



# BUILDING RESILIENT CITIES IN THE FACE OF NATURAL DISASTERS

## ELEMENTARY RESOURCES



Preparation can help cities be more resilient. (Photo credit: Getty Images, Robert Barnes)

### BACKGROUND INFORMATION

- According to NASA, while climate change may reduce the total number of storms that happen around the world, it may increase the number of very intense and damaging storms. Warmer global temperatures put more water vapour into the air, affecting the formation of storms—greater humidity can lead to more powerful storms. ([NASA Earth Observatory](#))
- Weather-related disasters have increased by 14 per cent around the world over the past 20 years. ([Environmental Commissioner of Ontario](#))
- In the summer of 2013, Toronto experienced rainfall so heavy the sewer systems were not able to handle the water, and heavy flooding occurred across the city, causing nearly one billion dollars in damage. ([Environmental Commissioner of Ontario](#))
- Canada is increasingly urban. One third of Canadians—12.5 million people—live in our three largest cities: Toronto, Montreal and Vancouver. The number of urban metropolitan areas with more than 100,000 people living in them increased from 33 in the 2011 census to 35 in the 2016 census. ([Statistics Canada](#))
- More than half of the world’s entire population lives in cities. By 2050, the UN predicts that as much as 66 per cent of humanity will live in urban environments. ([United Nations](#))
- Large cities can become what scientists call “heat islands.” Human activity and building in large urban areas generate a lot of heat, making them hotter than the surrounding rural areas. This affects the air currents and weather around cities, and can lead to more severe storms. ([National Geographic](#))

### NOTE TO EDUCATORS

The following activities are designed to stimulate a current events discussion. Generative in nature, these questions can be a launching point for additional assignments or research projects.

Teachers are encouraged to adapt these activities to meet the contextual needs of their classroom.

In some cases, reading the article with students may be appropriate, coupled with reviewing the information sheet to further explore the concepts and contexts being discussed. From here, teachers can select from the questions provided below. The activity is structured to introduce students to the issues, then allow them to explore and apply their learnings. Students are encouraged to further reflect on the issues.

Core Skill Sets:



These icons identify the most relevant core skills students will develop using this resource. Learn more about the WE Learning Framework at [www.WE.org/we-at-school/we-schools/learning-framework/](http://www.WE.org/we-at-school/we-schools/learning-framework/).

### KEY TERMS

**Resilience**—The capacity to recover from setbacks or hardships.

**Simulation**—An exercise to practice and prepare by acting out situations.

**Climate change**—Weather patterns around the world are changing because of increasing levels of greenhouse gases like carbon dioxide in the atmosphere, caused by human activity.

## THEMES AND COURSE CONNECTIONS

- **Themes:** Environment, Natural Disasters, Local Issue
- **Course Connections:** Geography

## MATERIALS

- Front board
- Paper and writing utensils
- Computer/tablet with Internet access and video capability
- Chart paper

## SPECIFIC EXPECTATIONS AND LEARNING GOALS

Students will:

- Develop an understanding of the emergencies and natural events that are most likely to occur in their local region and the consequences of those events
- Analyze how their local communities prepare and respond to emergencies and natural events
- Become an active member in, and develop a sense of connectedness to, their local community

## DISCUSS

1. What natural events are most likely to occur in your area/region?
2. How could these types of natural events impact you and your family?
3. What have you and your family already done to prepare in case an emergency or natural event occurs? What has your school done?
4. How can being prepared for an emergency or natural event help us to stay safe?

## DIVE DEEPER

Tell students that they will explore natural events and the effects those events can have on them, their families and their community. Using a jigsaw structure, have students briefly examine information about emergencies or natural events that could potentially occur in their region. Split students into groups of three or four and assign each member one of the emergencies or natural events. Students from different groups assigned to the same topic will meet together to read and learn about it. Then students will return to their home groups to teach the other group members about their topic. The "Get Prepared" website from the Government of Canada [www.getprepared.gc.ca/cnt/hzd/index-en.aspx](http://www.getprepared.gc.ca/cnt/hzd/index-en.aspx) provides information for local and national emergencies and natural events.

Once students have become familiar with the events and their effects, read the *Global Voices* article as a class and discuss the questions from the *Discussion* section.

In small groups, ask students to brainstorm a list of things they are already doing, or would like to do, to be prepared in case of an emergency or natural event at home, school or another place in their community (e.g. participate in fire evacuation drills, store bottled water and flashlights, know how to call 9-1-1 or other emergency services.)

Show students "Preparing a Family Emergency Kit"

[www.getprepared.gc.ca/cnt/rsrscs/vds/prprng-kt-en.aspx](http://www.getprepared.gc.ca/cnt/rsrscs/vds/prprng-kt-en.aspx)

(3:43) and discuss when this type of kit would be necessary and what its benefits are.

In the same groups as before, distribute chart paper and ask students to make a list of all the items they would include in an emergency kit (don't forget about pets!) Using the gallery walk strategy, display the charts around the room and ask students to review each group's chart. As a class, create a final list that incorporates the best ideas from each group. The teacher or a student volunteer will type up the list and distribute a copy to each student.

Ask students to take the lists home to discuss with their families and then share with the class how they have begun to prepare their emergency kits at home. Students may also want to share other strategies they have begun to implement to prepare themselves and their families in case of an emergency or natural event.

## EXTENSION

Consider participating in "Emergency Preparedness Week" (May 7-13) coordinated by Public Safety Canada to encourage school staff, students and families to learn more about how awareness and preparation can help to build more resilient communities.

## RESOURCES

Emergency Preparedness Week [www.getprepared.gc.ca/cnt/rsrscs/ep-wk/index-en.aspx](http://www.getprepared.gc.ca/cnt/rsrscs/ep-wk/index-en.aspx)

Get Prepared [www.getprepared.gc.ca/index-en.aspx](http://www.getprepared.gc.ca/index-en.aspx)