece of the puzzle: humidity.

15. Explain that the picture you are holding represents humidity. Humidity is the amount of water vapour in the air. The more water that is in the air, the higher we say that the humidity has risen.

16. Ask the students if they have ever noticed that it feels different (e.g. sticky) after it rains in the summer. Explain that they are feeling humidity because there is more water vapour in the air after it rains.

17. Ask another student to place the fourth piece of the puzzle in its place and show the fifth piece of the puzzle: wind.

18. Ask the students what the picture represents. Explain that the wind is the movement of air.

19. Demonstrate the wind by turning on a fan.

20. Ask another student to place the last piece of the puzzle in its place.

21. When the puzzle is completed, review each factor by asking the children to describe in their own words each one of them.

22. Answer any questions.

### Duration
Class time: 30 minutes

### Material required
- Annex 2: Heat parameters
- Puzzle: 5 pieces
- Tape (to stick the pieces on the cardboard)
- Stand (flip chart stand or a wall) to put the puzzle
- Thermometer
- Cold water
- Warm water
- Light bulb
- Electric or hand fan

### Answer key
None

Ambiant temperature

Radiant heat

Centre piece: heat

Humidity

Wind

# What is heat?

30 min.

### Objective of the activity
The objective of the activity is to review the content presented in Activity 9 of the facilitator guide.

### Task description
The students associate eight (8) short sentences with the four (4) elements of heat. The exercise is done in small groups of 3 to 4 students.

### Method suggested
1. Introduce the topic by telling the students that this game will help them review the four (4) elements of heat. Refer to the puzzle if needed.

2. Form groups of 3 to 4 students.

3. Ask the students to turn to Activity 10 in their booklets and read the instructions with them.

4. Ask the students to complete the activity sheet by linking the statement to the correct element of heat.

5. Allow 10 minutes to complete the exercise.

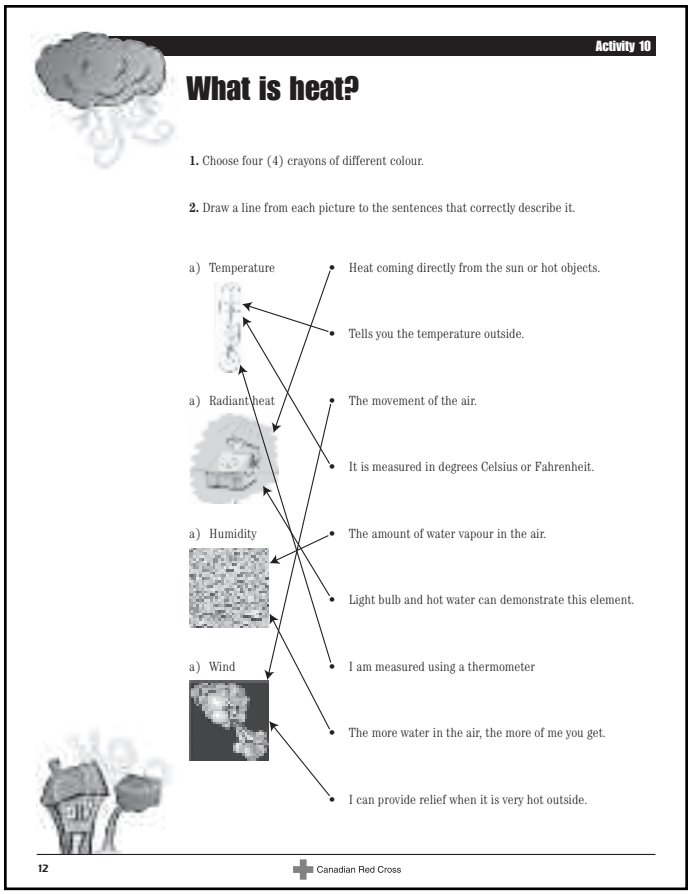
6. Once the sheets are filled out, review them as a group to check answers.

7. Answer any questions.

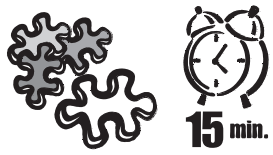
### Duration
Class time: 15 minutes

### Material required
- Activity booklet
- Crayons or markers

### Answer key



# How does the body maintain its core temperature?




### Objective of activity

The objective of the activity is to have the students briefly discuss how the body regulates its temperature.

### Task description

The learning will take place through a story and small experiments.

### Method suggested

1. Tell the students that they will learn how the human body can keep cool when it is very hot.

2. Ask the students if they know what their body temperature is.

3. Show that the body temperature of a human being is at 37°C/98.6F (approx.) by taking the temperature of a couple of students.
*Note to the teacher: Please clean the thermometer with an ethanol swab before you begin, between each student and at the end of the activity.*

4. Ask the students if they have an idea how the body keeps its temperature at 37°C when it is very hot. Collect a few answers and write them on the board.

5. Tell the students that they will discover how the body manages to keep its body temperature at 37°C when it is very hot by looking at a comic book strip.

6. Ask the students to sit in a circle on the floor, on cushions if you have them, or to bring their chairs closer to you.

7. Tell the story (Alto's warm summer) by referring to the appropriate vignettes.

8. Have the students answer the question in vignette n°10. Begin a brainstorming session to collect answers and write them on flip chart paper.

9. Once the story is told, provide some illustrative examples of the mechanisms the body uses to keep cool. For example:
   - Use cold water or ice cubes to demonstrate how colder surfaces can help regulate body temperature when it is very hot. Ask them to observe how their skin feels (it should feel cooler).
   - First, ask some students to stand in front of the fan and ask them how they feel (it should feel somewhat cooler). Second, ask the same students to put a little water on their skin and to approach a fan. Explain that the fan represents the wind. Ask the students how they feel (it should feel even cooler).

10. Answer any questions.

### Duration

Class time: 30 minutes

### Material required

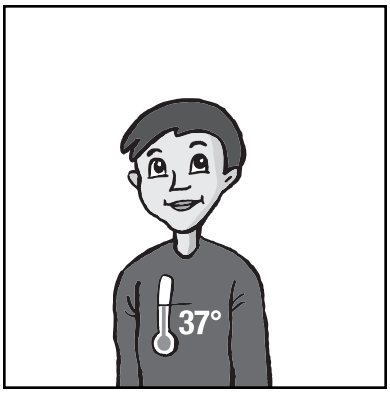
- Annex 3: Heat and the body
- Activity booklet
- Thermometer (ear – digital)
- Ethanol swabs
- Comic book strip
- Flip chart and markers
- Cold water
- Fan
- Ice cubes

### Answer key

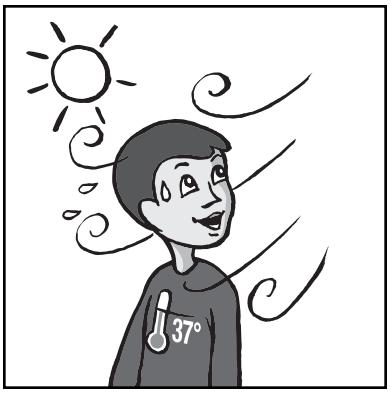
Question – vignette n°10: What do you think Alto should do to stay safe when it is very hot?

*Possible answers:*
- Alto could drink water or natural fruit juice mixed with water.
- He could wear a hat with a wide brim and loose-fitting, light-coloured clothes, made from breathable fabric.
- Splash his face with cool water.
- He could eat fruits and vegetables that have high water content (i.e. watermelon).
- Stay in an air conditioned place (home, mall, library, etc.).
- Play in the basement if he does not have an air conditioner.
- Take a cool bath or shower.
- Other answers as suggested by the students.

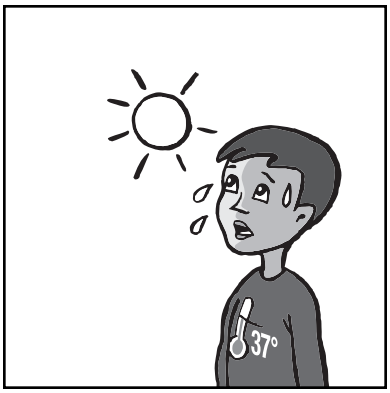
# Alto's warm summer



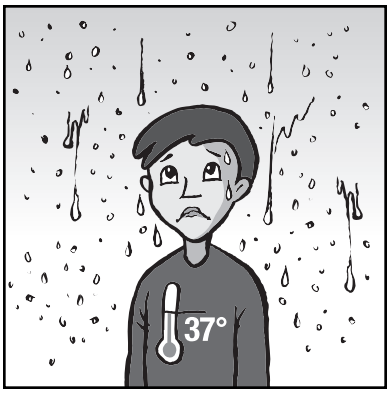

Alto's body produces its own heat. His body temperature is at approximately 37°C — just like everybody.



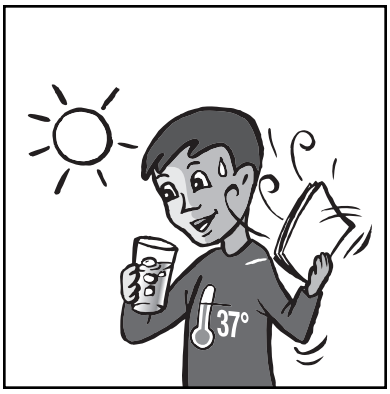

Wind will also help bring Alto's body temperature down. When it is windy, sweat evaporates faster, which increases comfort and cools his body down.




To remain at 37°C on hot summer days, Alto's body has to cool down. Naturally, his body will cool itself down by sweating.

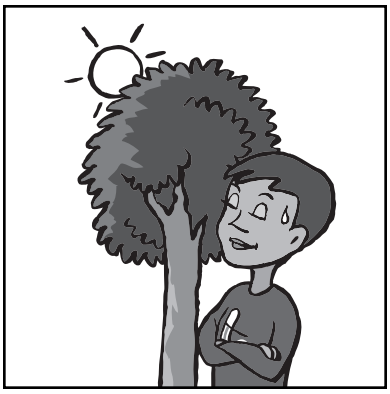



However, humidity slows down the evaporating process of the sweat and reduces the ability of the body to cool itself.




To further help his body cool down, Alto can lose heat when he comes into contact with colder surfaces such as cold water, cooler air or ice cubes.


It is important that Alto is aware of the weather. He should check the local weather conditions before going outside and pay attention to how he feels when it is very hot.



To help reduce his exposure to heat, Alto decides to stay in the shade. The shade will give his body a chance to cool off from the sun.

It is also important to prevent discomfort caused by heat. He should tell his parents or teacher if he feels very thirsty, dizzy, sick to his stomach or if he has a headache. What do you think Alto should do to stay safe when it is very hot?

# Being prepared for the heat

30 min.

### Objective of the activity
The objective of the activity is to have the students name various ways to prevent heat-related illnesses by introducing them to preparedness concepts that can be put in place in case of an extreme heat event.

### Task description
In small groups, have the students solve a crossword puzzle.

### Method suggested
1. Tell the students that they will learn about things to help them prepare for hot summer days so that they can enjoy the weather safely.

2. Group the students in teams of 3 or 4.

3. Ask the students to turn to Activity 12 their booklets.

4. Read the instructions with the students and review the list of suggested words with them. Ensure that the students understand the meaning and definition of each word.

5. Ask the students to work together to complete the crossword puzzle in their groups.

6. Once the activity is completed, review the answers as a large group. Emphasize the role they can play for themselves, friends and family members in order to prepare for extreme heat events.

7. Answer any questions.

### Duration
Class time: 30 minutes

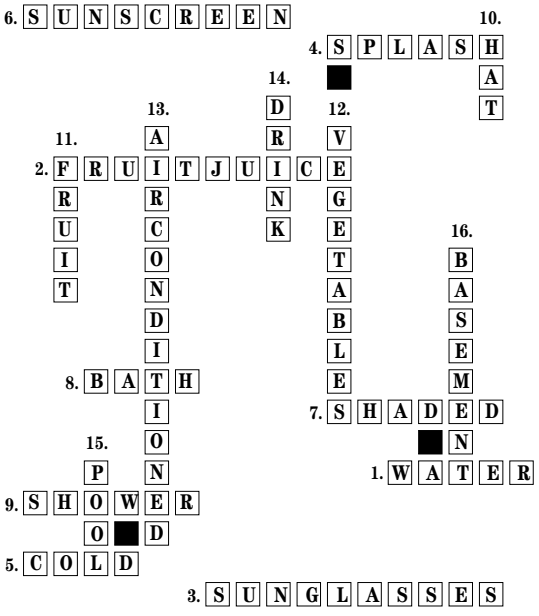
### Material required
- Activity booklet
- Annex 4: Being prepared for the heat

### Answer key
**Horizontally**

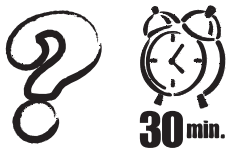
a) Drink plenty of (1) **WATER** and natural (2) **FRUIT JUICE**.
b) (3) **SUNGLASSES** are very useful to protect your eyes from the sun.
c) (4) **SPLASH** your face with (5) **COLD** water if you feel hot.
d) When you play outdoors, make sure you wear (6) **SUNSCREEN**.
e) Locate a (7) **SHADED** place where you can cool off.
f) Take a cool (8) **BATH** or (9) **SHOWER** when you get home until you feel refreshed.

