Plate Tectonic Resources

LPI Activities and Resources
http://www.lpi.usra.edu/education/step2012/participant/plateTectonics.shtml
This webpage has a variety of classroom activities and resources associated with plate tectonics.

Conceptions and Prior Knowledge
AAAS Science Assessment topic: Plate Tectonics
http://assessment.aaas.org/topics/PT#/

Discovering Plate Boundaries
http://plateboundary.rice.edu/
Excellent inquiry based activity through which students in upper elementary through college can make observations about the patterns of features on Earth's surface – and draw conclusions about Earth's tectonic plates.

This Dynamic Earth (Jacquelyne Kious and Robert Tilling, USGS)
http://pubs.usgs.gov/gip/dynamic/dynamic.html
Good online overview of plate tectonics, history, and people involved in the process. Goes into moderate detail of processes for older students.

Texas Bureau of Economic Geology
http://www.beg.utexas.edu/edu/ed_res.php

- Resources - Texas geologic, tectonic, oil resources, and geography maps (and others!) are available for purchase
  - Texas Geologic Map: http://www.lib.utexas.edu/geo/pics/texas92a.jpg
  - Texas Tectonic Map: http://www.lib.utexas.edu/geo/pics/tectonic2.jpg
    Information: http://www.lib.utexas.edu/geo/fieldguides/txtect_map.html

United States Geologic Survey

- Geology Division - http://geology.usgs.gov/index.htm (earthquakes, volcanoes, climate change); current volcanic activity at a plethora of volcanic monitoring stations, online data, images, and lots of classroom ideas

IRIS
http://www.iris.edu/hq/
Great information on earthquakes; current earthquake activity. Check out the educator's resources and pages for the general public. Current, recent, and historic earthquake data are available here in map and tabular form.

Perspective Images of Slab Models
http://rses.anu.edu.au/seismology/projects/RUM/slabs/slabs.html
This site depicts 3D contour images of subducting slabs at subduction zones around the world.

Plates & Boundaries Challenge
http://www.learner.org/interactives/dynamicearth/plate2.html
In this online interactive activity by the Annenberg Foundation, students attempt to match the names of the tectonic plates to their location, and identify the types of specific boundaries. Information to help the students is available at http://www.learner.org/interactives/dynamicearth/plate.html.

TERC's Exploring Earth
https://www.classzone.com/books/earth_science/terc/navigation/investigation.cfm
FANTASTIC interactive lessons for students about Earth, visualizations, and more.

Wegener's Puzzling Evidence Exercise
http://volcanoes.usgs.gov/about/edu/dynamicplanet/wegener/index.php
Students fit the continents together using patterns of data to reconstruct the continents, formulate a hypothesis, and defend their position on continental drift.

Plates on the Move
http://www.amnh.org/ology/features/plates/loader.swf
Students play with an interactive to learn more about the relationship between moving plates and the related geologic events and features.

Virtual Courseware: Earthquake
http://nemo.sciencecourseware.org/eec/Earthquake/
Virtual Earthquake is an interactive web-based program designed to introduce the concepts of how an earthquake epicenter is located and how the Richter magnitude of an earthquake is determined.

Volcano World
http://volcano.oregonstate.edu/
Nice, broad collection of resources, from mythology to a glossary to images, current events and activities.

Volcano Explorer
http://kids.discovery.com/games/build-play/volcano-explorer
Students learn about the types of volcanos and build animated eruptions by changing different components.

Smithsonian Global Volcanism Program
http://www.volcano.si.edu/
The Smithsonian's Global Volcanism Program seeks better understanding of all volcanoes through documenting their eruptions — small as well as large — during the past 10,000 years.

Science Bulletins
http://www.amnh.org/sciencebulletins/
Updates, articles, images, and information about current geologic events

Resources for Teaching Geophysics (and Earth Science) in the 21st Century
http://serc.carleton.edu/NAGTWorkshops/geophysics/
GREAT animations and visualizations for plate tectonic, volcanism, seismicity… you have to poke around a bit to get at complete activities. Use the left nav bar to get visualizations
Plate Tectonics: http://serc.carleton.edu/NAGTWorkshops/geophysics/visualizations/PTMovements.html
Earthquakes: http://serc.carleton.edu/NAGTWorkshops/geophysics/visualizations/earthquakes.html

Digital Library for Earth Systems Education
http://www.dlese.org/library/index.jsp
Lots of tried and true activities. You can search by type of product (activity, curriculum, laboratory, animation, etc), grade level, and standard. All vetted by classroom teachers. Be sure to look at some of the undergrad materials; these may be appropriate for your classroom.

Earth Observing System
http://eospso.gsfc.nasa.gov/
Great global datasets that can be plotted and compared. Good for global change over the past few decades, not necessarily for long-term change.

Planetary Core Temperature Simulation
http://www.colorado.edu/engineering/ETH/projects/planetary_evo/Planet.htm
This program simulates the evolution of a planet with respect to temperature. This evolution depends on a number of factors including size of the planet, size of the planet's core, and amount of radiative heating.

My NASA Data
http://mynasadata.larc.nasa.gov/
Earth and atmospheric data sets and classroom activities; primarily for middle school.

Videos by Dr. Richard Alley/ Penn State
http://www.youtube.com/watch?v=fq22bVmxfuk&feature=related – ring of fire
http://www.youtube.com/watch?v=7-yJyM2s6ow – Geo man
http://www.youtube.com/watch?v=so_-OaDCddo – stratigraphy
http://www.youtube.com/watch?v=Ls2De3yF4Ps – seismic
http://www.youtube.com/user/psucalley#p/a/u/2/qozdaqQMILM - Mt. St. Helens