

Unit I. Defining an Earthquake

Materials List

Grades K-2

audiovisual cart on wheels
shallow box
sand or soil
paper plates and cups
small boxes
green construction paper
straws
stapler
writing paper
pencil
mural paper
drawing paper
crayons
oil pastels
scissors

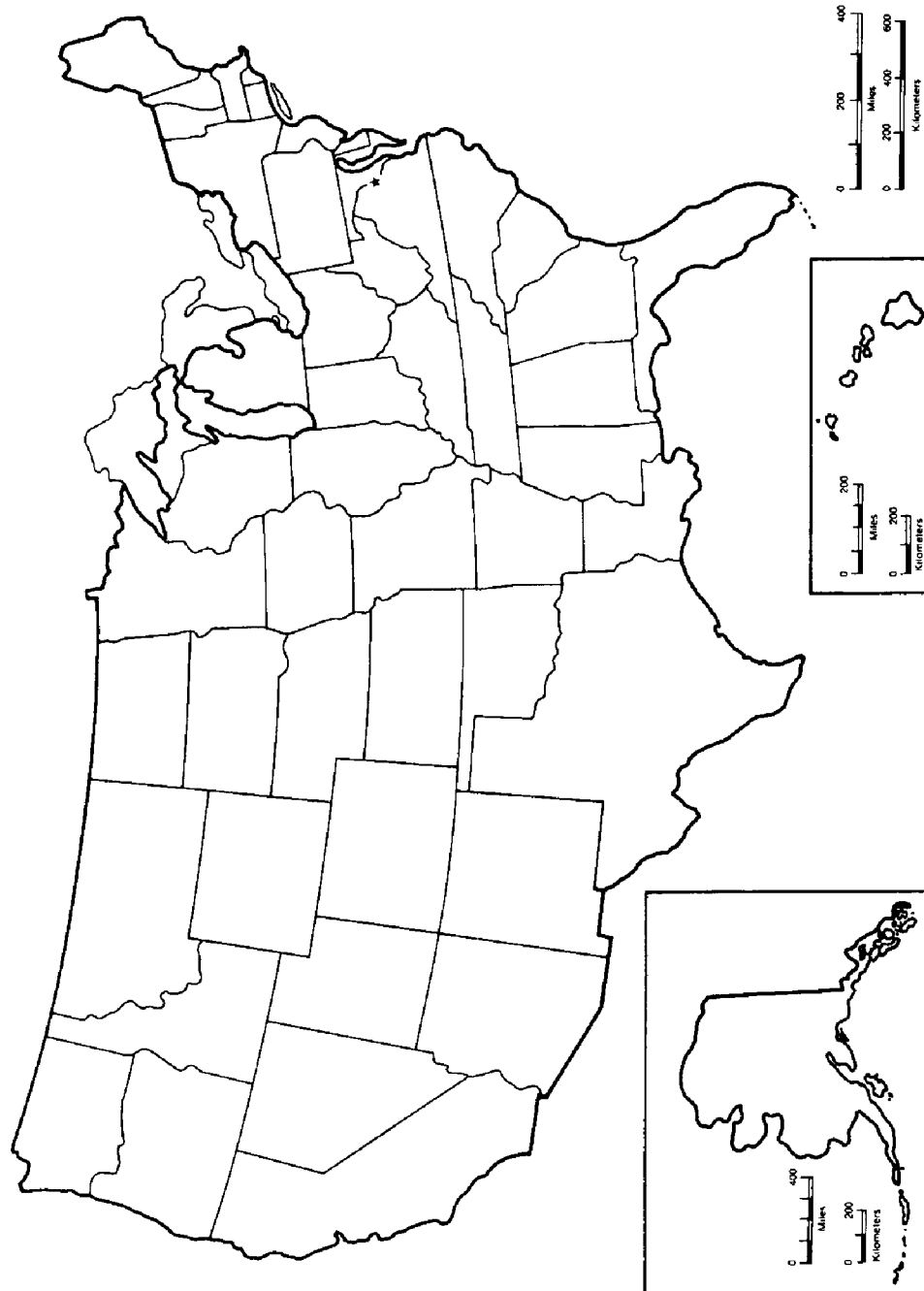
Grades 3-4

drawing paper
crayons
markers
tape
straight pins
colored yarn
fist-sized rock
Silly Putty™
red or purple gelatin
unflavored gelatin
boiling water
metal baking pan
overhead projector
coffee stirring sticks

