



MARCH 11, 2011, 11:06 AM

Teaching Ideas: The Earthquake and Tsunami in Japan

By **KATHERINE SCHULTEN**

10:25 a.m. March 21 | Updated

On March 11, 2011, an earthquake struck off the coast of Japan, churning up a devastating tsunami that swept over cities and farmland in the northern part of the country and set off warnings as far away the west coast of the United States and South America. Recorded as 9.0 on the Richter scale, it was the most powerful quake ever to hit the country. In the days that followed death estimates soared astronomically, with officials saying that more than 10,000 had died in one seaside town alone. As the nation struggled with a rescue effort, it also faced the worst nuclear emergency since Chernobyl; explosions and leaks of radioactive gas took place in three reactors at the Fukushima Daiichi Nuclear Power Station that suffered partial meltdowns, while spent fuel rods at another reactor overheated and caught fire, releasing radioactive material directly into the atmosphere. Japanese officials turned to increasingly desperate measures, while their American counterparts gave a far more dire appraisal of the dangers.

— From the [Times Topics page on Japan](#)

Here are some resources for teaching about the earthquake, tsunami and nuclear crisis in Japan, including the latest Times articles and multimedia, related lesson plans and other materials from The Learning Network, and ideas from around the Web. We'll continue to update this post with new material this week.

As always, we'd love to hear how you're addressing this news with students. On Friday, March 18 we'll publish a post that rounds up our readers' best ideas, so [please post them here](#) in as much detail as you'd like.

Update | March 15: We've just published [20 Ways to Teach About the Disaster in Japan Across the Curriculum](#).

Update | March 16: Our science lesson plan, [Crisis in Japan: Understanding Nuclear Energy and Reactors](#)

Update | March 18: [Teachers Respond to the Crisis in Japan](#) are ideas from our readers about teaching this news, organized by subject area.

A Round-Up of Useful Times Articles and Multimedia By Subject Area

General Resources:

Understand the basic Who, What, Where, When, Why and How of the situation in Japan as of March 14 via our [6 Q's About the News](#).

Monitor breaking news via the [New York Times homepage](#), where updates will be featured regularly, or follow [The Lede blog](#). The [Japan Times Topics page](#) is also being constantly updated with news, multimedia and a daily summary of events.

Find a growing collection of New York Times [photographs](#) of the earthquake and tsunami and their aftermath, and [zoom in](#) for a close up of many of them. You can also see [photos that readers in Japan have sent in](#).

Use the “[slider](#)” [interactive](#) to see satellite photos of Japan, before and after the quake and tsunami.

Watch [video of the tsunami and the earthquake](#).

View an [interactive map](#) of the damage.

How to Help:

From The Lede blog, a [list of contact information and links](#) for some agencies that plan to provide relief.

Science and Engineering:

Update | March 21 “[Lessons From Chernobyl for Japan](#)”

Update | March 16: A new Learning Network lesson plan, [Crisis in Japan: Understanding Nuclear Energy and Reactors](#)

Graphic: [Radiation at Fukushima Daiichi](#)

Q. and A. on the Nuclear Crisis in Japan

Graphic: [Status of the Nuclear Reactors at the Fukushima Daiichi Power Plant](#)

Update | March 15: On Tuesday, Japan’s nuclear crisis verged toward catastrophe: “[Japan Faces Potential Nuclear Disaster as Radiation Levels Rise](#)” Here is a [map](#) of the evacuation zone around the nuclear plant.

See an interactive that shows how [shifting plates](#) caused the earthquake and tsunami.

To understand the risks posed by the crippled nuclear plant, use the interactive “[How a Reactor Shuts Down and What Happens in a Meltdown](#)” and read the related article about the [mechanics of a meltdown](#).

Read the article “[Quake Moves Japan Closer to U.S. and Alters Earth’s Spin.](#)”

Understand “[The Destructive Power of Water](#)” and why a tsunami can cause so much damage.