**Vertically**

1. Wear a (10) **HAT** with wide brim and loose-fitting, light-coloured clothes, made from breathable fabric.
2. Eat (11) **FRUITS** and (12) **VEGETABLES** that have high water content.
3. Move your activities to an (13) **AIR CONDITIONED** place if it is too hot outside.
4. (14) **DRINK** before and after every physical activity.
5. Go to the (15) **POOL** during the day and refresh yourself by swimming.
6. If you don't have air conditioning in your house, play in the (16) **BASEMENT** for a while (if you have one).



# Being prepared for the heat – preparing an extreme heat kit




### Objective of the activity

The objective of the activity is to have the students prepare an extreme heat kit based on a fun outdoor summer activity.

### Task description

There are four themes to choose from: going to the beach on a hot day, playing soccer on a hot day, going to school on a hot day and going to the park on a hot day. Students will complete the activity both at home with their families, and in the classroom with their classmates. The students are invited to be creative and colourful.

### Method suggested

1. Tell the students that they will be preparing an extreme heat kit with their families.

2. Review answers of the previous Activity 12 before giving the instructions for this activity (crossword puzzle) and tell the students that the answers to the crossword are key elements for this activity.

3. Explain to the students that they will be working on a theme.

4. Assign one of the four themes to each student.

5. Ask the students to turn to Activity 13 in their booklets and read the instructions with them.

6. Tell the students that they will be presenting their answers to their classmates.

7. Answer any questions.

### Review of the activity

1. Team up the students who worked on the same topic into groups of four (4) students.

2. Ask the students to share their answers with their teammates.

3. Allow approximately 10 minutes to do so.

4. Ask the groups to present their answers and projects to the class.

5. Review the answers based on the content presented in Annex 4.

6. Answer any questions.

### Duration

- Home time: 30 minutes (depends on the student's involvement in the project)
- Class time: 30 minutes

### Material required

Activity booklet
Annex 4: Being prepared for the heat
Picture of the themes (4)
- Going to the beach on a hot day
- Playing soccer on a hot day
- Going to school on a hot day
- Going to the park on a hot day

### Answer key

Answers will vary – refer to Annex 4

# What to do in case of an extreme heat or cold wave


## Task description

Through a group discussion, students identify safety rules to follow during an extreme heat or cold wave.

## Method suggested

1. Ask students to define, in their own words, the concepts of a heat wave and a cold wave. Ask them the following questions:
   - What is an extreme heat wave?
   - What is an extreme cold wave?
   - What elements indicate that is a heat wave or a cold wave?
   - What are the characteristics of a heat wave and a cold wave?
   - Have you experienced a heat wave or a cold wave?
     - Did you stay indoors or outdoors?
     - What did you observe during the event?
     - Did you take particular action?
     - What are the dangers of heat or cold waves?
     - What are the safety rules that should be followed during a heat wave or a cold wave?

2. Read the instructions on sheet 14 with students. Ask them to fill out the sheet individually, by choosing the appropriate behaviours to adopt during a heat wave or a cold wave.

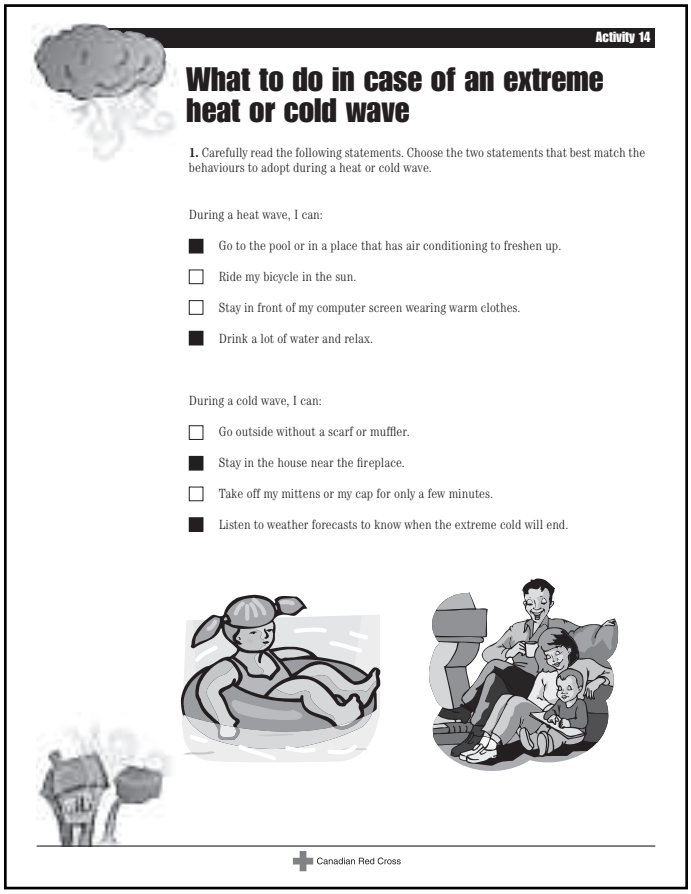
3. Once the sheets are filled out, review them as a group. To check their answers, ask them to name the appropriate behaviours to adopt and to justify their choices. Emphasize the point that heat or cold waves could be more frequent in the future, given the effects of climate change.

4. Answer any questions.

## Material required

- Sheet 14 of the activity booklet
- See *Natural Disasters and Climate Change* in *For more information* section of this facilitator's guide

## Answer key



Activity 14

**What to do in case of an extreme heat or cold wave**

**1.** Carefully read the following statements. Choose the two statements that best match the behaviours to adopt during a heat or cold wave.

During a heat wave, I can:

- [x] Go to the pool or in a place that has air conditioning to freshen up.
- [ ] Ride my bicycle in the sun.
- [ ] Stay in front of my computer screen wearing warm clothes.
- [x] Drink a lot of water and relax.

During a cold wave, I can:

- [ ] Go outside without a scarf or muffler.
- [x] Stay in the house near the fireplace.
- [ ] Take off my mittens or my cap for only a few minutes.
- [x] Listen to weather forecasts to know when the extreme cold will end.

Canadian Red Cross

# What should I do in case of an emergency?


### Task description

After reading the statements provided, students identify the attitudes to adopt during an emergency.

### Method suggested

1. Ask students to describe how they could feel during a lightning storm or a snowstorm. Write their answers on the board.

2. Read the instructions on sheet 15 with them. Explain the meaning of the words if necessary. Ask them to fill in the blanks on the sheet individually.

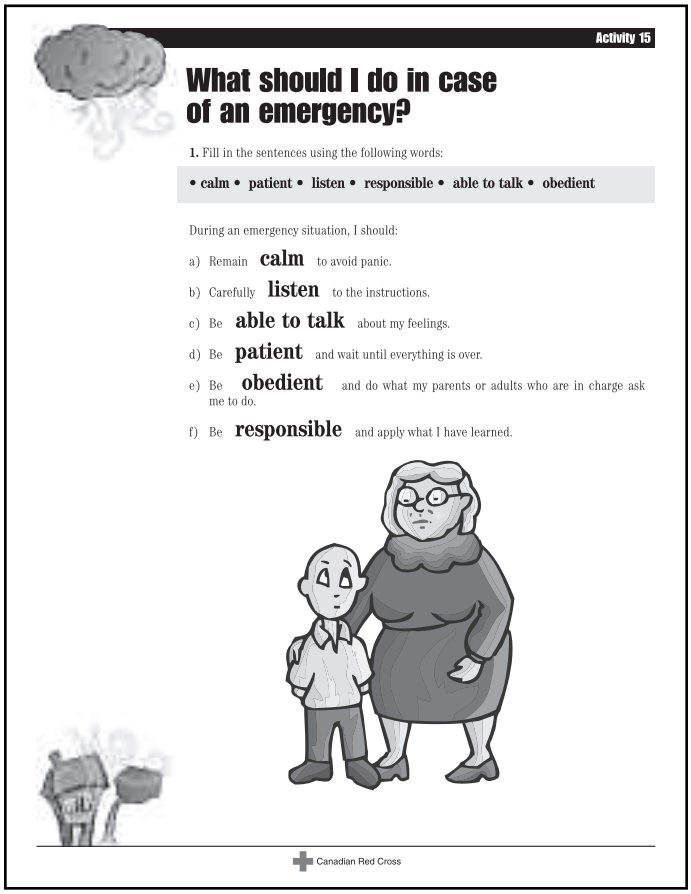
3. Once the sheets are filled in, review them as a group. To check answers, ask them to read the sentences out loud. Ask them if they have ever adopted these attitudes in the past.

4. Answer any questions.

### Material required

- Sheet 15 of the activity booklet

### Answer key



Activity 15

**What should I do in case of an emergency?**

**1.** Fill in the sentences using the following words:

**• calm • patient • listen • responsible • able to talk • obedient**

During an emergency situation, I should:

a) Remain **calm** to avoid panic.

b) Carefully **listen** to the instructions.

c) Be **able to talk** about my feelings.

d) Be **patient** and wait until everything is over.

e) Be **obedient** and do what my parents or adults who are in charge ask me to do.

f) Be **responsible** and apply what I have learned.

Canadian Red Cross

# What would be useful in case of a prolonged power failure?


## Task description

Using objects brought into the classroom by the teacher, students determine which ones could be useful during a power failure.

## Method suggested

1. Show mini-poster 3, depicting a power failure. Ask the following questions :
   - What is happening outside the house?
   - What is happening inside the house?
   - What are the people doing inside the house?
   - What usual activities are changed when there is a power failure?
   - What can be done to live in your home during a power failure?

2. Bring various objects into the classroom: a manual can opener, a flashlight, a videotape, a book, etc. Place these objects on a table, then ask them to identify and describe them. To elaborate on their description, ask them:
   - Do you have any of these objects at home?
   - What are these objects used for?
   - Which ones could be useful during a power failure and why?
   - Which ones would be useless and why?
   - Are there other objects that could be useful during a power failure?
   - Other.

3. Read the instructions on sheet 16 as a group. Ask them to fill out the sheet individually and to circle with a green pen the objects that could be useful during a power failure.

4. Once the sheets are filled out, review them as a group. To check their answers, ask them to name the objects circled in green. Ask them to circle in red the objects that should be used only with an adult.

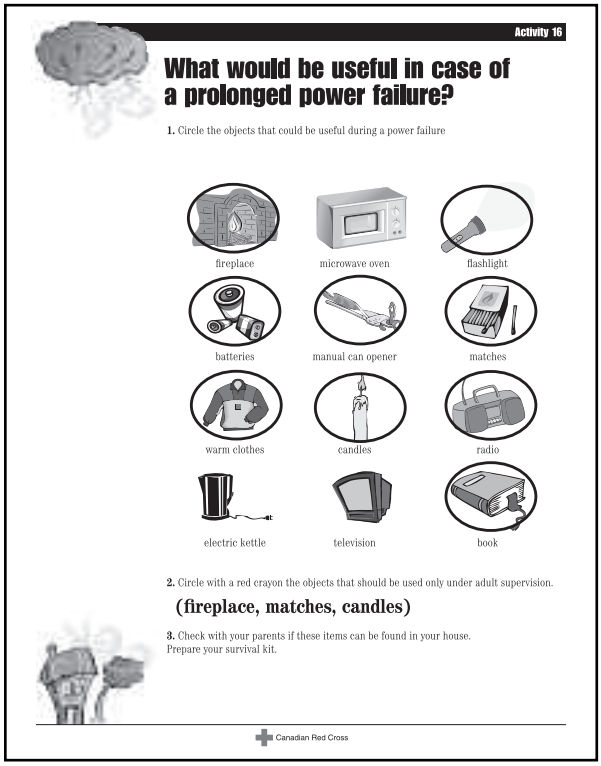
5. Ask students to check if all these essential objects are available at home and easy to reach. Encourage them to prepare their survival kit with their parents' help so that the family will be ready in case of a prolonged power failure.

