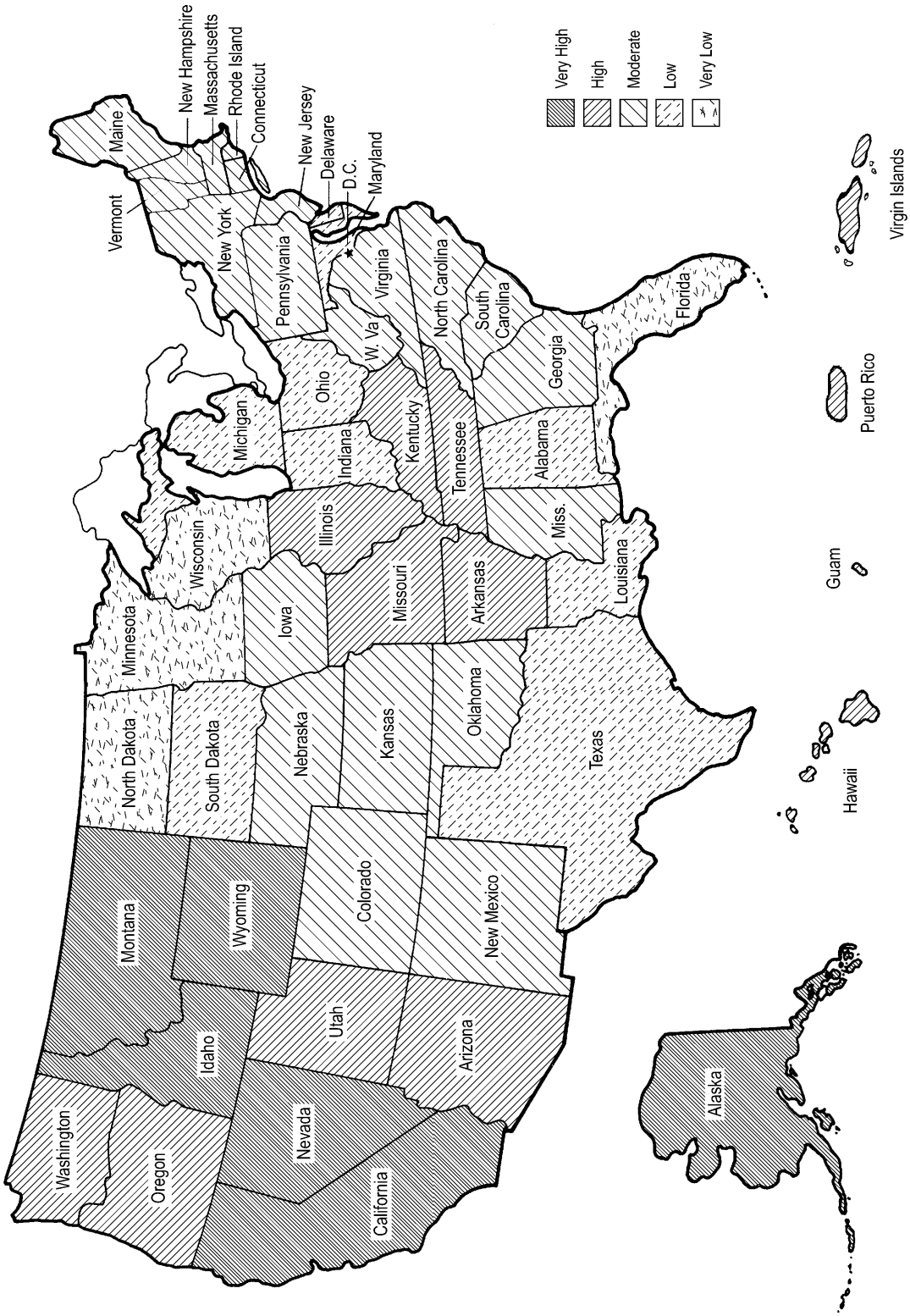
Earthquake Hazard of the United States



Earthquake Simulation Script

Imagine that you hear a low, rumbling sound. The noise builds, getting louder and louder. Then WHAM! There's a terrific jolt. You feel like someone suddenly slammed on the brakes in the car, or like a truck just rammed into the side of the building. You hear someone say...