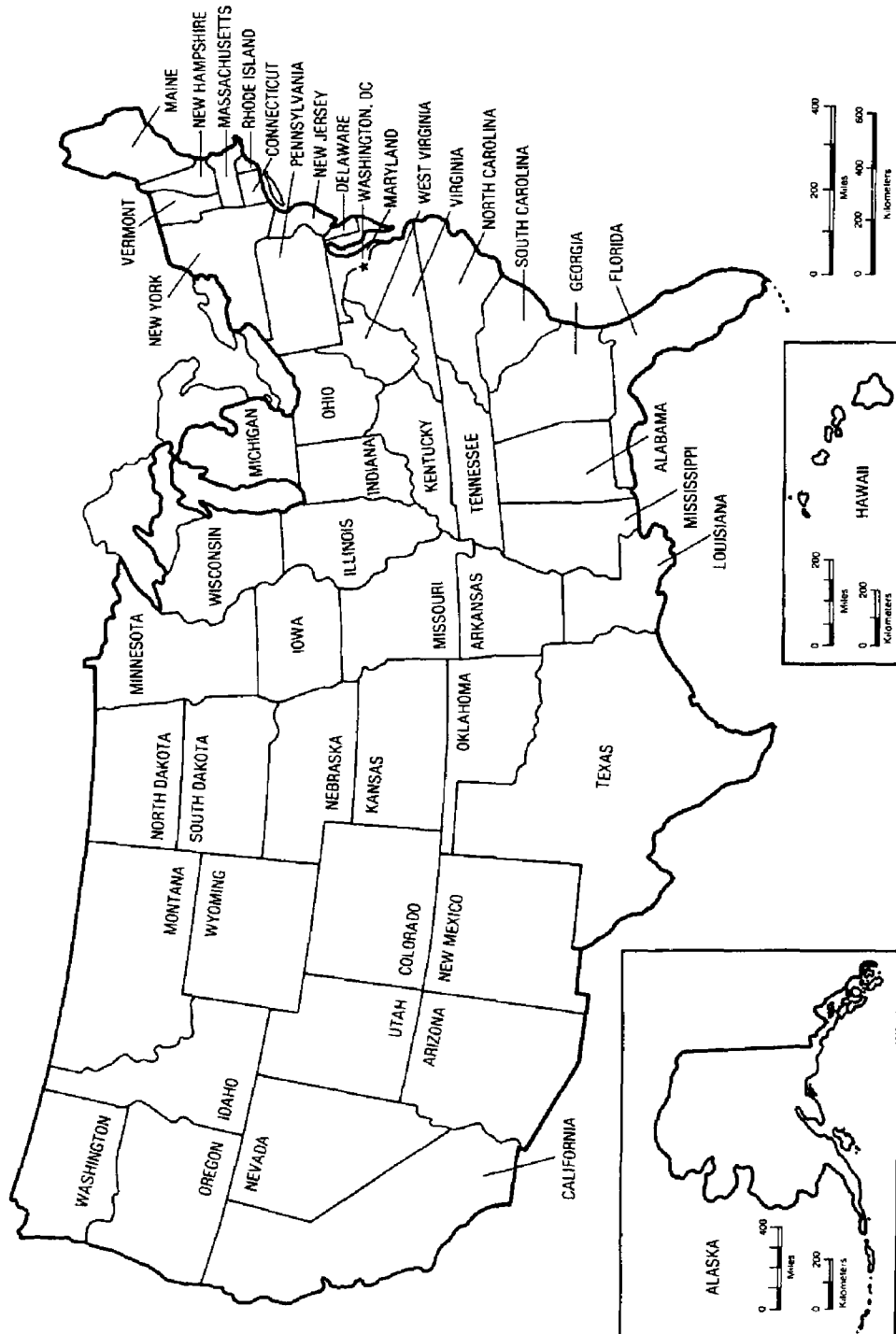
Grades 5-6

wood lath or dried stick
large bowl
sink or basin
goggles
colored pencils
string or tape
overhead projector
paper clips

U.S. Map



U.S. Map



The Turtle Tale

Long, long ago, before there were people, there was hardly anything in the world but water. One day, Great Spirit looked down from heaven. He decided to make a beautiful land. But where could he begin? All he saw was water. Then he spotted a giant turtle. Great Spirit decided to make the beautiful land on the turtle's back.

But one turtle was not big enough. The land Great Spirit wanted to make was very large. So he called out, "Turtle, hurry and find your six brothers."

Turtle swam to find them. It took her a whole day to find the first. It took her another day to find the next. After six days, turtle had found her six brothers. "Come," she said, "Great Spirit wants us."