6. Answer any questions.

## Material required

- Mini-poster 3 – Power Failure (www.redcross.ca/expecttheunexpected)
- Sheet 16 of the activity booklet
- The Canadian Red Cross program *Facing Fear* (www.redcross.ca/facingfear)

## Answer key


Activity 16

What would be useful in case of a prolonged power failure?

1. Circle the objects that could be useful during a power failure

fireplace, microwave oven, flashlight, batteries, manual can opener, matches, warm clothes, candles, radio, electric kettle, television, book

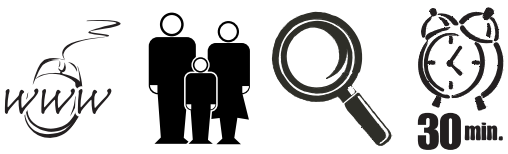
2. Circle with a red crayon the objects that should be used only under adult supervision.

**(fireplace, matches, candles)**

3. Check with your parents if these items can be found in your house. Prepare your survival kit.

Canadian Red Cross

# Where to call for help




## Task description

With the help of their parents, students prepare a list of emergency telephone numbers.

## Method suggested

1. Ask students if they have ever had to make an emergency call. Ask them if they would know where to call if there was:
   - A fire;
   - A sick person;
   - A car accident;
   - Someone who was poisoned;
   - Other.

2. Emphasize that specialists can help them in case of an emergency. It is simply a matter of having their telephone number on hand and calling them for help.

3. Ask them to name the specialists whose telephone numbers are important to know in case of an emergency. Write down the answers on the board. Analyze the answers with them and circle the ones that would be most important.

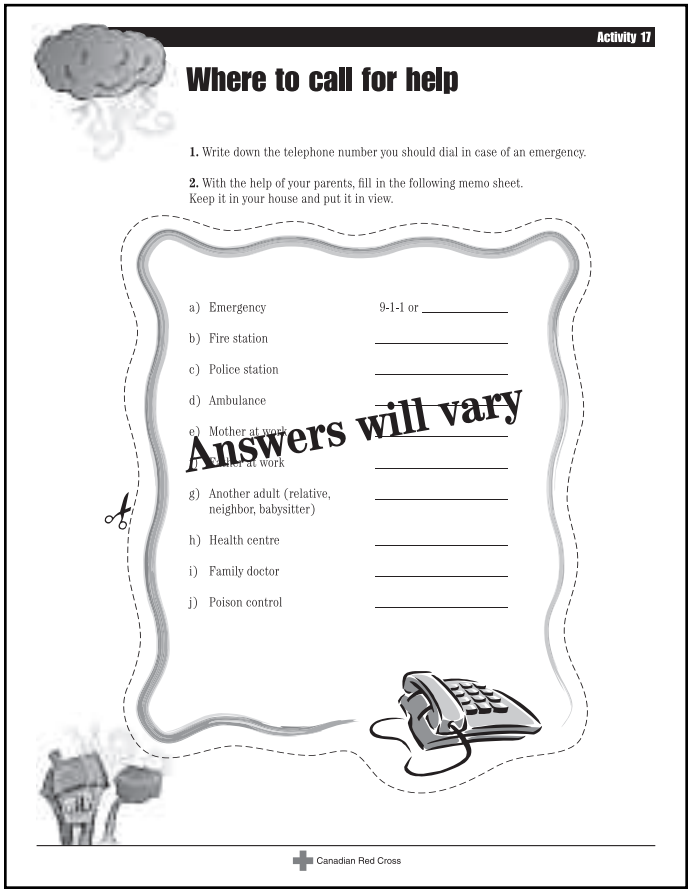
4. Suggest that they prepare their own list of emergency telephone numbers. Read sheet 17 with them. Ask them to fill it out at home with their parents. Suggest that they decorate the telephone number sheet, cut it out and post it close to the telephone at home.

5. Answer any questions.

## Material required

- Sheet 17 of the activity booklet
- The Canadian Red Cross program *Facing Fear*: www.redcross.ca/facingfear

## Answer key



# Where can a fire start?


### Task description

On a house plan, students locate the potential places where a fire could start.

### Method suggested

1. Ask students to name the potential places where a fire could start in a house. Write down their answers on the board. By grouping these answers, make them aware that there can be many fire hazards within one room.

2. Show mini-poster 4, depicting a house plan, to the group. Ask the following questions :
   - What does the illustration represent?
   - Can you identify all the rooms in the house? Is it like your house?
   - How is this house like yours and how is it different?

3. Read the instructions on sheet 18 with them. Ask them to fill out the sheet individually by marking with a red dot the places where a fire could start in the house.

4. Once the sheets are filled out, review the answers as a group. Show mini-poster 4 again and ask them to identify the points located on the house plan and to justify their answers. There should be a dot in the following rooms: bathroom (washer and dryer), bedroom (bed, electric radiator), hallway (electric radiator), kitchen (stove and refrigerator), living room (lamp, fireplace, and armchairs), garage (gasoline, water heater).

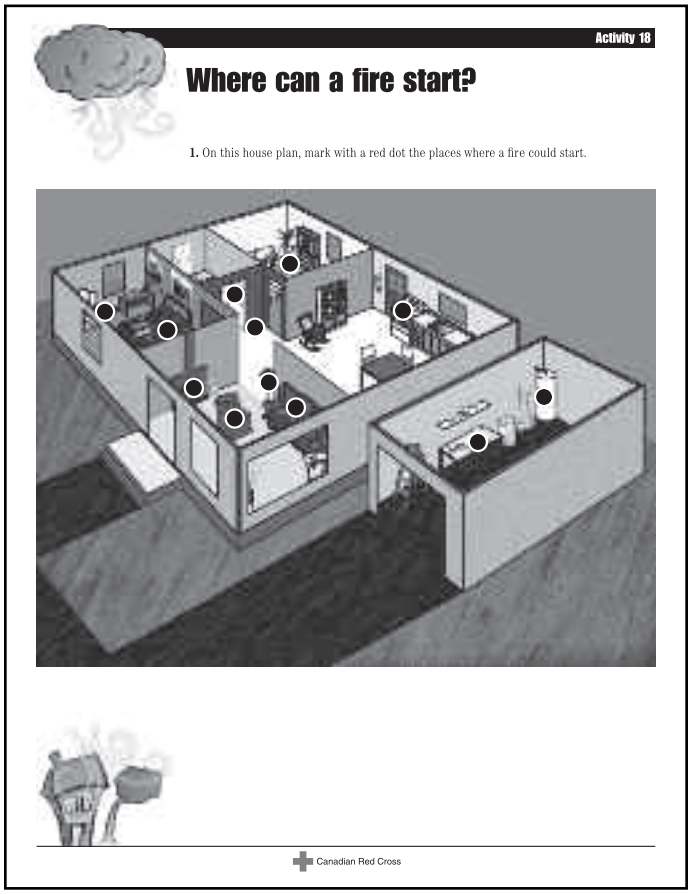
5. Ask them to name objects they should have in their home to prevent a fire or put out a small fire (smoke detector and fire extinguisher).

6. Answer any questions.

### Material required

- Mini-poster 4 – House Plan (www.redcross.ca/expecttheunexpected)
- Sheet 18 of the activity booklet

### Answer key



# How to exit your home


## Task description

With the help of their parents, students prepare an evacuation plan for their home.

## Method suggested

1. Show mini-poster 4 again, depicting a house plan to the group. Ask students to identify exits that should be used to leave the house in case of a fire, as well as escape route(s) to leave safely if the fire starts in the bedroom, living room, kitchen, etc. Have them determine which escape route would be the shortest, the easiest and the most difficult.

2. Ask if they would know what to do if a fire broke out in their home. Do they know which exit to use to leave their home in case of a fire? Do they know which routes to take to get out of their home safely from different rooms? Do they know where to meet their family outside the home after escaping from a fire?

3. Read the instructions on sheet 19 as a group. Suggest that they fill out the sheet at home with their parents. The parents could draw a plan of the house and help determine at least two evacuation routes in case of a fire, depending on whether their child is in the bedroom, kitchen, living room or bathroom.

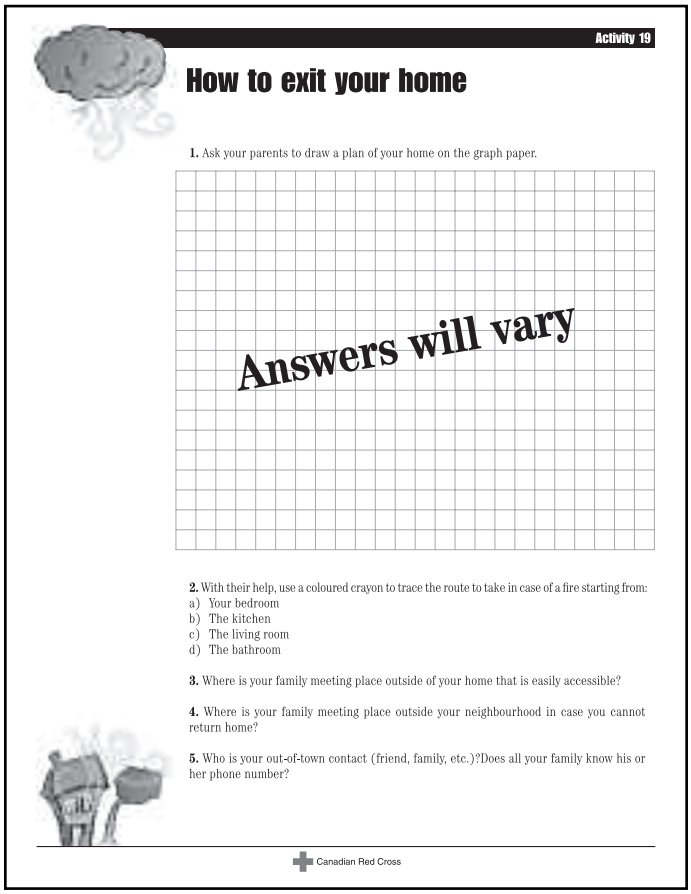
4. Ask them to return their sheets filled out to review them together in class. Using Annex 5, remind them of the safety rules and what to do in case of a fire. Discuss the two meeting places and the telephone number the entire family must know.

5. Answer any questions.

## Material required

- Mini-poster 4 – House Plan (www.redcross.ca/expecttheunexpected)
- Sheet 19 of the activity booklet
- Annex 5 – Reminder

## Answer key



# Where is the smoke detector located?


## Task description

With their parents, students become familiar with the smoke detector in the house.

## Method suggested

1. Bring a smoke detector in the classroom and show it to the group. Ask students if they know that particular object and what it is used for. Ask them how it works: smoke sets off an alarm that warns you in case of a fire. If possible, let them hear the alarm. Let them see the small red light which lights up when the smoke detector is in good working condition.

2. Ask if they have ever seen that object in their house. Read the instructions on sheet 20 with them. Suggest that they fill out the sheet with their parents.

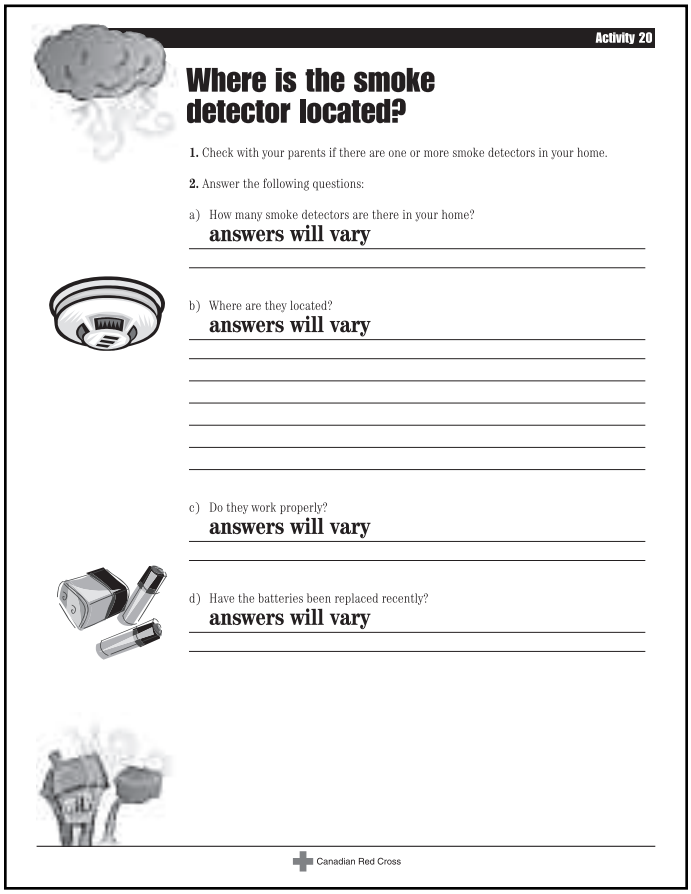
3. Once the sheets are filled out, ask students to bring them back to class to check their answers. Ask them how many smoke detectors there are in their house and their location. Remind them how important this object is for the safety of everyone at home. Remind them that it is compulsory to have one in the house. Also remind them that the batteries must be replaced twice a year. So as not to forget, mention that they can change the batteries in the fall and in the spring when they set the time changes. Tell them that it is important to check the working condition every month. Consult page 39 for more information.