Earthquake! Drop and cover.

The floor seems to be moving beneath you. You might feel like you're riding a raft down a fast river. The building is creaking and rattling. Books are falling from the bookcase. Hanging lamps and plants are swaying. Suddenly a pot falls to the floor and smashes. A windowpane just shattered, and glass is falling to the floor. The table is sliding, you hold on to it and move with it.

Pictures are moving on their nails. One just fell off the wall and crashed to the floor. The lights begin to flicker on and off... the lights just went out! Now the door swings back and forth on its hinges. Bang! It slams shut.

[a few moments of silence]

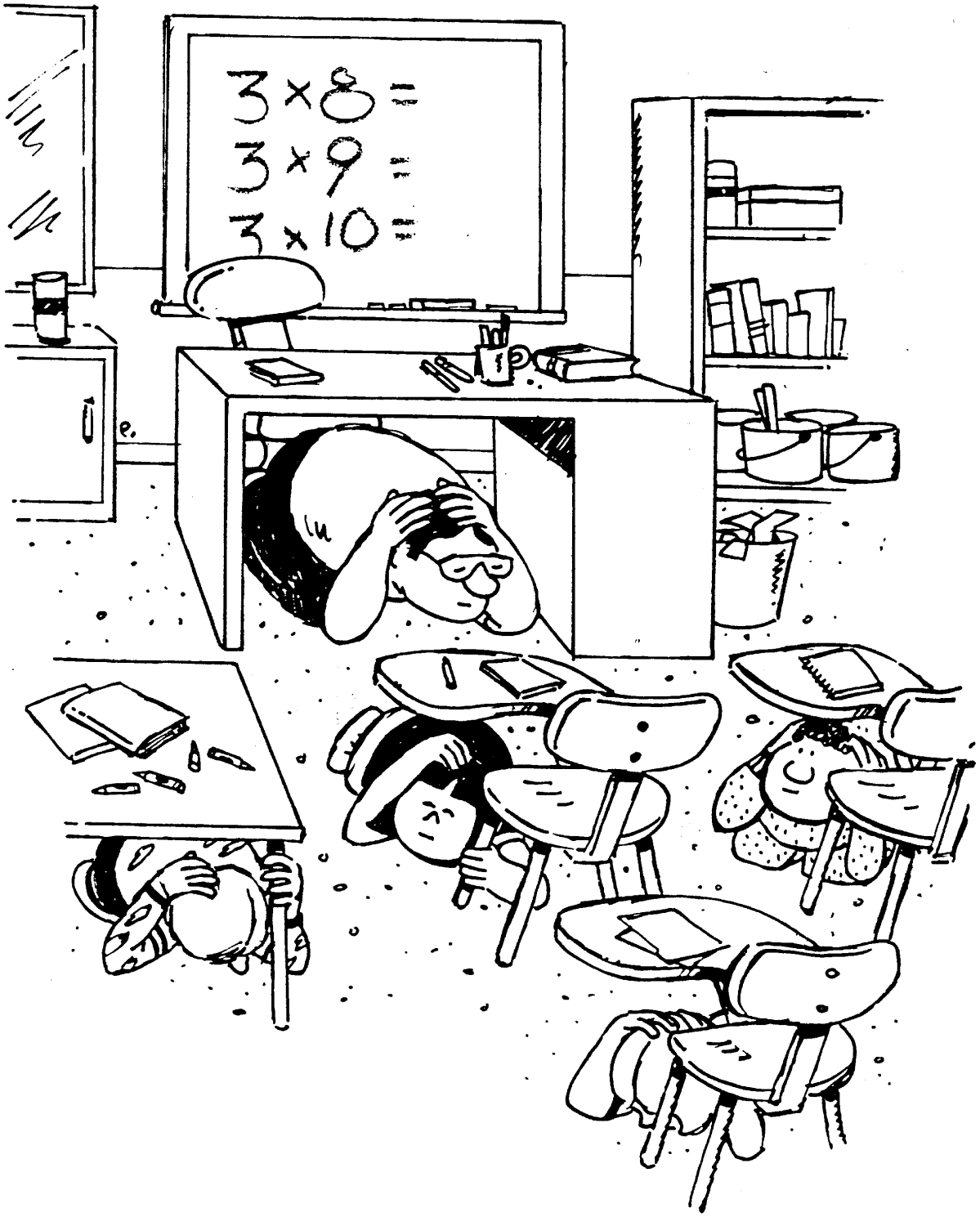
The building is still now. The alarm is still wailing. In the distance you can hear helicopters flying overhead. In the distance you hear sirens from police cars and fire engines.

