

## Tsunami in Southeast Asia

### Lesson Overview

On December 26, 2004, an earthquake off the coast of the Indonesian island of Sumatra caused a tsunami that resulted in death and destruction in Asia and parts of Africa. In the aftermath of this disaster, nations around the world raised money to send aid to the areas most affected by the tsunami. This lesson will introduce students to the natural forces that caused the tsunami. Through examination of this natural disaster, students will explore the interaction of the physical and human systems at play, and see themselves and Canada as part of the global community and international aid effort. Students will research various aid organizations and decide how they believe international aid could most benefit the affected people.

### Grade Level

Grades 9–12 (This lesson could also be modified for middle school.)

### Time Required

Two periods

### Curriculum Connection

*Northwest Territories, Social Studies 9 Geography*

- Unit: Interaction between physical and human characteristics

*Social Studies 10*

- Unit: Canada and the World

*Social Studies 30*

- Unit: Contemporary Global Interaction

### Link to Canadian National Geography Standards

*Essential Element #3 (Grades 9–12) – Physical Systems*

- World patterns of extreme events (describe how physical processes affect different regions of the world)

*Essential Element #4 (Grades 9–12) – Human Systems*

- Patterns of global power and influence (assess the response of aid organizations to allocate resources during times of extreme events)

*Geographic Skills #1 (Grades 9–12) – Asking Geographic Questions*

*Geographic Skills #2 (Grades 9–12) – Acquiring Geographic Information*

*Geographic Skills #3 (Grades 9–12) – Analysing Geographic Information*

**Canadian Geographic–CIDA Map**

Several components of the Canadian Geographic–CIDA map *A Developing World* are used. The map can be posted in the classroom, or the on-line version can be displayed as a projection live from the website. The on-line version of the map, along with other resources, can be found at [www.canadiangeographic.ca/worldmap](http://www.canadiangeographic.ca/worldmap). Classroom sets of the printed map are available. [Request maps](#).

**Additional Resources, Material, and Equipment Required**

- Overhead projector
- On-line access to
  - *Canadian Geographic* magazine: [www.canadiangeographic.ca/worldmap](http://www.canadiangeographic.ca/worldmap)
  - Canadian International Development Agency: [www.cida.gc.ca](http://www.cida.gc.ca)
  - Other web resource:  
[www.solcomhouse.com/tsunamis.htm](http://www.solcomhouse.com/tsunamis.htm)

**Main Objective**

Students will look at society's reaction to extreme natural events in light of the 2004 tsunami disaster. They will see themselves as part of the global community and consider the responsibility of the developed nations to aid the lesser-developed world in times of need. Students will consider the economic and social disparity denoted by the Human Development Index (HDI) on the map, when discussing where and when aid to the developing countries should be provided.

**Learning Outcomes**

By the end of the lesson, students will be able to:

- explain the Earth's physical processes that caused the December 26, 2004, tsunami;
- describe how this extreme physical event took lives and affected human settlements in the different regions;
- analyse and compare the response of different aid organizations when dealing with the tsunami disaster; and
- write a position paper to persuade the Canadian government how foreign aid should be distributed for the tsunami relief effort.

|                                  |  |  |
|----------------------------------|--|--|
| <p><b>Introduction</b></p>       | <ul style="list-style-type: none"> <li>• Lead students in a discussion of how much they already know about the December 26, 2004, tsunami in Southeast Asia and what questions they still have regarding the tsunami.</li> <li>• This can be done using a KWL chart, a graphic organizer that helps students organize their thoughts in three columns:<br/>K – what they already know;<br/>W – what they want to know; and<br/>L – what they have learned.<br/>The chart is therefore meant to be revisited as the lesson progresses so that students may record what they have learned and assess if all their questions have been answered.</li> <li>• This introductory activity should be completed individually first, then shared with a partner, and finally used as a basis for class discussion.</li> <li>• The teacher will then have a better understanding of students' prior knowledge, as well as students' interest, and will be able to adapt the remainder of the lesson to accommodate these factors.</li> </ul> | <ul style="list-style-type: none"> <li>• Students complete the KWL chart and participate in the teacher-led discussion.</li> </ul>   |
| <p><b>Lesson Development</b></p> | <ul style="list-style-type: none"> <li>• The teacher will provide overhead images to demonstrate the physical system of plate tectonics, earthquakes, and the formation of a tsunami. Encourage students to sketch diagrams of the event.</li> <li>• <a href="http://www.all-science-fair-projects.com/">http://www.all-science-fair-projects.com/</a> has diagrams that illustrate the movement of the earthquake and tsunami. These can be printed and copied to a transparency.</li> </ul>  | <ul style="list-style-type: none"> <li>• Students will fill in the “L – what they have learned” section of their graphic organizer as a way of taking notes.</li> <li>• Students sketch diagrams to help explain the event.</li> </ul> |