4. Answer any questions.

## Material required

- Smoke detector
- Sheet 20 of the activity booklet
- Annex 5 at the end of this facilitator's guide

## Answer key



Activity 20

**Where is the smoke detector located?**

**1.** Check with your parents if there are one or more smoke detectors in your home.

**2.** Answer the following questions:

a) How many smoke detectors are there in your home?
**answers will vary**

b) Where are they located?
**answers will vary**

c) Do they work properly?
**answers will vary**

d) Have the batteries been replaced recently?
**answers will vary**

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# How to exit the school?


## Task description

Using a plan of the school, students learn the instructions to follow and the routes to take to exit the school in case of an emergency.

## Method suggested

1. Ask students to state under what circumstances they should leave their classroom and the school quickly. Put their answers on the board (natural disasters or other situations such as hazardous materials release, floods, bomb scare, violent act, etc.)

2. Pass out a photocopy of the school plan to each student. Ask them to identify the exits which could be used in case of an emergency: main entrance, school yard door, side door, etc. Using different starting points, ask them to determine various routes to follow to exit the school. Ask them to trace with a coloured pencil three different routes to take using the classroom, gymnasium and library as starting points.

3. Read the instructions on sheet 21 with them. Ask them to fill out the sheet individually or in teams. Have them write the instructions to follow in case of an emergency, as well as the meeting place for the class outside the school and where their parents would pick them up if they had to leave the school property.

4. Once the sheets are filled out, review them as a group to check their answers. Using Annex 5, remind the students of the safety rules and what to do in case of a fire.

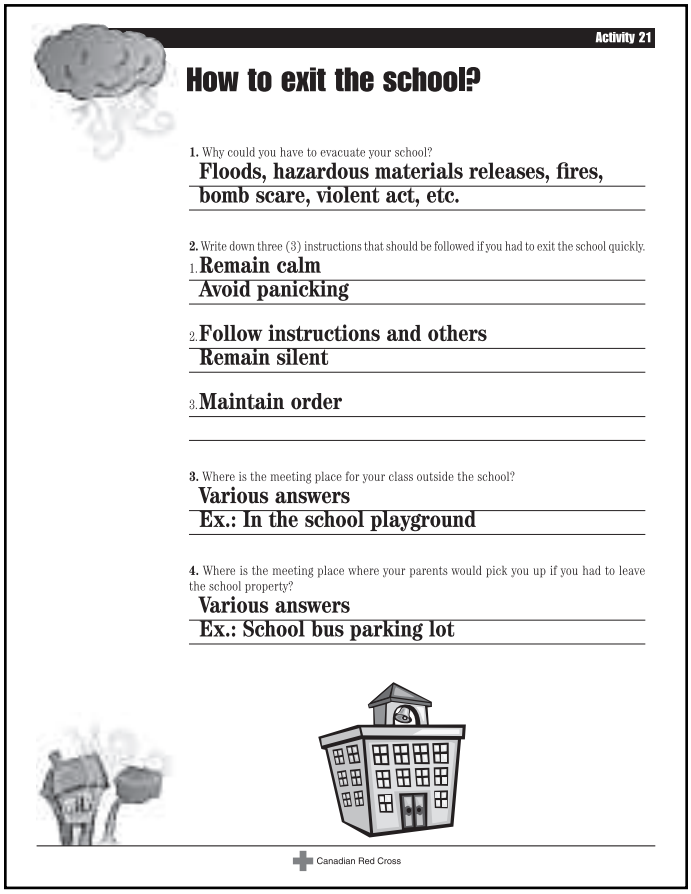
5. Practice a school evacuation and a meeting at the designated place. Comment on the activity and give feedback.

6. Answer any questions.

## Material required

- Sheet 21 of the activity booklet
- A photocopy of the school plan for each student.
- Annex 5 – Reminder

## Answer key



Activity 21

How to exit the school?

1. Why could you have to evacuate your school?
Floods, hazardous materials releases, fires, bomb scare, violent act, etc.

2. Write down three (3) instructions that should be followed if you had to exit the school quickly.
1. Remain calm
Avoid panicking
2. Follow instructions and others
Remain silent
3. Maintain order

3. Where is the meeting place for your class outside the school?
Various answers
Ex.: In the school playground

4. Where is the meeting place where your parents would pick you up if you had to leave the school property?
Various answers
Ex.: School bus parking lot

Canadian Red Cross

# What emotions do I recognize?


### Task description

After reading a letter received in class, students distinguish different emotions felt after an emergency.

### Method suggested

1. Tell the group that you have received a letter from a former student who has moved to Newfoundland. Locate this province on a map. Read the letter out loud.

2. Ask students to summarize the content of this letter. Specify the meaning of the word “emotion” by comparing it with the words “mood”, “feelings” and “ way of being ”. Ask them to state the emotions that are revealed in the letter. Write them on the board and keep them for the following activity.

3. Read the instructions on sheet 22 with them. Ask them to fill out the sheet individually by using the secret code to thereby discover which emotions Alex has experienced.

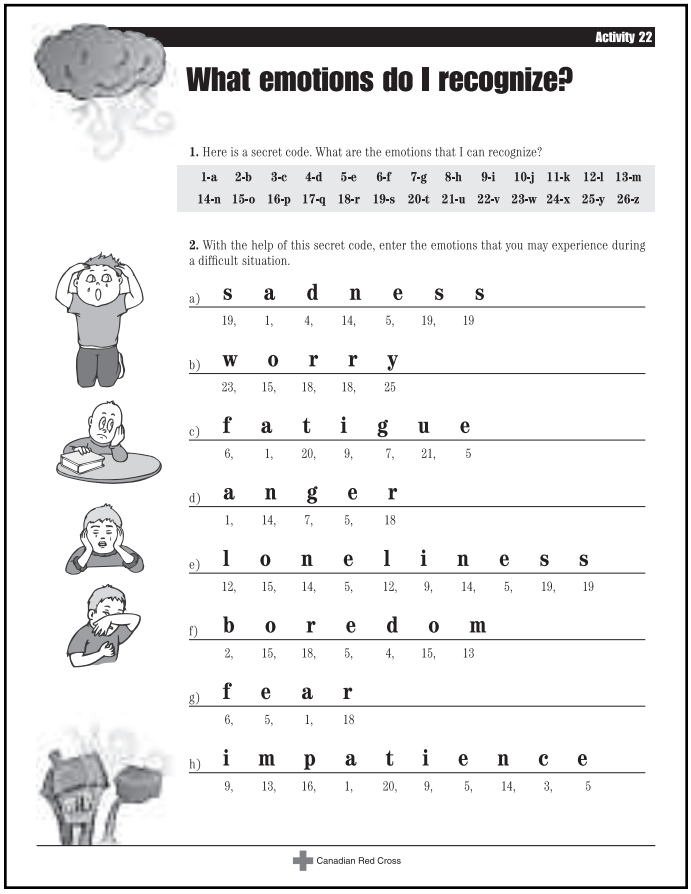
4. Once the sheets are filled out, review the subject as a group. Ask them to state the emotions they found. Tell them that it is normal to have these emotions after having gone through such an ordeal. Ask them if they have ever felt similar emotions before and if so, let them express what they had experienced.

5. Answer any questions.

### Material required

- Sheet 22 of the activity booklet
- Annex 6 – Letter from Alex

### Answer key



Activity 22

**What emotions do I recognize?**

**1.** Here is a secret code. What are the emotions that I can recognize?

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-a | 2-b | 3-c | 4-d | 5-e | 6-f | 7-g | 8-h | 9-i | 10-j | 11-k | 12-l | 13-m |
| 14-n | 15-o | 16-p | 17-q | 18-r | 19-s | 20-t | 21-u | 22-v | 23-w | 24-x | 25-y | 26-z |

**2.** With the help of this secret code, enter the emotions that you may experience during a difficult situation.

a) **s a d n e s s**
19, 1, 4, 14, 5, 19, 19

b) **w o r r y**
23, 15, 18, 18, 25

c) **f a t i g u e**
6, 1, 20, 9, 7, 21, 5

d) **a n g e r**
1, 14, 7, 5, 18

e) **l o n e l i n e s s**
12, 15, 14, 5, 12, 9, 14, 5, 19, 19

f) **b o r e d o m**
2, 15, 18, 5, 4, 15, 13

g) **f e a r**
6, 5, 1, 18

h) **i m p a t i e n c e**
9, 13, 16, 1, 20, 9, 5, 14, 3, 5

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# What are Alex's emotions?

30 min.

### Task description

After reading the letter received in class, students draw a happy or an unhappy emotion felt after going through a difficult situation.

### Method suggested

1. Tell the group that you have received a letter from a former student who has moved to Newfoundland. Have participants read the letter (Annex 6). Ask them to state the emotions that are revealed in the letter and write them on the board. As a group, combine emotions depending on whether they are happy or unhappy.

2. Read the instructions on sheet 23 with the group. Ask them to fill out the sheet individually by drawing a happy or an unhappy emotion.

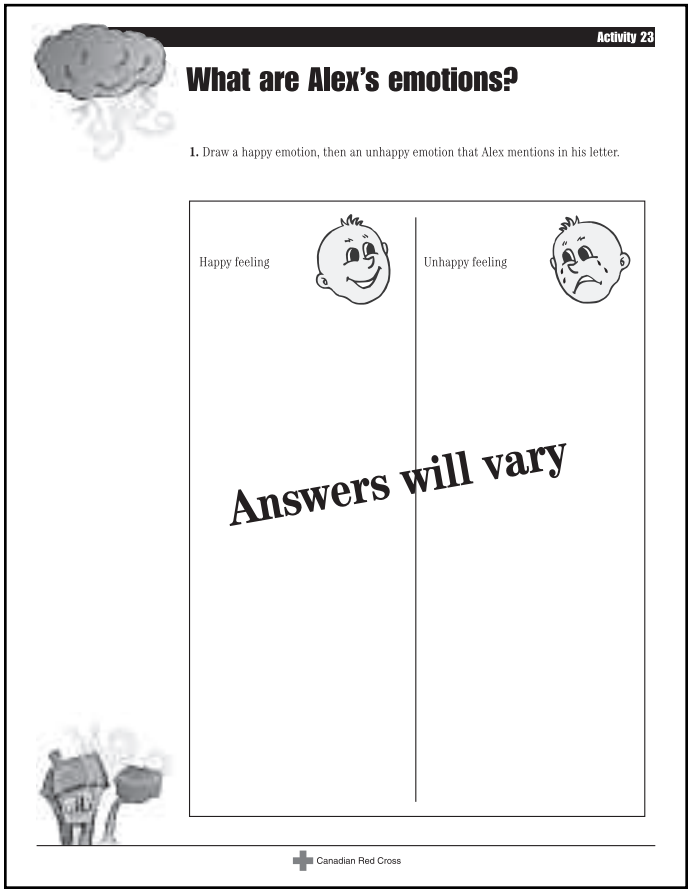
3.Once the sheets are completed, review them as a group. Allow a few minutes for them to show their drawing or post them on a bulletin board.

4. Answer any questions.

### Material required

- Sheet 23 of the activity booklet
- Annex 6 – Letter from Alex

### Answer key



# Do I remember?

30 min.

## Task description

Following a class discussion, students review certain elements of the preparedness program.

