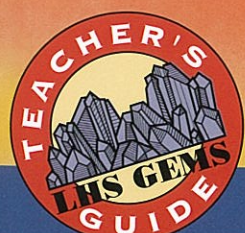
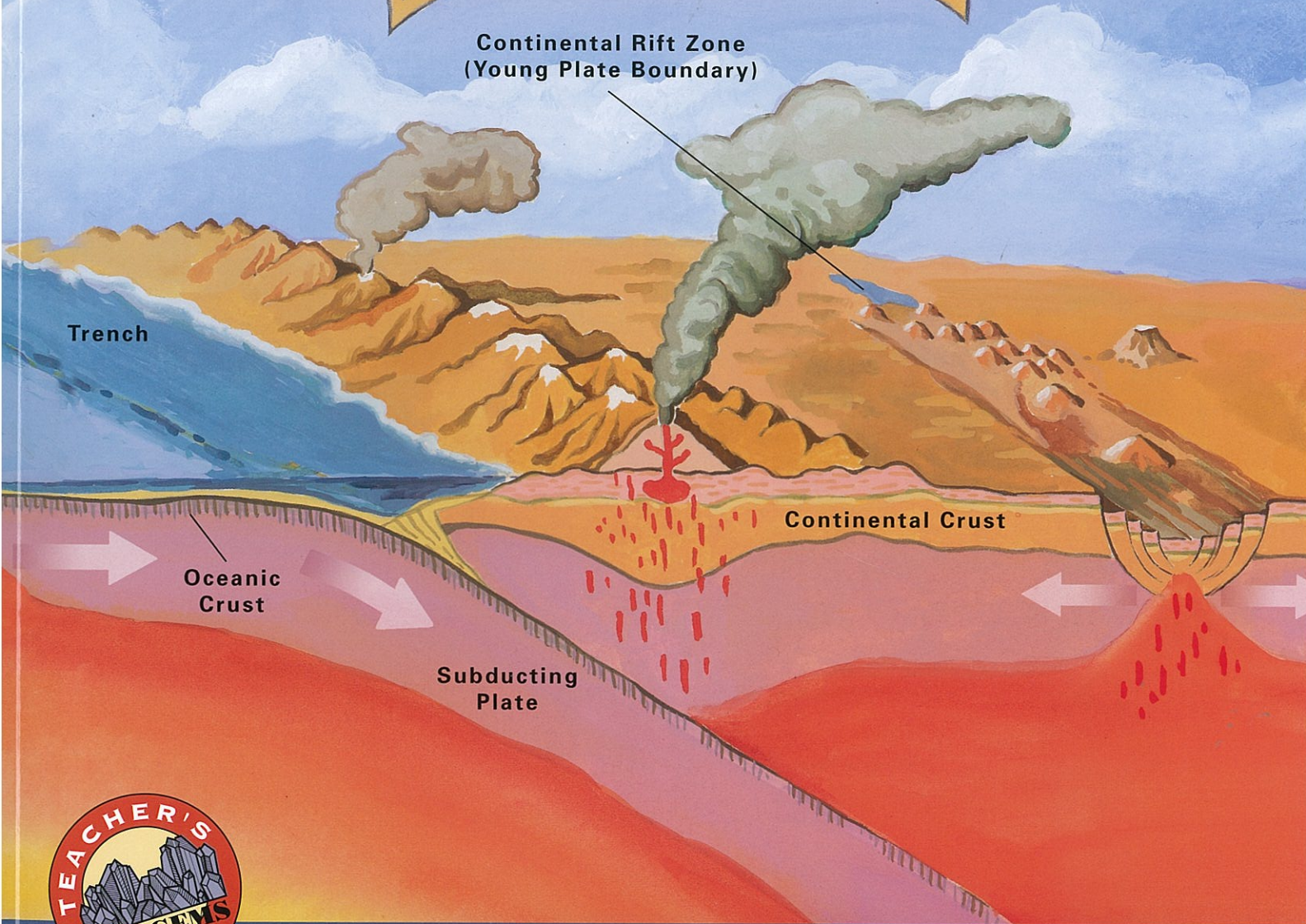


PLATE TECTONICS

The Way the Earth Works

FOR GRADES 6-8



What You Need for the Whole Unit

The quantities below are based on a class size of 32 students. Depending on the number of students in your class, you may, of course, need different amounts of materials.

This list gives you a concise “shopping list” for the entire unit. Please refer to the “What You Need” and “Getting Ready” sections for each session. They contain more specific information about the materials needed for the class and for each team of students.