Great Spirit called down "Turtles! Form a line, all of you—head to tail, north to south. Umm—you three on the south, please move a little to the east. Hmmm. Yes, that's just right. What a beautiful land you turtles will make! Now listen! It is a great honor to carry this beautiful land on your backs. So you must not move"

The turtles stayed very still. Great Spirit took some straw from his supply in the sky. He spread it out on the turtles' backs. Then he took some soil and patted it down on top of the straw.

Great Spirit cleaned his hands on a fluffy white cloud. Then he went to work, shaping mountains and valleys and lakes and rivers. When he was finished he looked at the beautiful land he had made. Great Spirit was very pleased. But soon trouble came. The giant turtles grew restless. They wanted to stretch their legs.

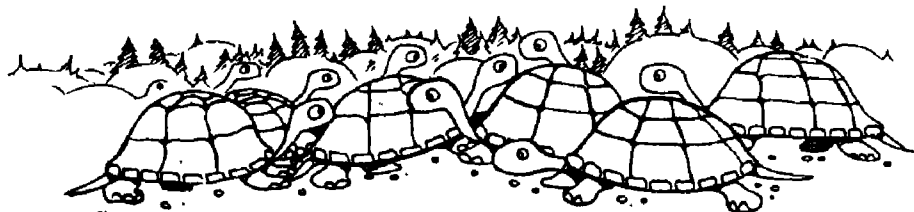
"I want to swim east," said one. "This beast goes east."

"West is best. I'll swim toward the setting sun," said another.

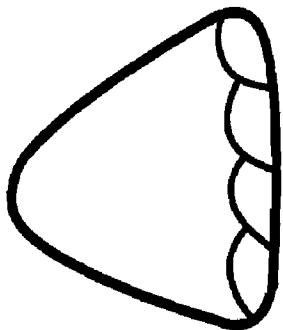
The turtles began to argue. They could not agree which way to move. One day, four of the turtles began to swim east. The others began to swim west. The Earth shook! It cracked with a loud noise. But after a minute, the shaking stopped. The turtles had to stop moving because the land on their backs was so heavy. They had only been able to swim a little way from each other. When they saw that they could not swim away, they stopped arguing and made up.

Every once in a while, though, the turtles argue again. Each time they do, the Earth shakes.

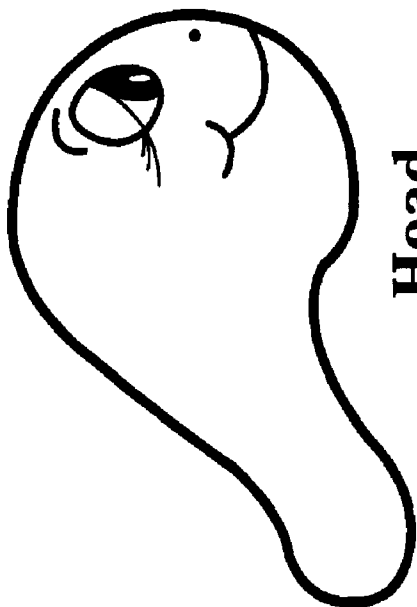
HELP: Hands-on Earthquake Learning Package. (1983). California Edition. Environmental Volunteers, Inc.



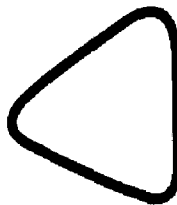
Turtle Tale Pop-Up Puppet



Foot
(cut 4)



Head
(cut 1)



Tail
(cut 1)