## Method suggested

1. Review the ideas covered during the various activities by asking students to state what they remember from the preparedness program. Stimulate the discussion by asking the following questions :

- What are the positive and negative aspects of a natural element?
- What are the safety rules related to the natural elements?
- What are the safety rules to follow during a lightning storm, snowstorm, a heat wave or a cold wave?
- What are the useful objects to have on hand during a power failure?
- What are the routes to follow to exit the classroom or the house in case of an emergency?
- Why is it essential to have a smoke detector at home?
- What are the emotions experienced after a disaster?

2. Read the instructions on sheet 24 as a group. Ask participants to fill in the blanks in the sentences, individually or in teams.

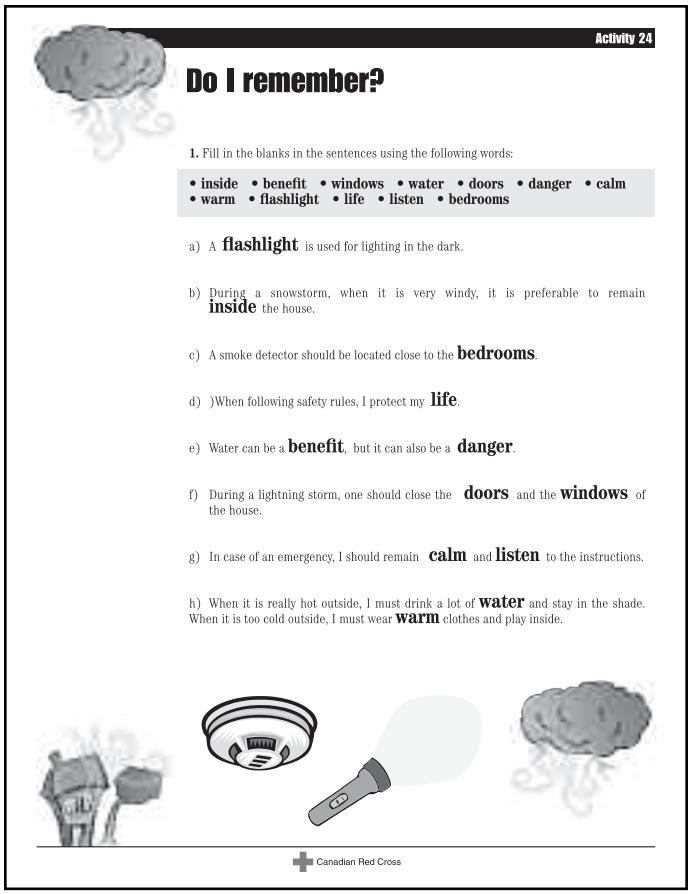
3. Once the sheets are filled out, review them as a group. Ask the students to read out loud the sentences that were filled in.

4. Answer any questions.

## Material required

- Sheet 24 of the activity booklet

## Answer key



Activity 24

Do I remember?

1. Fill in the blanks in the sentences using the following words:

• inside • benefit • windows • water • doors • danger • calm • warm • flashlight • life • listen • bedrooms

a) A **flashlight** is used for lighting in the dark.

b) During a snowstorm, when it is very windy, it is preferable to remain **inside** the house.

c) A smoke detector should be located close to the **bedrooms**.

d) )When following safety rules, I protect my **life**.

e) Water can be a **benefit**, but it can also be a **danger**.

f) During a lightning storm, one should close the **doors** and the **windows** of the house.

g) In case of an emergency, I should remain **calm** and **listen** to the instructions.

h) When it is really hot outside, I must drink a lot of **water** and stay in the shade. When it is too cold outside, I must wear **warm** clothes and play inside.

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# For more information

In the fourth part of the facilitator's guide, there is information on the main natural disasters that could occur in your province or in other parts of Canada, the measures to take to be well prepared for emergencies and the observable reactions students have in case of an emergency.

A natural disaster is a sudden event that threatens the life, health and living conditions of a community. They surpass the normal capacity of community institutions and individuals to deal with the situation. Therefore, an event or a fire becomes a disaster when:

- It involves an extreme phenomenon;
- The event occurs unexpectedly;
- The phenomenon affects a large number of people.

**Types of disasters**
Disasters can be caused by nature or by human activity.

A natural disaster is caused by natural elements such as wind, rain, extreme temperatures or seismic activity, which become catastrophic by causing deaths, injuries and material damage. There are two types of natural disasters:

- Weather or climate-related disasters: storm (freezing rain, rainstorm, hurricane and tornado), heat or cold wave, drought, flood.
- Geological disasters: earthquake, landslide and tsunami.

Disasters deriving from human activity are catastrophes whose source is not natural. There are many types, including:

- Biological disasters: epidemic, infestation.
- Technological disasters: fire, explosion, industrial accident or transportation accident (in the air, on earth or at sea), pollution, failure of civil engineering structures, etc.
- Conflicts: terrorism, civil war.

**Types of natural disasters**
There are three types of natural disasters:
- Weather-related disasters: storms (hurricanes, tornadoes, cyclones, snowstorms) heat or cold waves, droughts, etc.
- Topographical disasters: floods, avalanches, landslides, etc.
- Geophysical disasters : earthquakes, volcanic eruptions, tidal waves, etc.

**A few natural disasters**
Many natural disasters can lead to major damage when they occur close to residential areas. This section of the teaching guide provides a short list of these disasters.

**Lightning storms and lightning bolts**
Lightning storms consist of lightning flashes (light) and thunder (bang). Lightning can smash windows, start a fire, cause power failures or explosions if it comes into contact with fuel. It can be dangerous to humans by causing serious burns or electrocution. This natural phenomenon occurs mostly in the summer, late in the afternoon.

Vertical air currents that carry humidity, water and ice in the clouds create electrical charges. Clouds then develop positive and negative charges. When these charges are too high, there is an electrical discharge. Discharges occur either between clouds to produce heat lightning or on touching the ground to produce a lightning bolt that may strike the same place several times. Astonishingly, lightning can also occur during a snowstorm.

A lightning bolt produces a tremendous amount of energy. It can reach temperatures up to five times that at the surface of the sun. If it strikes a tree, the electrical current reaches the water in the wood and changes it into steam which shatters the tree. This discharge usually occurs at only one point in the lightning bolt.

During a storm, you first see the flash of lightning and then hear the thunder. This can be explained by the fact that light travels one million times faster than sound.

You can measure the distance of a storm by counting the number of seconds between the time you see the flash of lightning and the time you hear the thunder. You then divide the time by 3 and you get the distance of the storm in kilometres.

**Power failures**
Here are possible causes of power failures:

- Natural: Lightning bolts, freezing rain, frozen electrical wires, storms and trees that fall on power lines.
- Technical: Electrical power failure or breakdown.
- Human: Overloads, short-circuits, power cut-offs, person who brings an aluminum ladder or a metal antenna close to electrical wires, excavation work.

**What to do in case of a prolonged power failure?**
In case of a power failure, you should first determine how extensive it is (a few houses, one entire street, a neighbourhood) and notify your electricity company to help them locate the failure. With their computers, they usually can quickly find the failures in a network because of the sudden lowered electricity demand.

If the power failure lasts, you should:

1. Listen to the radio station to know more about the failure;
2. Lower the thermostat so as not to overload the network when the power comes back on;
3. Disconnect electrical appliances which were in operation before the power failure, except for the refrigerator and freezer;
4. Leave a few lights on to know when the power comes back on;
5. Avoid opening the refrigerator and freezer: food can be kept for 24 to 48 hours. In winter, some food can be kept outside or along the windows;
6. Close water valves and open water faucets when you leave your home;
7. Avoid using the elevator after the electricity has come back.

When the power comes back on, you must gradually reconnect your electrical appliances and turn on the heating progressively to avoid overloading the circuit and causing other failures.

**Changing your habits temporarily**
It is important to remember that people's habits completely change during a power failure. Everyday life changes altogether. It becomes more difficult to cook, heat the house, provide lighting and carry out activities.

**Heavy rains (or torrential rains)**
Clouds are a collection of very small water droplets. Carried by the wind, they stick together and form larger droplets. When their size is greater than 0.1 mm, they fall as rain. Heavy rains last for a long period of time, accumulate and fall at a rate of about 7.6 mm per hour. If they are heavy enough, they can cause localized or generalized floods.

**Earthquakes**
Earthquakes or seismic activity are sudden movements of the Earth's crust. The tremors usually occur suddenly and leave very little time to react. It is impossible to prevent or forecast earthquakes. A tremor that registers less than 3.5 on the Richter scale usually goes unnoticed. Tremors that have a magnitude of 5.5 to 6 can cause moderate damage to neighbouring buildings. When the earth trembles at a magnitude of 7 or more, it is considered a major earthquake that can cause large-scale damage.

**Floods**
In Canada, floods are natural disasters that cause the most material damage. Floods are the overflow of rivers and lakes caused by an excessive rise of the water level. This rise can be caused by heavy precipitation, sudden thawing of snow, ice jams or ice breakups.

**Snowstorms**
This natural phenomenon is characterized by abundant snowfall and strong winds. Visibility is thereby reduced and it becomes hard to walk or travel outside. Thus, it is better to stay at home. Schools are usually closed and traffic on the highways is limited. During a snowstorm, the air temperature is usually higher because snowfalls are more abundant when the temperature is slightly below 0°C.

Snowstorms are most common in December, January, February and March. It does not snow everywhere in the world. In some countries, the snow falls only at the top of high mountains. In other countries, there is never any snow. At the North Pole and the South Pole, the snow never melts.

**Freezing rain**
Freezing rain is caused by raindrops freezing upon impact on earth or on an object. It then forms a layer of ice. The thickness of the ice depends on the amount of time the freezing rain lasts and on its intensity. When ice accumulates on electrical wires it can result in severe damage and large-scale power failures. In addition to damaging trees and houses, freezing rain also makes it dangerous to travel.

**Hail**
Hail is precipitation consisting of ice particles that are formed during a storm and can impact the ground at speeds of 130 km/hour. Hailstones can sometimes measure more than 10 centimetres that is, the size of a grapefruit. Hail can cause severe damage to crops, houses and vehicles. It can also wound people and animals.

**Tornadoes**
Tornadoes are whirlwinds shaped like a funnel that points towards the ground. They can destroy everything in their path. This type of phenomenon can uproot trees, turn cars over and tear the roofs off houses.

**Forest fires**
Most fires that destroy our forests are caused by human negligence, campfires that are not properly put out, or a cigarette tossed by a hiker, for example. However, fires that occur naturally, such as those caused by lightning bolts, are more devastating and burn over larger areas. Forest fires progress very rapidly, especially when it is windy and the weather is dry. In Canada, there are about 9,000 forest fires every year.

**Landslides**
Landslides are movements of clay type soil saturated with water. These ground movements occur very rapidly and leave people very little time to react. Risks associated with landslides come from the impact of rapidly moving debris or from the ground caving in.

**Volcanic eruptions**
Volcanoes can be understood as the Earth's chimneys that allow magma to be released. You can easily conclude that there are no volcanoes in Canada but in fact, there are many dormant volcanoes in Western Canada. Therefore, the possibility of a volcanic eruption still exists.

**Tsunamis**
Tsunamis or tidal waves are huge ocean waves caused by an undersea disturbance such as underwater volcanoes, earthquakes and landslides. These waves can reach up to 30 metres high and cause major damage to houses along the shores.

**Hurricanes**
Hurricanes are huge tropical storms that can cause great damage. They are also called "tropical cyclones" or "typhoons". They originate in the ocean, usually near the equator. Violent winds and heavy rains accompany them.

**Extreme heat or cold waves**
Climate change causes extreme meteorological phenomena such as extreme heat and cold waves. These events flow from the development of a mass of hot or cold air that provokes a sharp increase or decrease in temperatures. Heat or cold waves can be devastating for people's health, especially those who are vulnerable, such as young children or older individuals.

**Fire**

It is important to be aware that a fire can start anywhere in the house. However, bedrooms, kitchens or living rooms are more subject to fire. It can also start in the basement.

The causes of fires are varied. They can be caused by human error or mechanical failures. Most fires start in the kitchen, usually when cooking oil is overheated. Other causes are: heating devices, negligent smokers, children playing with matches, fires lit voluntarily, electrical fires and clothes dryer fires.

Firefighters are constantly carrying out prevention work and suggest being careful to avoid fires. Over the last few years, it has been highly recommended and in some cases compulsory to have smoke detectors in each home. This prevention device is essential to warn the occupants that there is smoke in the house.