Please remain quiet. You may come out from under your desk. Check yourself and your neighbor to make sure you are both unhurt.

[roll call optional]

When it is safe to leave the building, I am going to lead you outside to an open space. Stay together, and be ready to take cover again at any moment because the shaking may start again. Be prepared for after-shocks after the earthquake has stopped.

Drop, Cover and Hold



Coalinga Schools Report

At 4:42 p.m. on Monday, May 2, 1983, an earthquake registering 6.5 on the Richter scale struck the Coalinga area. Seconds later there was an aftershock of 5.0 Richter magnitude.

Coalinga has three elementary schools, one junior high, and one high school, serving approximately 1,900 students. The school buildings were constructed between 1939 and 1955. They contain 75 classrooms, plus gymnasiums, auditoriums, libraries, and multipurpose rooms.

Superintendent Terrell believes that death and serious injury would have occurred if school had been in session. The following is an account of the nonstructural damage to these schools:

Windows
Large windows received and caused the most damage. The 31-year-old junior high library had glass windows approximately 2.40 m X 3.04 m (8 X 10 ft.) on the north and south walls. The glass was not tempered. All windows imploded and littered the room with dagger-shaped pieces of glass. Floor tiles and wooden furniture were gouged by flying splinters.

Lighting Fixtures
Approximately 1,000 fluorescent bulbs fell from their fixtures and broke. All of the fixtures in the elementary schools came down, and many in other buildings. None of the hanging fixtures had safety chains. Glass in the older recessed fixtures was shaken out and broken.

Ceilings
Improperly installed T-bar ceilings came down. Glued ceiling tiles also fell, especially around vent ducting and cutouts for light fixtures.

Basements and Electrical Supply
Water pipes which came into the buildings through concrete walls were severed by the movement of the walls. Basements were flooded to five feet.

Since all electrical supply and switching mechanisms for these buildings were in the basements, all of them were destroyed by water.

Chemical Spills
In the second-floor high school chemistry lab, bottles of sulfuric acid and other chemicals stored in open cabinets overturned and broke. Acid burned through to the first floor. Cupboard doors sprang open and glass cabinet doors broke, allowing chemicals to spill. Because there was no electric ventilation, toxic fumes permeated the building.

Furnishings and Miscellaneous Items
File cabinets flew across rooms; freestanding bookcases, cupboards, cabinets, and shelves fell over.

Machine shop lathes and presses fell over.

Typewriters flew through the air.

Metal animal cages and supplies stored on top of seven-foot cabinets crashed to the floor.