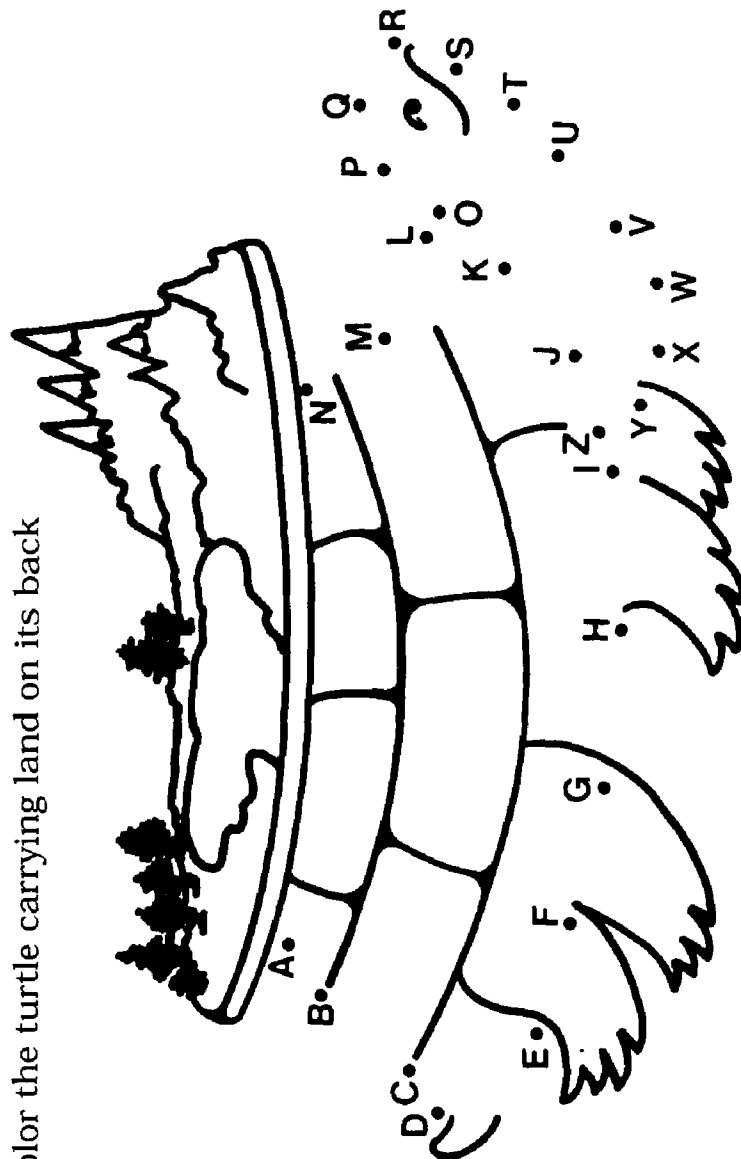
Turtle Dot-to-Dot

Name _____

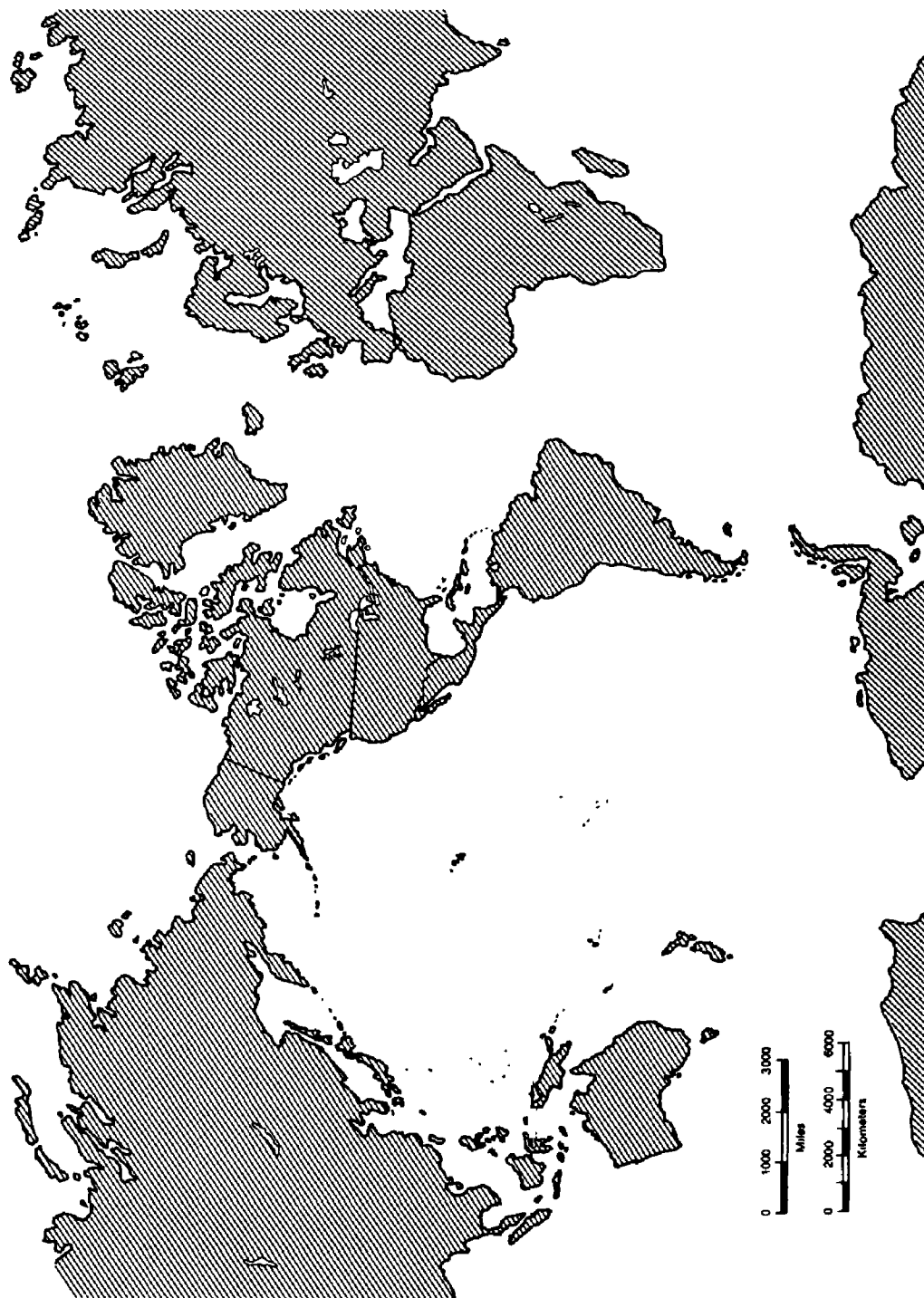
I heard a legend from the San Gabrielino Indians.