To make sure the smoke detector is in good working condition:

- Check it each month to make sure it works properly;
- Replace the batteries (with new ones) twice a year, at fall and spring time changes;
- Be more careful when the smoke detector is connected to the home power supply, especially when there is a power failure;
- Install the smoke detector close to the bedrooms;
- Install one smoke detector on each floor.

It is essential to know how to react in case of a fire or simply when you must evacuate your home. You must:

- Remain calm;
- Avoid panicking;
- Yell out to alert your neighbours;
- Leave your home quickly;
- Not get dressed or take your toys along;
- Not try to put out the fire;
- Move on hands and knees to escape if there is smoke; but avoid crawling as some toxic gases that are heavier than air linger close to the ground;
- Avoid touching any doors;
- Close the doors to avoid any drafts;
- Call emergency services;
- Get help from your neighbours;
- Go to the designated meeting place;
- Do not go back into the house.

Remind children they must not hide (under the bed or the covers, in the closet, in the clothes dryer, in the bathtub) when they detect a fire at home, because they will not be safe there. The best reaction is to alert other people in the home, then go outside to be visible, breathe fresh air and yell for help.

## Hazardous materials releases

Hazardous materials releases are incidents that involve an accidental spill or leak of hazardous chemical products that are dangerous to humans and the environment.

These hazardous products can contaminate the soil or water or can spread in the air. If they become airborne, they may or may not be visible as a toxic cloud. Sometimes, you can smell or taste the hazardous product. Inhaling toxic fumes or drinking contaminated water can be hazardous to your health. The risk depends on the toxicity of the substance in question, its concentration and how long you're exposed to it.

In case of a hazardous materials release, the authorities may ask that you remain inside your home and use Shelter-in-Place techniques:

- Go inside your home and remain there;
- Close all windows and doors;
- Turn off all ventilation systems;
- Listen to the radio or watch television to be aware of the authorities' instructions.

# Natural disasters and climate change

Extreme meteorological events such as violent rainstorms, tornadoes and hurricanes are all part of nature. However, over the past 30 years, these phenomena have become more frequent and, more importantly, carry greater intensity. They have tragic effects on all peoples of the world.

**Why are natural disasters more frequent and causing more damage to materials and humans?**
In fact, it is thought that the increase in natural disasters is caused by a phenomenon that has been observed over the years: the increased temperature of the Earth's surface. Human activity is considered to be partly responsible for this global warming. Through the emission of "greenhouse gases", human activity enhances the natural greenhouse effect on the planet.

**What is the natural greenhouse effect?**
The Earth is like a huge greenhouse. The planet is surrounded by a layer of air called the atmosphere, which is made up of a mixture of gases. These gases, by trapping the sun's heat, help keep the Earth warm, which is why we call them "greenhouse gases". They also act as a thermostat by protecting the Earth from wide variations in temperature. Without these gases, all of the sun's heat would escape in space and life would not be possible.

**What are greenhouse gases?**
Nitrogen, oxygen, water vapour, carbon dioxide ($CO_2$) and methane ($CH_4$) are natural greenhouse gases that can be found in the atmosphere. In normal amounts, they trap enough heat to warm the Earth just as it needs to be. But when gases are present in large quantities, they trap more heat and reflect it back on the Earth. Then the temperature increases and creates global warming.

**How do human activities increase greenhouse gases?**
It is mainly through burning what are called "fossil fuels" that human beings contribute to increasing the concentration of greenhouse gases in the atmosphere. Oil, gas and coal are examples of fossil fuels. They are used to drive our cars, heat our homes and operate our mills and plants. Over the past 150 years, greenhouse gas emissions caused by human activities have accumulated in the atmosphere. In Canada, they have increased by 26% between 1990 and 2007.

**What will be the consequences of global warming on natural disasters around the world?**
Forecasts estimate that the Earth's temperature will increase from 1.8 to 4.0 degrees Celsius over this century. Scientists believe that this increase could reach up to 8 degrees, especially in the northernmost parts of Canada and Alaska.

Warmer temperatures will cause many climate changes. For example, the melting of the Arctic ice cap will increase sea levels. All over the world, floods and erosion will threaten people who live near coastal areas. Some islands may even be wiped out. The increased evaporation of ocean waters will cause a greater number of hurricanes, cyclones and tropical storms.

The interior of continents or countries will experience more frequent droughts and the danger of forest fires will increase because of drier climates. Evaporation and changes in precipitation will mean that water sources will no longer meet the needs of the population in some places. Some regions of the globe will be exposed to more food shortages and famines. Finally, tropical diseases such as malaria will increasingly threaten more vulnerable populations.

**What will be the consequences of global warming on natural disasters in Canada?**
Because Canada is a country that is located at high latitude, temperature increases will be larger. Increases in temperature will vary in the country overall and warming will be greater in some regions, namely in the North and in the Central and Southern Prairies.

Warmer temperatures will also cause a significant rise in extreme meteorological phenomena such as hurricanes, tornadoes, torrential rains resulting in floods, blizzards, snowstorms, hail and freezing rain.

Higher temperatures will augment water evaporation and, in Southern Ontario, some communities could face water shortages. The Atlantic provinces could be affected by more hurricanes and flooding from rising sea levels. Droughts will be more frequent in the Prairies. Because of dry and warm temperatures, there will be more risks of forest fires. The danger of floods will be more significant throughout the year as a result of more frequent, heavy rainfall.

In addition, there will be more frequent and intense heat waves; they could cause many deaths, especially among older people and young children.

*For more information on climate change in relation to natural disasters, please visit the Government of Canada Web site at www.ecoaction.gc.ca or the Red Cross / Red Crescent Climate Centre Web site at www.climatecentre.org.*

Nature's sudden mood swings can strike at any moment without

# To prepare for emergencies

warning. Prevention and preparation for such events can help us to better react and to limit the damage. The following steps are required to plan for the unexpected. Use them to encourage students to be prepared.

- Analyze and study the risk of disasters in your area and help them learn what to do should they occur.
- Teach them to prepare their homes for disasters.
- Teach them to prepare a survival kit, a first aid kit and a car emergency kit with their families.
- They should have enough food and water to last them and their families at least 72 hours in case of an emergency.
- They should make an action plan with their parents:
  - Make a list of all emergency and telephone numbers, and keep it close at hand;
  - Plan on two meeting places ahead of time in case an evacuation is necessary (one that is close to their house in case of a sudden emergency like a fire; another one outside their neighbourhood in case they cannot return home right away);
  - Make sure each family member knows the phone number of someone who lives out of town in case you get separated;
  - Arrange for other places where they could stay temporarily (with other family or friends for example);
  - Practice their evacuation plan at home and techniques to remain sheltered in their homes in case there are hazardous materials released.
- Teach them to recognize emergency exits and smoke detectors at home, in school and public places.
- Never use the elevator in case of an emergency.
- Take a Red Cross first aid course.

## After the disaster

Even after the disaster, there is still an emergency. You must:

- Give first aid to injured people;
- Be sure to have your survival kit with you;
- Listen to the local radio station in case you are asked to evacuate.

**If asked to evacuate, I am ready!**

If the authorities give orders to evacuate, do not insist on staying in the house, but instead leave immediately while taking care to:

- Bring along an emergency kit and a first aid kit;
- Wear proper clothing;
- Make sure your pets are safe;
- Leave a note on the table indicating the time of departure and the destination;
- Lock all the doors while leaving.

**Cooperate**

- Listen carefully to the instructions given by the authorities and rescuers;
- Always follow the route which has been laid out for you;
- Go to the meeting place designated by the authorities;
- Observe what is around you and notify the authorities and people about anything that may seem abnormal or dangerous.

**Returning home**

When you return home, you must:

- Check the condition of the house to evaluate the damage;
- Use a flashlight to inspect the site: it may be hazardous to turn on the lights;
- Check the condition of your electrical appliances;
- Get in touch with specialists for any electrical, heating or gas problems;
- Drink bottled water until the authorities confirm that the tap water is safe to drink;
- Check the food in your refrigerator and freezer, throw out all spoiled food or other;
- Use the phone only for emergencies: the work teams may still need the telephone circuits for awhile.

## Children and emergencies

Research shows that disasters have a long-term impact on children. Children are especially vulnerable. After an emergency, their reactions can be different according to their age. To help youth cope better, try to make them feel confident and secure and help them understand and perceive what is happening. We now know that children who participated in risk awareness programs are more equipped to face disasters than children who did not participate in such programs.

**Their reactions are normal**

After an emergency, children may have certain reactions: they may cry, worry, be confused, withdraw or be aggressive. This expression of their anguish is only normal and temporary. It is better not to punish them because their reaction may persist. You should try rather to understand them and help them to get rid of their fears.

**You can help them**

After an emergency, you can help the children get back to normal life by explaining to them what happened, taking their fears seriously, listening to what they have to say, being patient with them and encouraging them to express their feelings.

## Other Sources of Information

To complement the information or for more in-depth facts, here is a list of resources to refer to:

- www.redcross.ca
- www.redcross.ca/facingfear
- www.redcross.ca/bugout
- www.climatecentre.org
- www.ifrc.org/what/disasters
- www.iclr.org/index.htm
- www.ecoaction.gc.ca
- www.publicsafety.gc.ca/res/em/nh/index-eng.aspx
- www.nrcan.gc.ca/studelev/index-eng.php
- http://earthquakescanada.nrcan.gc.ca/index-eng.php
- http://ec.gc.ca/default.asp?lang=En&n=8B2F9F48-1
- www.msp.gouv.qc.ca/jeunesse/index_en.html
- www.sopfeu.qc.ca/en/zone_interactive/jeunesse.php
- http://feu.scf.rncan.gc.ca
- http://climatechangenorth.ca/section-BG/B2_Intermediate_Outline.html
- www.fema.gov/kids/index.htm (English only)
- http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/heat-chaleur-eng.php
- http://www.hc-sc.gc.ca/ewh-semt/climat/adapt/heat-chaleur-eng.php

# More activities

**Create a tornado in a bottle**

- Materials: a 2-litre plastic soda bottle with cap, water, dishwashing liquid, marbles or other small objects

- Procedure:
  - Fill the plastic soda bottle with water.
  - Put three drops of dishwashing liquid into the bottle along with a few marbles or other small objects.
  - Cap the bottle tightly. Hold the bottle on its side by each end. Move the bottle using a circular motion to swirl the liquid. Keep the liquid swirling as you turn the bottle upside down. Be sure to keep the cap end of the bottle steady while you continue to swirl the liquid in the large end.
  - A swirl will form, representing the funnel.

**Observe a landslide**

- Materials: a bowl, sand, water

- Procedure:
  - Pile the sand in the bowl in the shape of a mountain.
  - Pour the water on top of the moiuntain and let it flow down the sides.
  - Observe the different formations.
  - Compare this phenomenon to the effects of rain on the ground and the link between floods and landslides.

**Identify potential earthquake hazards in the classroom based on the following questions:**

- Are tables and desks placed in such a way that they cannot slide and block exits?
- Are all filing cabinets and cupboard doors securely latched?
- Are all computers securely fastened to their workstations?
- Are all shelves, filing cabinets and cupboards bolted to the wall?
- Are all overhead lamps securely fastened to the ceiling?
- Are potentially hazardous chemical products safely stored?
- Are chemical products stored in ventilated areas located far from exits?
- Are books and materials stored on shelves in such a way that they cannot fall from them?
- Are all decorations on the wall securely fastened?

**Study** the myths and facts about natural disasters such as tornadoes, hurricanes and electrical storms.

**Ask** students to find newspaper articles describing natural disasters that have occurred in the world and organize them according to the criteria of their choice (severity, location, natural elements involved, time of year).

**Organize** a campaign in your school or community to raise awareness and provide information about natural disasters.

**Invite** a guest speaker to talk about local or overseas disaster intervention.

**Play** a game consisting of preparing an emergency survival kit together, using coloured stickers on which participants write what they think should be included. Each participant posts his or her sticker on the board.

**Association** game with various coloured cards: disasters, definitions and appropriate behaviours.

**Lead** a timed simulation of an earthquake or other emergency situation: two minutes to prepare, simulation in teams and discussion.

# The International Red Cross and Red Crescent Movement

The International Red Cross and Red Crescent Movement is the world's largest humanitarian network and is active in 187 countries. Its emblem is a red cross on a white background. In many Islamic countries the red crescent is used instead of the red cross.