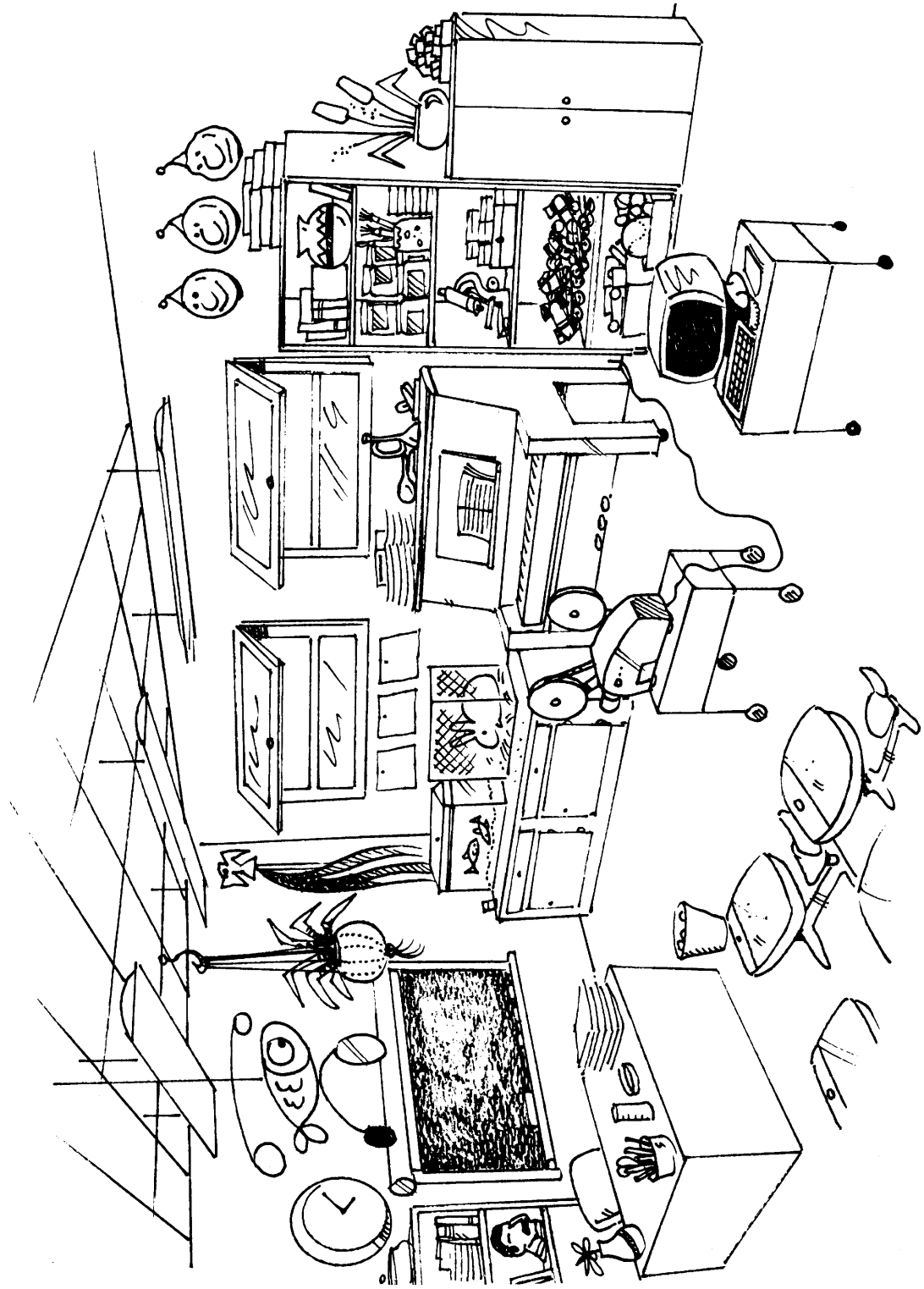
Movie screens and maps became projectiles.

Storage cabinets in the high school had been fastened to the wall with molly bolts, but they were not attached to studs. They pulled out of the wall and fell to the floor with their contents.

(Based on a report prepared by E. Robert Bulman for Charles S. Terrell, Jr., superintendent for schools for San Bernadino County, California)

Fourth Grade Classroom

Name _____



Classroom Hazard Hunt

Name _____

Check box if YES

☐ **1.** Free-standing cabinets, bookcases, and wall shelves are secured to structural support

☐ **2.** Heavy objects are removed from shelves above the heads of seated students.

☐ **3.** Aquariums and other potentially hazardous displays are located away from seating areas.

☐ **4.** The TV monitor is securely fastened to a stable platform or it is attached securely to a rolling cart with lockable wheels.