The Indians thought that big turtles carried the land on their backs. They thought that an earthquake happened when the turtles moved in different directions.

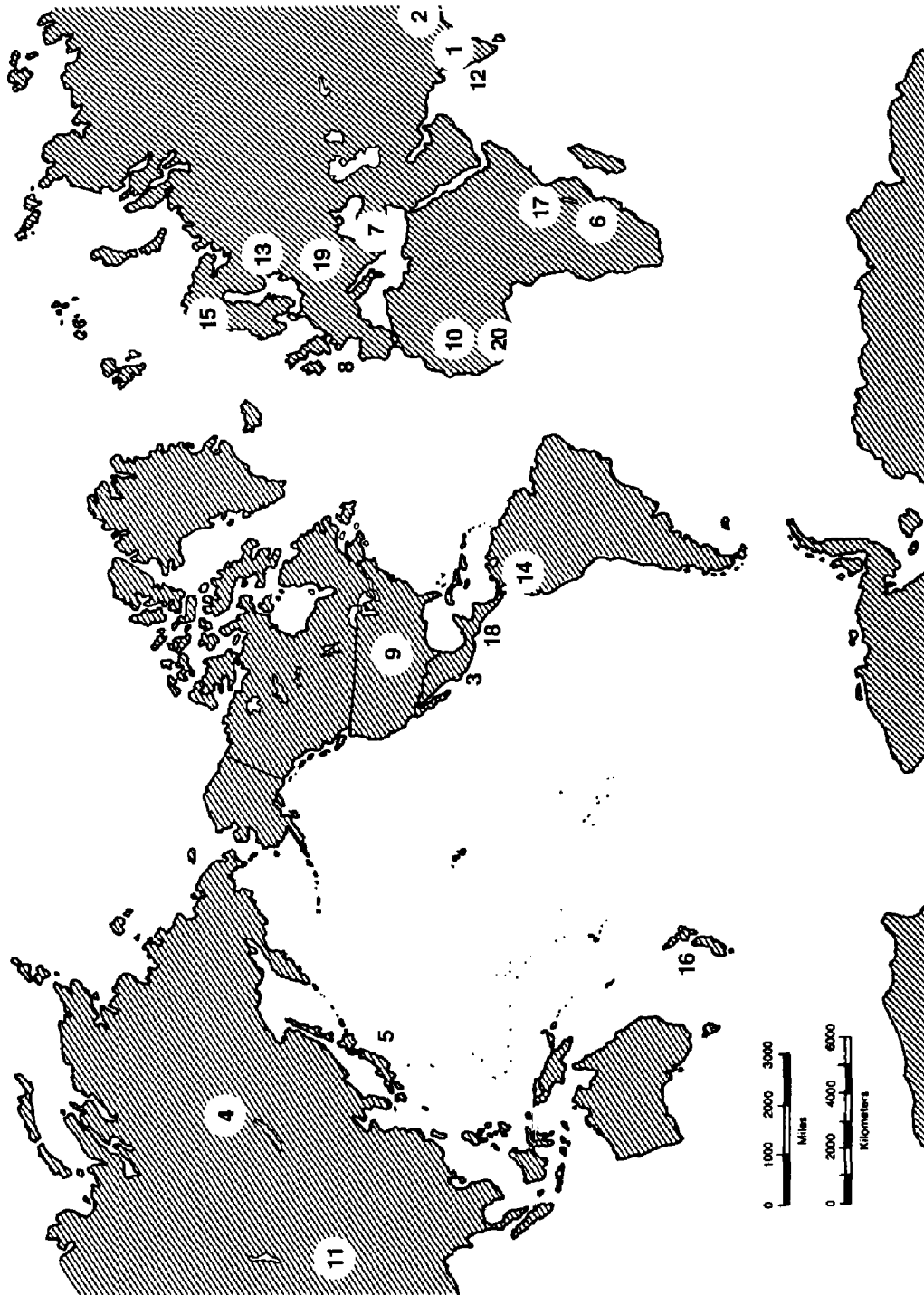
1. Connect the dots.
2. Color the turtle carrying land on its back