Read about how “[Japan’s Strict Building Codes Saved Lives.](#)”

Watch a [video](#) about Japan’s nuclear woes on Day 3.

Read about how the crisis in Japan may affect the [U.S. nuclear industry](#) and learn from four experts, via the Room for Debate blog, how [Japan’s nuclear crisis might provide lessons for the United States](#).

View a U.S. Geological Survey [map](#) that can put this earthquake, the fifth largest recorded since 1900, in perspective.

Economics:

Update: March 21: [“Crises in Japan Ripple Across the Global Economy”](#); [“Food Contamination Fears Could Harm Japanese Brands”](#)

Update: March 15: [“Massive Selling in Japan Spreads to Global Markets.”](#)

Read about how Japan’s economy is threatened by disruptions to power and water, and how the Bank of Japan is responding.

Politics and Government

From March 16: [“Flaws in Japan’s Leadership Deepen Sense of Crisis”](#)

Life in Japan for Survivors

Update | March 21: [“Reeling From Crises, Japan Approaches Familiar Crossroads”](#); [Lessons for Japan’s Survivors: The Psychology of Recovery](#); [“Delaying First Pitch Debated in Baseball-Loving Japan”](#); [“Where Steaming Fried Noodles Spell Relief”](#)

Update | March 16: [“In Refugee Shelters, Misery and Uncertainty”](#)

Update | March 15: [“Certainties of Modern Life Upended in Japan”](#) and [“Japan Confronts Multiple Crises as Death Toll Climbs”](#)

Read about what life is like in Sendai, a city at the center of the damage. Learn about the people returning to Natori in [“Residents Who Escaped Return to See What, if Anything, Is Left of Their Lives.”](#)

Two articles that vividly depict the suffering of those left behind are [“Survivors Face a Landscape of Loss”](#) and [“For Older Japanese, Tsunami’s Carnage Evokes WWII Horrors.”](#)

Two first-person accounts of what the earthquake and tsunami were like for those in Tokyo are [“Navigating Japan’s Day of Disaster”](#) and [“In Tokyo, the Search for Solid Ground.”](#)

Op-Ed columnist Nicholas Kristof writes on [“Sympathy for Japan, and Admiration”](#):

“Our hearts are all with the Japanese today, after the terrible earthquake there – the worst ever recorded in Japan. But, having covered the 1995 Kobe earthquake (which killed more than 6,000 people and left 300,000 homeless) when I lived in Japan as Tokyo bureau chief for The New York Times, I have to add: Watch Japan in the coming days and weeks, and I bet we can also learn some lessons...”

And in New York City, [“A Festival of Japan’s Culture Proceeds”](#) at Carnegie Hall.

Times Topics Pages

These pages automatically compile the latest news on each topic; many also feature a Times-written overview of the subject at the top of the page that can give students background and context.

- [Japan](#)
- [Earthquakes](#)
- [Tidal Waves and Tsunamis](#)

Learning Network Lesson Plans and Other Resources

[Student Opinion Question | How Do You React to News of Natural Disasters?](#) — a 2010 question we posed for students that asked them to reflect on the anniversary of Hurricane Katrina as well as the 2010 floods in Pakistan and the earthquake in Haiti. Invite your students to post responses.

Use our collection [Great Ways to Teach Any Day's Times](#) to find PDF activity sheets that can easily work for reacting to this news, including:

- [Connecting The New York Times to Your World](#)
- [Fact/Question/Response Sheet](#)
- [Identifying Cause and Effect](#)
- [K/W/L Chart](#)
- [The One-Pager](#)
- [Storyboarding Chart](#)
- [Problem-Solution Organizer](#)
- ["Postcard" Activity](#)

Lessons on Earthquakes, Tsunamis and Natural Disasters:

[Two Earthquakes in Two Months](#) — a 2010 lesson plan comparing the quakes in Haiti and Chile