Nonconsumables

- 6–8 pieces of 12" x 12" cardboard for volcano bases
- 6–8 pieces of 4" long x 3/4" diameter pvc pipe
- 6–8 pieces of 12" x 12" tagboard, any color, for volcano cones
- 6–8 16 oz. cottage cheese containers or plastic bowls (cereal bowl size is fine)
- 6–8 pieces of 12" x 12" aluminum foil
- 2 6 oz. bags of wheat paste (found in hardware stores, used for wallpaper adhesive)
- 1 measuring cup
- 1 container to transport about 8 cups warm water
- 1 pint brown water-based latex paint
- 1 pint water-based varathane varnish
- 1 or more paint brushes
- 1 large world map or globe
- 6–8 stopwatches or watches with timer
- 24–32 bars of non-hardening modeling clay (at least two different colors)
- a piece of sandpaper
- a saw to cut plywood pieces
- an electric drill with a screwdriver bit
- 1 “This Dynamic Planet” map
- 6–8 clay layered models from Session 1
- 12–16 pieces of 3/4" plywood, each one 4" x 2 3/4"
- 6–8 4" mending braces and 12–16 screws
- 3 identical, tall, clear, narrow, plastic bottles, minimum 8 oz.
- 8 oz. or more of each: water, mineral oil (or cooking oil), Murphy’s Oil Soap
- 3 or 4 blank transparencies
- 3 marbles (strong colors, not clear or white)
- 6–8 mineral and rock sample sets: quartz crystal, basalt, andesite, rhyolite
- 6–8 zip-locking sandwich bags

- 1 set of measuring spoons
- 6–8 model volcanoes (made in preparatory class session)
- 18–24 plastic centrifuge tubes
- viscosity bottle #3 from Session 3
- 6–8 rubber stoppers
- 6–8 sets of the six Stratigraphy Sheets (masters on pages 86–91)
- 1 each Magnet Placement Guide Side A (master on page 106) and Magnet Placement Guide Side B (master on page 107)
- viscosity bottle #1 from Session 3
- 96–128 ceramic magnets
- 24–32 pieces of 8 ½" x 11" cardboard or poster board
- 6–8 compasses (the magnetic kind)
- a transparency or butcher paper version of the Theory of Plate Tectonics (master on page 120)
- 1 set of the five Field Study Question Sheets (masters on pages 122–126)

An overhead transparency of each of the following

- Grand Canyon photograph (master on page 29)
- Pt. Reyes Fence (master on page 40)
- World Plotting Map (master on page 41)
- Inside the Earth (master on page 54)
- Rock Photomicrographs (master on page 55)
- Two Volcanoes (master on page 66)
- Survey Sheets A and B (master on page 110)

Optional

- black, green, or gray water-based latex paint

Consumables

- 6–8 paper plates
- 60–80 toothpicks
- 18–24 plastic cups (6 to 10 oz.)
- 18–24 popsicle sticks or other sturdy stirrers
- about 9–12 tablespoons of each: honey, cooking oil, peanut butter
- 3 cups of household-strength vinegar
- ½ cup of each: strawberry Quik, chocolate Quik, and Cherry Kool-Aid
- a 1 oz. bottle of red food coloring
- 1 small box of baking soda (for use in Sessions 4 and 5)
- 24–32 3 oz. paper cups for magmas (plastic medicine cups may also be used)
- 6–8 each of the three magma batches in Session 4
- 18–24 coffee stirrers

- 6–8 each Survey Sheet A (master on page 108) and Survey Sheet B (master on page 109)
- 32 Geologic Field Notebooks (masters on pages 197–214)

General Supplies

- a knife or exacto blade
- 1 ruler or tape measure
- 1 compass (the kind used to draw circles)
- 1 hot glue gun or white glue
- 6–8 pairs of scissors
- 1 roll of 2" wide tape such as duct tape or packaging tape
- several strips clear packaging tape
- transparent tape to attach stratigraphic pages
- 1 roll of masking tape or packaging tape at least 1" wide and not transparent
- 1 black permanent marker
- an overhead projector
- a 4.5 meter piece of adding machine tape (or other similar roll of paper, or string)
- a knife to cut clay models
- 6–8 metric rulers
- sponge(s) to wipe tables
- newspaper
- newspaper or plastic trash bags to cover tables
- paper towels
- a few damp paper towels (or handi-wipes) to wipe hands

Optional

- clear contact paper to cover cardboard bases of volcanoes