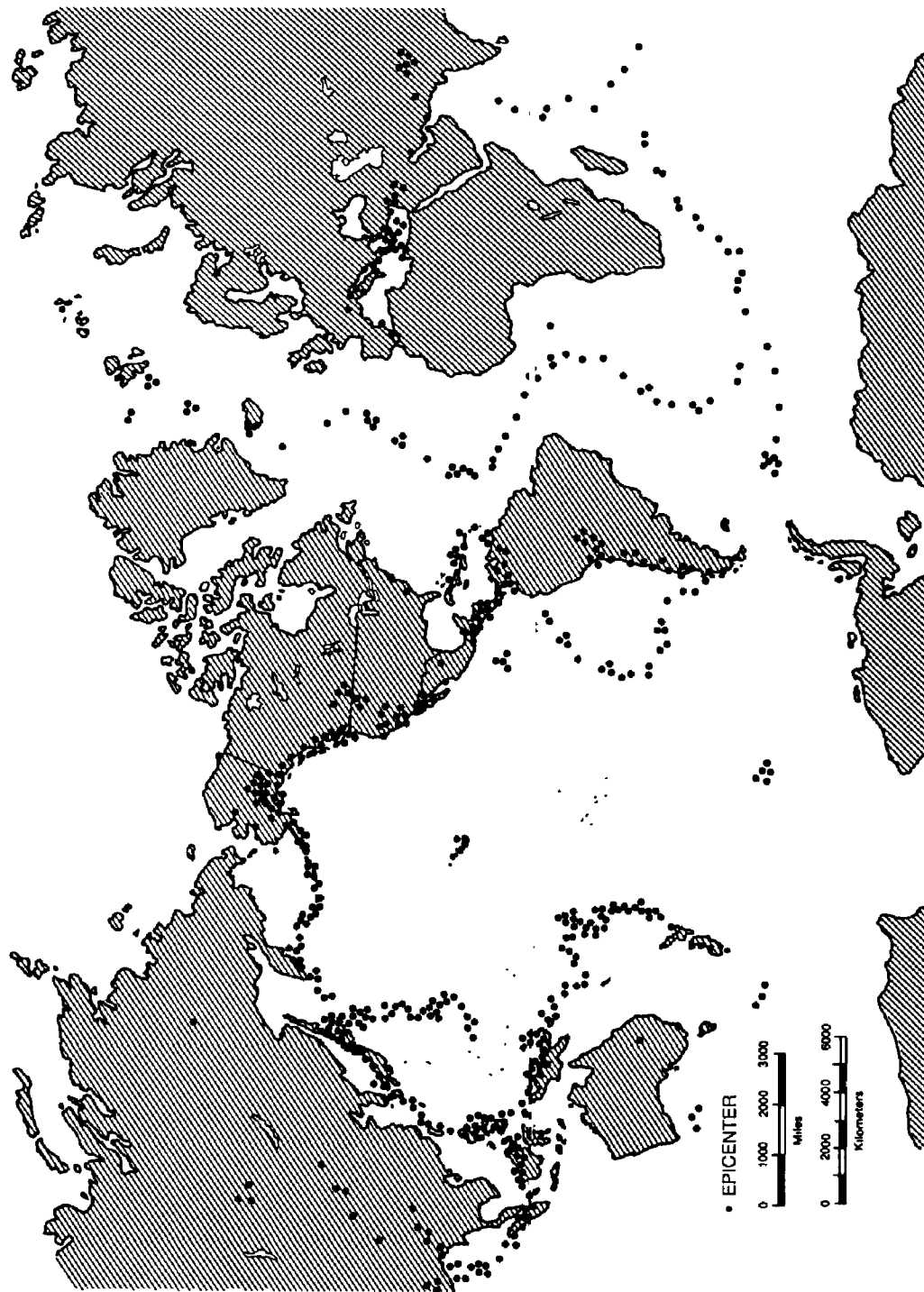
World Map



World Map with Legend Sites

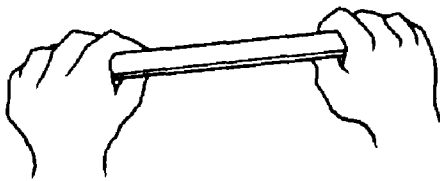


World Map with Epicenters



Elastic Rebound

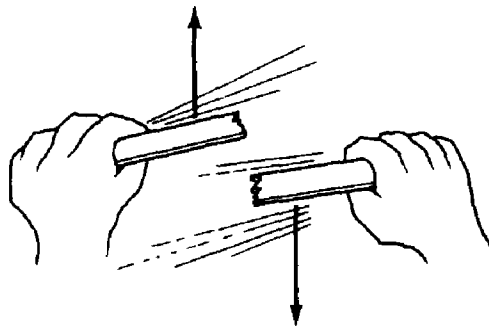
Stick Changes



Original position with no strain on sticks and rocks

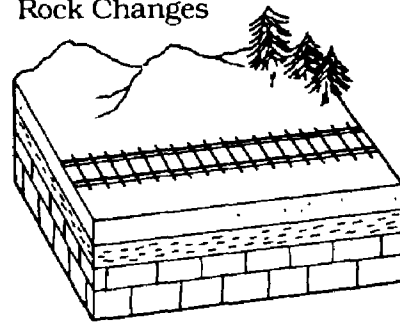


Buildup of potential energy in bent stick and deformed rocks

