

RICHTER VS MERCALLI SCALES

DIRECTIONS: Determine the Modified Mercalli Scale intensity and Richter magnitude of each of described earthquakes. Use the tables on the next page to guide your answers.

1. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing cars may rock slightly. The vibration feels similar to the passing of a truck.
MERCALLI _____ RICHTER _____
2. Damage is negligible in buildings of good design and construction: slight to moderate in well-built ordinary structures; considerable damage in poorly build or badly designed structures; some chimneys broken.
MERCALLI _____ RICHTER _____
3. Not felt except by a very few under especially favorable conditions.
MERCALLI _____ RICHTER _____
4. Felt by all, many frightened. Some heavy furniture is moved; a few instances or fallen plaster. Damage slight.
MERCALLI _____ RICHTER _____
5. Damage slight in specially designed structures; considerable damage in ordinary substantial building with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
MERCALLI _____ RICHTER _____
6. Define the Mercalli Intensity Scale:

7. Define the Richter Magnitude Scale:

SCALE OF EARTHQUAKE INTENSITIES WITH APPROXIMATELY CORRESPONDING MAGNITUDES

MERCALLI INTENSITY	DESCRIPTION	RICHTER MAGNITUDE
I.	<i>INSTRUMENTAL</i> : detected only by seismographs	3.5
II.	<i>FEEBLE</i> : noticed only by sensitive people	4.2
III.	<i>SLIGHT</i> : like the vibrations due to a passing train; felt by people at rest, especially on upper floors	4.3
IV.	<i>MODERATE</i> : felt by people while walking; rocking of loose objects, including standing houses	4.8
V.	<i>RATHER STRONG</i> : felt generally; most sleepers are awakened and bells ring	4.9 - 5.4
VI.	<i>STRONG</i> : trees sway and all suspended objects swing; damage by overturning and falling of loose objects	5.5 - 6.0
VII.	<i>VERY STRONG</i> : general alarm; walls crack; plaster falls	6.1
VIII.	<i>DESTRUCTIVE</i> : car drivers seriously disturbed; masonry fissured; chimneys fall; poorly constructed buildings damaged	6.2
IX	<i>RUINOUS</i> : some houses collapse where ground begins to crack, and pipes break open	6.9
X	<i>DISASTROUS</i> : ground cracks badly; many buildings destroyed and railway lines bent; landslides on steep slopes	7.0 - 7.3
XI	<i>VERY DISASTROUS</i> : few buildings remain standing; bridges destroyed; all services (railways, pipes and cables) out of action; great landslides and floods	7.4 - 8.1
XII	<i>CATASTROPHIC</i> : total destruction; objects thrown into air; ground rises and falls in waves	> 8.1