**History of the Movement**

The movement was born in 1859 when a young Swiss, Henry Dunant, witnessed the bloody battle at Solferino, Italy, which saw the Imperial Austrian Army and troops of the Franco-Sardinian alliance fighting one another. Forty thousand men lay on the field, dead or in agony. And there was no one to care for the wounded.

Dunant organized the local community to bandage wounds, and feed and comfort the soldiers. Upon his return, he called for the creation of national rescue societies that would bring assistance to those wounded in war and lay the foundation for the future Geneva Conventions.

The Red Cross was born in 1863 with the creation of the International Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, which would then become the International Committee of the Red Cross. Its emblem was a red cross on a white background — the reverse of the Swiss flag. The following year, 12 governments adopted the first Geneva Convention, a crucial step in the history of humanity since this convention provided for care for the wounded and defined medical services as "neutral" on the battlefield.

**Members of the Movement**

**International Committee of the Red Cross**

- This is a neutral, impartial and independent organization.
- The ICRC mainly intervenes in times of conflict.
- The ICRC's mission is to protect life and dignity of victims of war and internal violence (the wounded, the sick, political and civilian prisoners) and provide them with assistance.
- It tries to prevent suffering by promoting right and humanitarian principles.

**The International Federation of Red Cross and Red Crescent Societies**

- The Federation dispenses its aid without distinction with regard to nationality, race, religion, class or political opinions.
- The Federation conducts rescue operations to help disaster victims.
- The Federation's mission is to improve living conditions for the vulnerable by mobilizing the power of humanity.
- Its work is focused on four fundamental areas: the promotion of humanitarian values; disaster relief; disaster preparedness; and health and assistance to individuals on a community level.

**The national Societies**

- The national Societies are the incarnation of the Movement's work and principles in 187 countries.
- The national Societies act as support to the government authorities in their countries.
- The various Red Cross societies provide relief services in the event of disaster; social and health programs; and assistance to individuals affected by war.
- The national Red Cross and Red Crescent societies include over 97 million members and volunteers worldwide.

# Heat parameters

Heat and temperature are often used synonymously. However, heat is more than just temperature. Temperature is only one of the four variables that constitute heat. Heat is a composite of the following four variables:

- **Ambient temperature**: the measurement of how hot or cold it is outside. It is typically measured using a thermometer and reported in degrees Celsius in Canada and Fahrenheit in the United States.
- **Radiant heat**: the sun's direct (infrared) rays as felt on the body. These rays can be indirect, such as those reflected from different types of surfaces.
- **Humidity**: the amount of moisture the air contains in comparison to how much it can hold.
- **Wind speed**: the speed at which air moves.

It is the combination of these four variables that is the most accurate way to assess the environmental parameters of heat that can contribute to heat stress.

# Heat and the body

**Mechanisms that heat and cool your body**

The human body has a core temperature of approximately 37°C/98.6F. Each individual's core temperature can vary slightly. In order to maintain a normal body temperature, the body must absorb and dissipate heat. This process is called thermoregulation.

Your body produces its own heat, especially during physical activity. Hot air and exposure to direct sun rays or hot surfaces further heat your body. This heat is lost by contact with cool surfaces or cool air and is aided by sweat production which cools your body as it evaporates. The weather conditions play a big role in how your body regulates its temperature. For example, if it's windy, sweat is evaporated faster, which increases comfort and cooling of your body. However, high humidity slows down this evaporative process as the air becomes saturated with water vapour, decreasing the rate at which sweat can be absorbed from the skin. Thus, thermoregulation is dependent on four key mechanisms:

- **Evaporative cooling**: is the evaporation of water from the skin (sweat) and the respiratory passages (breathing) to cool the body. It is the most critical cooling mechanism at high temperature because it always results in body heat loss and never in heat gain. Wind speed or air movement can increase evaporative cooling and provide relief in a hot environment.
- **Convection**: the transfer of heat from a warm object toward a cooler object, such as the release of body heat to the cooler air. When the air is cooler than the skin temperature, heat can be lost through convection.
- **Conduction**: the transfer of heat by direct physical contact, such as holding an ice cube; the body will transfer its heat to the cold object (ice cube) and melt it. Heat is either gained or lost through direct transfer by surface contact depending on skin and the objects' temperature.
- **Radiation**: the transfer of infrared waves emitted from one object and absorbed by another. The exchange of heat by radiation depends on a person's surface area, surface temperature, clothing and the temperature of the environment. Radiant heat could be generated by a number of sources, such as direct sunlight. The body may also radiate heat to assist in cooling, if surrounding surfaces are cooler.

# Being prepared for the heat

Since the meteorological conditions that can lead to heat stress can be forecasted and communicated to the public, heat-related illnesses are largely preventable through knowledge, education and adaptive behavioural actions.

As a teacher, you are in an excellent position to help your students adopt safe behaviour by promoting adequate preparation for extreme heat events. Educating the students regarding effective prevention of heat-related illness can help them avoid more serious health problems when exposed to extreme heat.

Here are a few ideas to promote amongst the students:

**Heat and sports safety; heat and outdoor safety**

- Drink plenty of water or natural fruit juice mixed with water. Don't wait to feel thirsty. Find a reusable bottle that is fun to drink from and use it as a reminder to drink water regularly. Be eco-friendly and think about the environment.
- Eat fruits and vegetables that have high water content.
- Wear a hat (with wide brim) and loose-fitting, light-coloured clothes made from breathable fabric. Sunglasses are very useful to protect your eyes from UV rays.
- Splash your face with cold water if you feel hot.
- When necessary, wear sunscreen and bug repellent.
- Locate a shaded place where you can cool off or bring a sun umbrella to reduce your exposure to radiant heat from the sun.
- When exercising or playing sports, remember to take extra water breaks, move into the shade and remove gear such as helmets or equipment to let your body cool off.
- Talk to your parents if you feel it is too hot to practise a sport or outdoor activities. See if it is possible to move the activity to an air conditioned environment. That way you will be able to stay cool and maintain your activity level even when it is very hot outside. You could ask to reschedule the activity if necessary. Mornings or nights are better times for sports on hot summer days.
- Drink before and after every physical activity and cool off after the activity in a cool place.
- When you get home, take a cool bath or shower until you feel refreshed.
- Choose activities that are not too tiring or go to the pool during the day.
- Go to the air conditioned library or the mall for a couple of hours.
- If you do not have an air conditioner in your home, play in a cool place, such as the basement, for awhile.

**Heat and school**

- Bring a reusable bottle of water that can be refilled at the water fountain. Be eco-friendly. Think about the environment.
- Wear breathable, loose-fitting, light-coloured clothes. Bring a hat with wide brim for recess.
- Splash your face with cold water when you go to the washroom.
- Ask the teacher if it is possible to move to a cooler place or to a part of the school where there could be air conditioning, such as the library or the gym.
- Ask mom or dad to put fruits and vegetables in your lunchbox.
- When you go out for recess, stay in the shade and choose activities that are not too tiring.

# Reminder

### General safety rules and instructions in case of fire.

To ensure that you make the best of the situation in case of a fire or any other emergency, be ready!

- Take a first aid course offered by the Canadian Red Cross.

**And remember:**

- Remain calm (avoid panicking).
- Always use staircases instead of elevators.
- Never go back into a room that is on fire.

### Daily activities

**Teacher**

- Inform your students on the instructions to follow in case of an evacuation.
- Make sure emergency equipment in your room is functional.
- Ensure that emergency exits in your room are readily accessible.
- Assign some participants the task of closing windows.
- At higher elementary or secondary levels, ask some students to assist those with mobility disabilities.

**Students**

- Get information from your teacher if you do not know what to do in case of a fire.

### Instructions during emergencies

### If you SMELL SMOKE

**Teacher**

1. Immediately have everyone evacuate the room.
2. Evacuate from the closest emergency exit.
3. Set off the manual fire alarm on your floor (red box) and notify a person who is in charge.

**Students**

1. Evacuate in a single file, calmly, silently and without running in the direction identified by your teacher.
2. Leave your personal belongings where they are.

### If you HEAR THE ALERT SIGNAL

**Teacher**

1. Ask students who were assigned specific tasks to close all windows in the room and to assist their friends who need help.
2. Take a list of students with you.
3. Be ready to evacuate with the students.

*Note: If the alert is unfounded, wait for instructions from management.*

**Students**

1. Immediately stop all your activities.
2. Close the windows that you have been assigned to.
3. Prepare to help the students your teacher has identified.
4. Calmly and silently wait for the fire alarm and be ready to evacuate.

*Note: If the alert is unfounded, wait for your teacher's instructions.*

### If you HEAR THE FIRE ALARM

**Teacher**

1. Have students evacuate the room without taking their personal belongings and close the door.
2. Evacuate towards the meeting place that was identified with your group.
3. Make a roll call of the students and notify the floor coordinator.
4. Supervise your group and wait for authorization from the coordinator before re-entering the building.

**Students**

1. Leave the room in a single file, calmly, silently and without running in the direction identified by your teacher.
2. Walk normally through the corridors and hold the stair rail to avoid falls.
3. Keep your rank and remain close to the teacher.
4. Never go back into the building!
5. Keep silent and follow the teacher's instructions.

Adapted from: **Plan d'évacuation d'une école. Guide pratique**, Ministère de la Sécurité publique du Québec, Direction générale de la sécurité et de la prévention (September 1996)

# Letter from Alex

St. John's, May 13th, 2003

Hello, _____
(Educator's name)

I am writing you this letter to let you know what is new. We have moved to Badger, in the centre of Newfoundland and Labrador.

My parents had bought a nice house in a wooded part of town. There was a playground nearby. I had made new friends.

Unfortunately, a flood destroyed our new home in February. We had to evacuate the house in only a few minutes. We were still wearing our pajamas.
The water was very cold and rose really fast. Cars were even carried away by the current. We lost everything because it was cold and the water froze. It made me very sad. I am afraid I will not be able to go back to my house.

Fortunately, my parents bought me new toys and clothes. I feel lonely but I have made new friends in another part of town. They are very nice.

Sometimes, I cry and have nightmares while I am sleeping. I miss my parents who are working very hard to rebuild our house. I am anxious to see everything back to normal.

See you soon.

Write back to let me know how you are doing.

Alex

# Glossary

**Action plan:** Set of measures taken to plan something, an action or behaviour.

**Alert:** Set of actions taken to inform the authorities, the assistance personnel and the population of an actual or possible danger.

**Assistance:** Set of measures taken to protect persons (evacuation, shelter, material help, etc.) and safeguard their belongings and assets.

**Authority:** Person or group of persons one can refer to for help.

**Cataclysm:** Disruption on the earth.

**Catastrophe:** A widespread disaster; sudden event that can cause disruption and may lead to damage and death.

**Crisis:** Emergency of a political nature, or a disaster that was managed in such a way as to lead to other problems of a greater nature.

**Demobilization:** Persons, assistance or organizations returning home to regular daily activities in an orderly fashion after a disaster.

**Disaster:** Catastrophic event that can lead to human and material losses.

**Disaster caused by human activity:** Disasters for which human beings may be involuntary agents (industrial accidents such as explosions, fires or release of hazardous materials; socio-economic disasters such as pollution; socio-political disasters such as disrespect for human rights).

**Distress:** Critical and dangerous situation.

**Emergency:** Event that may bring physical or psychological harm to one or more persons or which can cause material damage and may require rapid assistance that a first aid organization can provide.

**Emergency kit:** Bag that is kept in the house and/or in the car that contains essential objects when facing an emergency situation.

**Emergency situation:** Situation that requires immediate attention.

**Emergency supplies:** Clothes, non-perishable food, hygiene articles and safety equipment that will serve in case of mandatory confinement during a disaster.

**Essential objects:** Objects that are necessary.

**Essential needs:** Need for food, clothing and shelter.

**Evacuation plan:** Organized actions that describe how to evacuate one's home or a public place when it is necessary to leave quickly because of an emergency situation.

**First aid worker:** Member of a first aid organization that will bring help to the victims of an accident or disaster.

**Human element:** That which is made by human beings (e.g. a building).

**Mobilization:** Set of actions taken to activate the assistance resources.

**Mitigation:** Series of measures taken in order to lessen the devastating effects of a disaster and to limit its impact on the well-being of populations and on their property.