## The Lesson (cont'd)

|                                       | Teacher Activity  | Student Activity   |
|---------------------------------------|---|--|
| <b>Lesson Development</b><br>(cont'd) | <ul style="list-style-type: none"> <li>• By referring to the map <i>A Developing World</i> and locating the site of the earthquake, facilitate a class discussion using the questions on the Student Activity Worksheet.</li> <li>• This can be done as a class brainstorming session with the teacher recording students' perceptions on the board. The questions could also be given first as a handout, then discussed after the students have had time to work on them on their own. These questions are designed to encourage students to reflect critically on their role as active and responsible global citizens.</li> </ul>   | <ul style="list-style-type: none"> <li>• Students complete the Student Activity Worksheet.</li> </ul>                      |
| <b>Conclusion</b>                     | <ul style="list-style-type: none"> <li>• After discussing question #7 from the worksheet as a class, assign it as a topic for a position paper. Through this writing assignment, students are asked to think critically about the decision that government must make as to where to allocate aid money and resources. Students should also be asked to think about whether or not areas that were once developed as resorts should be built up again.</li> <li>• Students should conduct on-line research of the areas affected by the tsunami and the aid organizations that are working in these areas. Their position paper should outline how they believe the aid money donated by Canada could be best used in these regions. To do this, they should research various aid organizations and how they spend their money. Students should also be encouraged to consult the CG-CIDA map and the Science Fair website, and compare the status of the tsunami-stricken countries before and after the December 26th disaster.</li> </ul> | <ul style="list-style-type: none"> <li>• Students complete the culminating activity as assigned by the teacher.</li> </ul> |

**The Lesson (cont'd)**

|                   | <b>Teacher Activity</b>   | <b>Student Activity</b> |
|-------------------|---|-------------------------|
| <b>Conclusion</b> | <ul style="list-style-type: none"> <li>This position paper could be a homework assignment, which would be between 500 and 700 words, and would include a bibliography.</li> </ul> |                         |

**Lesson Extension**

- Have students present their position papers to the class and try to decide as a group, after being presented with all the research, where best to allocate aid. Presentations could be multimedia and could include PowerPoint, video clips, or maps on the overhead.
- Stage a debate between students who believe that developed countries are morally obligated to aid lesser developed nations, and those who have a different opinion. Each side should have time to prepare their arguments.
- Create a simulation of the disparity in the world according to the statistics found on the CIDA map. This could be done by designating areas of the classroom and groups of students as to high, medium, and low on the HDI. Resources and wealth can be simulated by allocating candy and pop to the different regions in quantities that reflect their development status. Have the students decide for themselves if they are willing to share resources. Debrief after the activity with a written reflection, followed by a class discussion and, of course, “resources” for everyone.

**Assessment of Student Learning**

The following evaluation breakdown could be used for assessing the position paper:

- Defense of position: 10 points
- Exploration of the issues: 5 points
- Quality of examples: 10 points
- Quality of written expression: 5 points
- Evaluation total: /30

## Student Activity Worksheet: Tsunami in Southeast Asia

1. After looking at the map and the site of the earthquake, which regions do you think were affected by the tsunami?

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2. What do you think the people who were hit by the tsunami were doing at the time of impact?

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3. How do you think the survivors feel now, after having experienced this natural disaster?

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4. How might you be the same as, or different from, the teenagers living in the affected areas?

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5. Why might the impact of a natural disaster be more severe for nations where the HDI is low to medium, than for nations in more developed regions of the world? Consider the GDP data from the map to support your position.

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6. Are the countries that appear in yellow on the map — those that are high on the HDI — morally obligated to help other nations in times of disaster? Why or why not?

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7. Canada has now pledged more than \$400 million in aid. Where and how do you think this money should be spent?

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