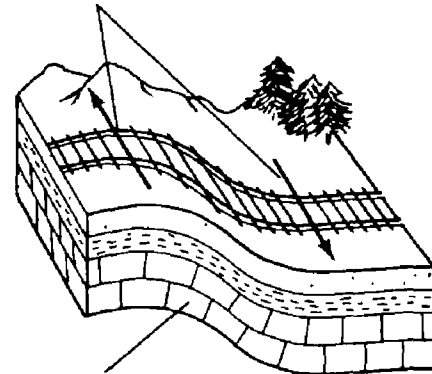


Breaking stick and rocks produces break (fault) and energy release or earthquake

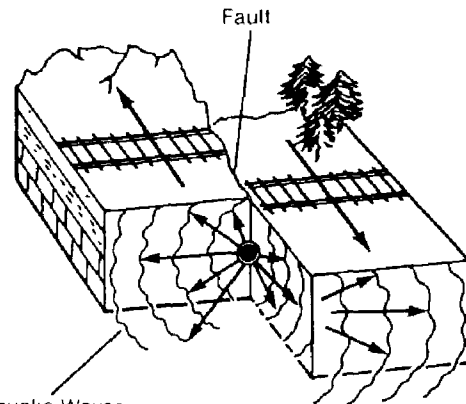
Rock Changes



Pressure Direction

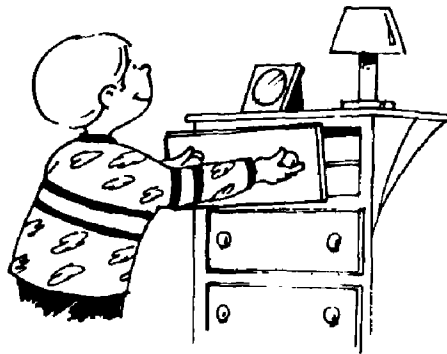


Deformed Rocks



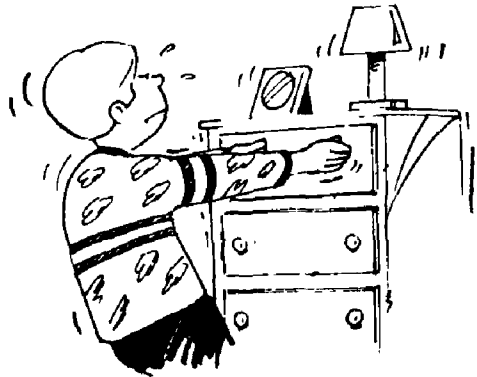
Earthquake Waves

Dresser Drawers



Smooth drawer surfaces
slide easily

However...