[Earthquake!](#) — a 2008 lesson plan on earthquakes and disaster relief, pegged to the May 12, 2008, earthquake in western China

[It Comes in Waves](#) — a 2002 lesson in which students learn about the behavior and different origins of tsunami waves; they then research and chart the path of certain tsunamis from recent history

[Disaster Strikes](#) — a 2008 lesson plan involving a comparison of news coverage of a specific natural disaster, and tracking problems and responses, pegged to the cyclones in Myanmar

[Ashes to Airlines: Examining the Effects of a Volcanic Eruption on Our Global Community](#) — a 2010 lesson that teaches about the fragility of our interconnected world by having students collate different effects of the Eyjafjallajokull volcano in Iceland on a world map to create a visual representation of the global community

[One Year Later: Studying Post-Earthquake Haiti](#) — a 2011 lesson exploring the implications of the Haiti disaster from the perspectives of science, engineering, health, history, arts and culture, and the media.

[Project Haiti: Holding a Teach-In](#) — a 2010 lesson on organizing, researching and presenting reports and information about the Haiti disaster and developing proposals on how to respond. This post also contains links to a number of other lessons we did on Haiti immediately after the January 2010 earthquake.

[Feeling Vulnerable](#) — a 2006 lesson plan on the vulnerability of developing nations to the impact of natural disasters

[Shaken Up](#) — a 2004 lesson in which students discuss the type of information they expect to read in news coverage of earthquakes. They then learn about the devastating aftermath of an earthquake in South and Southeast Asia and research and write their own articles describing the event, covering various angles

[Aftershocks](#) — a 2005 lesson plan in which students research various earthquakes in modern history, including how recovery and relief efforts were managed

[Coastal Quandary](#) — a 2005 lesson plan in which students debate evacuation versus redevelopment in areas hit by or vulnerable to natural disaster

[At the Site of the Quake](#) — a 2002 lesson plan in which students research and design an educational earthquake Web site

[Calm After the Storm](#) — a 2005 lesson in which students create posters providing information about Sri Lanka's history and society both before and after its tsunami

Lessons and More on Japan:

[6 Q's About the News | Encountering Kyoto](#) — a 2010 look at the cultural and historical offerings in Kyoto

[Student Crossword | Japan](#) — a crossword from 2000

[Land of the Rising Guns?](#) — a 2007 lesson about the Japanese government's steps toward creating a stronger military, despite its pacifist Constitution. Students consider historical context and current geopolitical factors to articulate their personal opinions on these changes

[Always Remember, or Eventually Forget?](#) — a 2005 lesson in which students learn about how different generations of Japanese citizens have been influenced by the bombings of Hiroshima and Nagasaki

[A Whale of a Difference](#) — a 2002 lesson in which students research various perspectives on Japan's commercial whaling industry and devise position papers representing these views

[Prisoner in One's Own Home](#) — a 1999 lesson in which students examine the causes and effects of the internment of 120,000 Japanese-Americans during World War II

Lessons on Disaster Aid and Relief:

[Help Is on the Way](#) — a 2004 lesson on how disaster aid is provided and how individuals can help

[What a Relief!](#) — a 2003 lesson plan on the politics of federal disaster relief

[When Distress Spells S.O.S.](#) — a 2004 lesson plan on technologies used in distress signals

Resources Around the Web

The United States Geological Survey has [resources for teachers](#) including a [FAQ](#) and [Earthquake Glossary](#); resources, including games, that are just [for kids](#); a [Today in Earthquake History](#) page; and more.

[Stop Disasters](#) is an online game in which students stop natural disasters by understanding the risks and “applying the best methods of prevention and mitigation.”

IRIS, the Incorporated Research Institutions for Seismology, has several “[Teachable Moment Presentations](#)” based on this and other earthquakes.

Copyright 2013 The New York Times Company | [Privacy Policy](#) |
NYTimes.com 620 Eighth Avenue New York, NY 10018