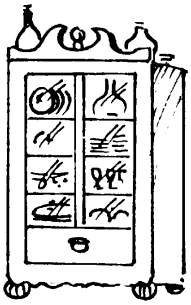
☐ **5.** The classroom piano is secured against rolling during an earthquake.

☐ **6.** Wall mountings are secured to prevent them from swinging free during an earthquake.

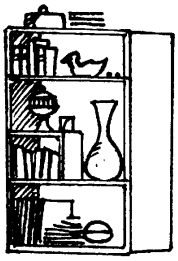
☐ **7.** All hanging plants are in lightweight, unbreakable pots and fastened to closed hooks.

Home Hazard Hunt Worksheet

Name _____

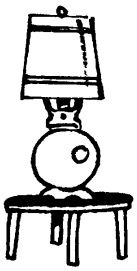


☐ **1.** china cabinet

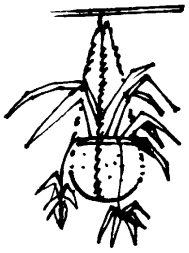


☐ **2.** tall knickknack shelves

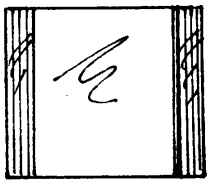
☐ **3.** bookshelves



☐ **4.** tall, heavy table lamp

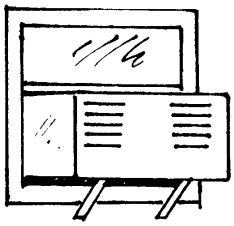


☐ **5.** hanging plant



☐ **6.** mirror on wall

☐ **7.** heavy objects on wall shelves

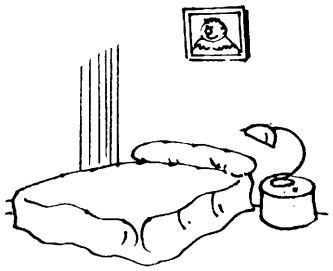


☐ **8.** window air conditioner

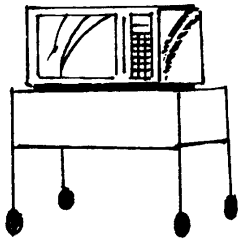
Home Hazard Hunt Worksheet

Name _____

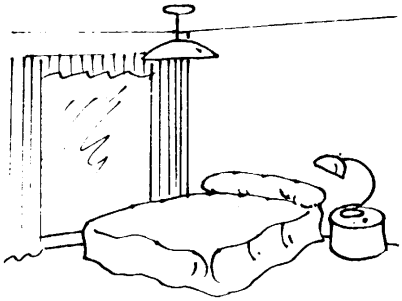
☐ **9.** hanging lamp or chandelier



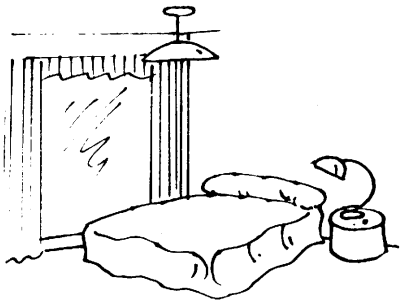
☐ **13.** heavy picture above bed



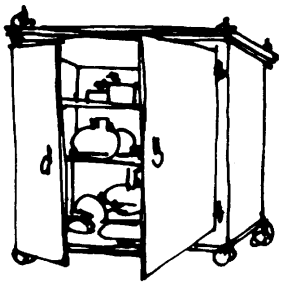
☐ **10.** unsecured TV on cart with wheels



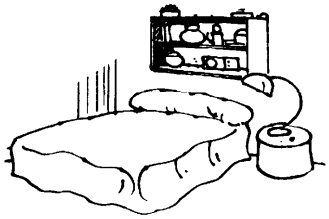
☐ **14.** hanging light above bed



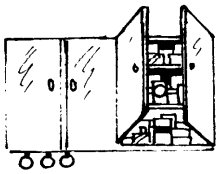
☐ **11.** bed by big window



☐ **15.** cabinet doors not fastened



☐ **12.** heavy objects on shelves above bed



☐ **16.** medicine cabinet doors not fastened