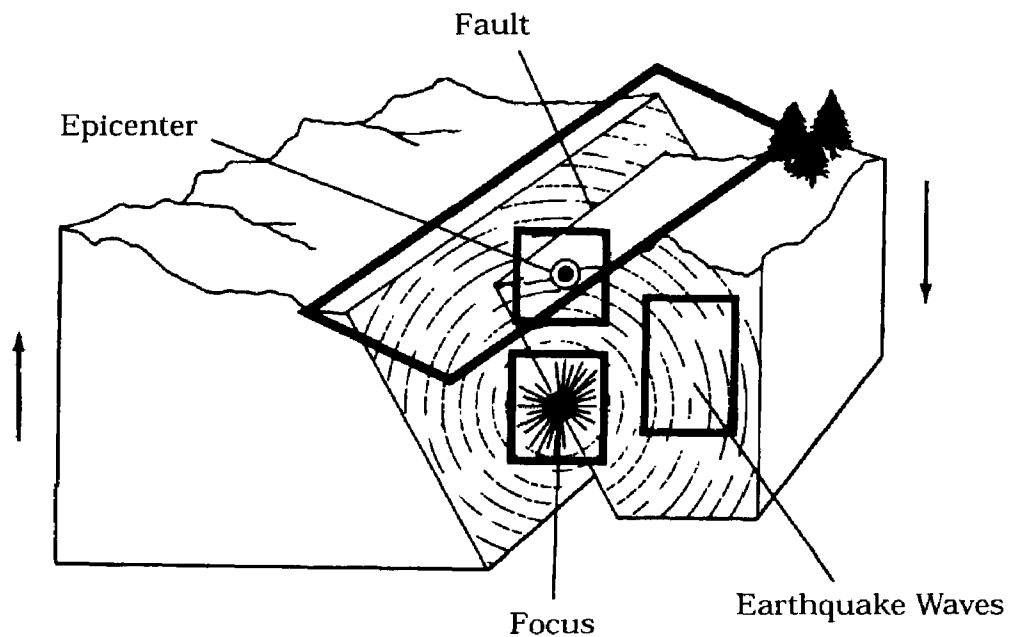


A great force is needed to move
a sticky drawer



A sticky drawer opens with a
jerky movement

Earthquake Terms



Definitions:

Focus

The focus is the place where an earthquake starts.

Epicenter

The epicenter is the point on the Earth's surface directly above the focus.

Fault

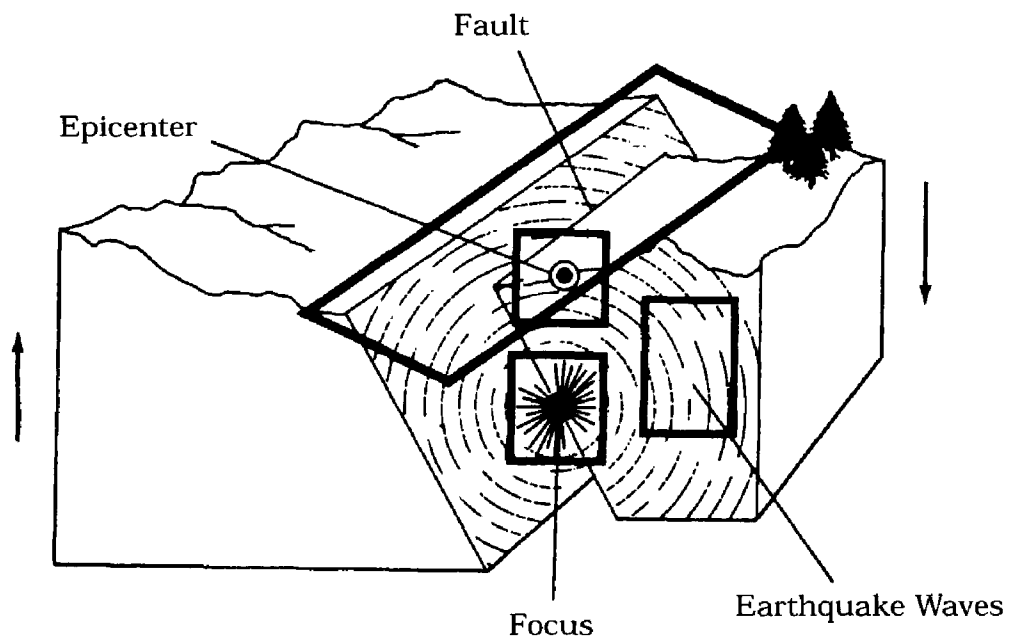
A fault is a break in the Earth's rocky surface along which the two sides have been displaced relative to each other.

Earthquake Waves

Earthquake waves are waves caused by the release of energy.

Earthquake Terms Worksheet

Name _____



Definitions:

Focus _____

Epicenter _____

Fault _____

Earthquake Waves _____

U.S. Map with Epicenters