**Natural element:** That which is made by nature (e.g. a tree).

**Potential danger:** Threat, risk that could materialize if the conditions were present.

**Prevention:** A set of measures taken to prevent danger, risk or harm from occurring.

**Recovery:** Return to a normal situation by reintegrating people who were evacuated and implementing programs that will allow people to get back to normal activities (getting public services back into operation, rebuilding equipment, production, etc.).

**Ring of fire:** Volcanoes on the edge of the Pacific Ocean.

**Safety rules:** Conduct principles.

**Survival kit:** Case, package or bag containing objects and supplies that will last for three days and that can be useful in case of an evacuation.

**Trauma:** Event that can cause emotional or physical problems.

# Bibliography


American Red Cross (2007). **Masters of Disaster, 3–5, Activities**. American Red Cross.

American Red Cross (2007). **Masters of Disaster, 3–5, Lesson Plans**. American Red Cross.

American Red Cross (2007). **Masters of Disaster, 6–8, Activities**. American Red Cross.

American Red Cross (2007). **Masters of Disaster, 6–8, Lesson Plans**. American Red Cross.

Assan, M. (1971). **Guide d'assainissement en cas de catastrophe naturelle**. Organisation mondiale de la Santé. **

Australian Red Cross (2010). **After the emergency: Activity book for children**. Australian Red Cross.

Australian Red Cross (2010). **Get Ready! Activity book for children**. Australian Red Cross.

Australian Red Cross (2010). **Helping children and young people cope with crisis: Information for parents and caregivers**. Australian Red Cross.

Canadian Geographic Maps. **The Canadian Atlas Online** (web). Canadian Geographic Kids.

Canadian Red Cross Society (2006). **PeopleSavers**. Canadian Red Cross Society.

Canadian Red Cross Society (2009). **Child care first aid & CPR Manual**. Canadian Red Cross Society.

Health Canada (2005). **Climate Change: Preparing for the Health Impacts**. Health Canada.

Health Canada (2009). **Extreme Heat Events** (http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/heat-chaleur-eng.php). Health Canada.

Health Canada Climate Change and Health Office (2011). **Communicating the Health Risks of Extreme Heat Events: Toolkit for Public Health and Emergency Management Officials**. Health Canada.

Health Canada Climate Change and Health Office (2011). **Extreme Heat Events Guidelines: Technical Guide for Health Care Workers**. Health Canada.

Health Canada Climate Change and Health Office (2011). **It's way too hot!: Protect yourself from Extreme Heat**. Health Canada.

Health Canada Climate Change and Health Office (2011). **Keep Children Cool: Protect your child from Extreme Heat**. Health Canada.

Health Canada Climate Change and Health Office (2011). **You're active in the heat. You're at risk! : Protect yourself from Extreme Heat**. Health Canada.

Insurance Bureau of Canada (2011). **Be Prepared - Earthquake Preparations**. Insurance Bureau of Canada.

International Federation of Red Cross and Red Crescent Societies (2010). **World Disasters Report 2010**. International Federation of Red Cross and Red Crescent Societies.

Ministère de l'Éducation, du Loisir et du Sport de Québec (p.d.) **Guide de préparation de plans d'évacuation et de sauvetage dans les écoles**. Gouvernement de Québec. **

Ministère de la Santé et services sociaux de Québec (2005). **Informations générales sur divers types de sinistres naturels ou technologiques**. Ministère de la Santé et services sociaux de Québec. **

Ministère des Affaires municipales de Québec (1985). **Guide de visites de prévention des incendies dans les résidences**. Gouvernement de Québec. **

Ministry of Public Safety of Quebec (1996). **School evacuation plan: Practical handbook**. Government of Quebec.

Ministry of Public Safety of Quebec, Civil protection for youth. **Catastrophes!** (http://www.jeunesse.securitecivile.gouv.qc.ca/index_en.html). Gouvernment de Québec.

National Institute of Mental Health (2006). **What Parents Can Do: Helping Children and Adolescents Cope With Violence and Disasters**. National Institute of Mental Health, USA.

Public Safety Canada (2008). **Natural Hazards Affect Us** (map). Public Safety Canada.

Public Safety Canada (2010) **Earthquakes: What to do?** Canadian Association of Chiefs of Police, Canadian Association of Fire Chiefs, Canadian Red Cross, St. John Ambulance, The Salvation Army, Public Safety Canada.

Public Safety Canada (2010). **Your emergency preparedness guide, 72 Hours: Is your family prepared?** Canadian Association of Chiefs of Police, Canadian Association of Fire Chiefs, Canadian Red Cross, St. John Ambulance, The Salvation Army, Public Safety Canada.

Public Safety Canada (2011). **72 Hours: Is your family prepared?** (www.getprepared.ca). Public Safety Canada.

Red Cross/Red Crescent Climate Centre (2009). **The young humanitarian's guide to making a move on the impacts of climate change**. International Federation of Red Cross and Red Crescent Societies.

Stop Disasters (1995). **Learning about Disasters: Games and Projects for You and Your Friends**. International Decade for Natural Disaster Reduction.


*** - Available in French only.*

# PROGRAM EVALUATION


Name of school:

Name of educator:

Grade level:

**Preparedness Program:**

- ☐ It can happen, be ready
- ☐ Facing the unexpected, be prepared
- ☐ Be ready, be safe

**To be filled out by the educator.**
**For each of the following statements, please check the box that best corresponds to your level of agreement.**

| CONTENT AND PROCESS | Strongly agree | Agree | Don't know | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| The preparedness program really makes youth more aware of the need to be ready in case of an emergency. | | | | | |
| The preparedness program is well suited to a school setting. | | | | | |
| The preparedness program is easy to implement. | | | | | |
| The preparedness program is of high quality. | | | | | |
| The content of the preparedness program allows for the attainment of objectives set by the Ministry of Education of your province or territory. | | | | | |
| The content of the program is diversified. | | | | | |
| Young participants liked the content of the preparedness program. | | | | | |
| The teaching approach used in the preparedness program is adapted to participants' levels. | | | | | |
| The teaching approach used in the preparedness program is appropriate. | | | | | |

**WHICH ACTIVITIES HAVE YOU COMPLETED?**

**WHICH ACTIVITIES ARE YOU PLANNING TO LEAD IN THE FUTURE?**

**OTHER COMMENTS:**
**Would you have any suggestions to improve the program?**

**RETURN ADDRESS:**
**Thank you for returning the completed questionnaire to:**

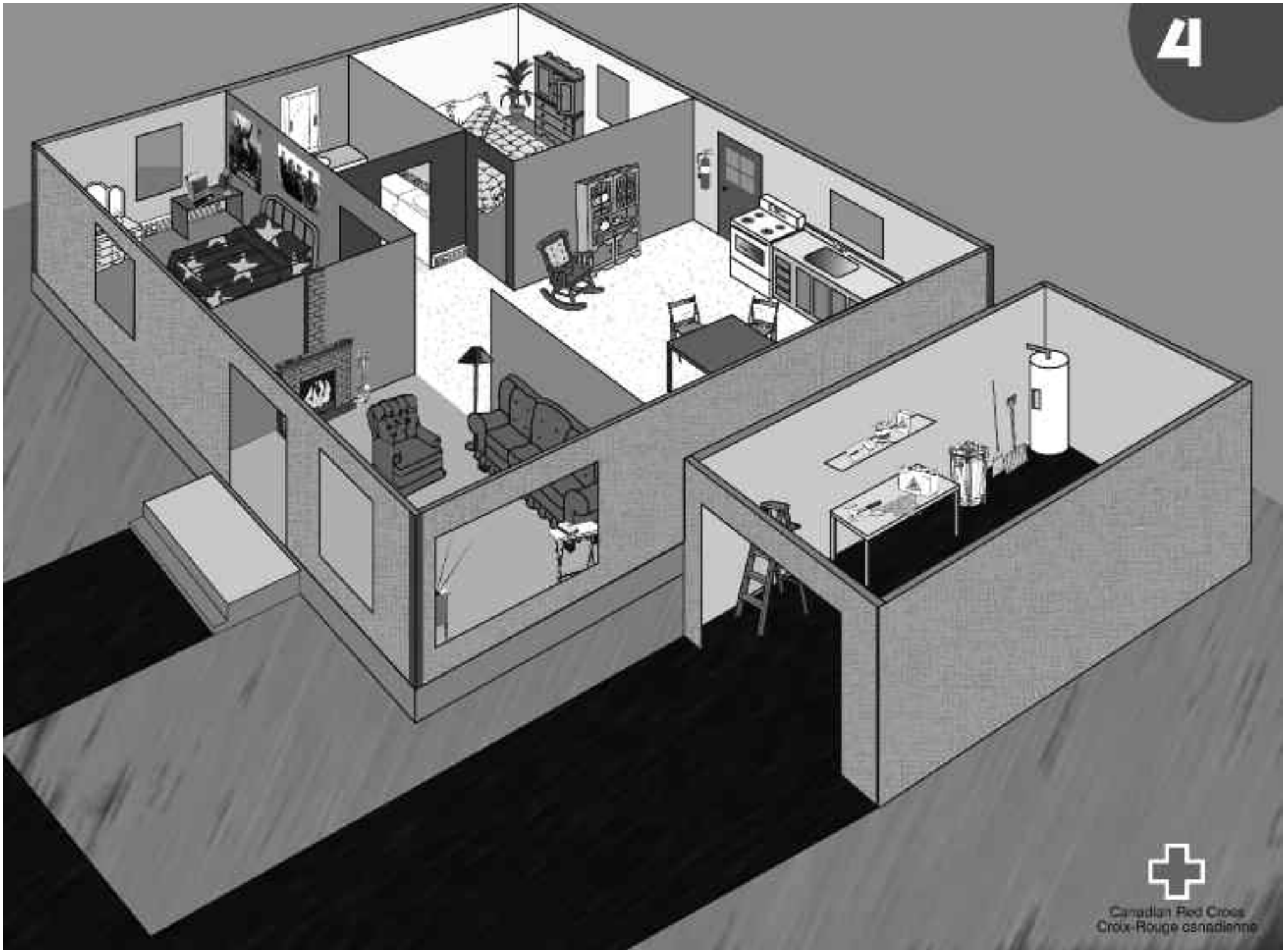
**Canadian Red Cross/Expect the Unexpected Program**
**170 Metcalfe Street, Suite 300**
**Ottawa, ON, K2P 2P2**

***WE APPRECIATE YOUR VALUABLE FEEDBACK!***


1
Canadian Red Cross
Croix-Rouge canadienne

Canadian Red Cross
Croix-Rouge canadienne


3
Canadian Red Cross
Croix-Rouge canadienne


4
Canadian Red Cross
Croix-Rouge canadienne

# The Canadian Red Cross: anywhere, anytime

The Canadian Red Cross[1] is one of the 187 national Societies which, along with the International Committee of the Red Cross (ICRC) and the International Federation of Red Cross and Red Crescent Societies (the Federation), form the International Red Cross and Red Crescent Movement. Its mission is to improve the lives of vulnerable people by mobilizing the power of humanity in Canada and around the world.

The Canadian Red Cross Society is a volunteer organization that provides the public with humanitarian services and emergency relief:

- In the area of prevention against disasters or conflicts or when they occur in Canada and around the world.
- Through community outreach in the fields of health and social services.

Humanitarian and relief services are provided according to the Fundamental Principles[2] of the International Red Cross and Red Crescent Movement. Canadian Red Cross programs are made possible by virtue of thousands of volunteers acting on its behalf and by Canadians' generous financial assistance.

## The Fundamental Principles of the Red Cross

**Humanity**
The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health to ensure respect for the human being. It promotes mutual understanding, friendship, co-operation and lasting peace amongst all peoples.

**Impartiality**
It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

**Neutrality**
In order to continue to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

**Independence**
The Movement is independent. The national Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

**Voluntary service**
It is a voluntary relief movement not prompted in any manner by desire for gain.

**Unity**
There can only be one Red Cross or one Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

**Universality**
The International Red Cross and Red Crescent Movement, in which all Societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.

[1] In conformity with the law, use of the Red Cross emblem or name in Canada is exclusively reserved to the Canadian Red Cross and to military medical units (Geneva Conventions Act, R.S. 1985, c. G-3).

[2] This text is adapted from the fundamental principles proclaimed by the 20th International Red Cross Conference held in Vienna in 1965. Please note that the original text was revised and included as part of the Statutes of the International Red Cross and Red Crescent Movement, which were adopted at the 25th International Red Cross Conference, held in Geneva in 1986.

Canadian Red Cross

Through the media sponsorship of:

The Weather Network
theweathernetwork.com