

Rossi-Forel Scale (1883)

Mercalli Scale (1902)

Measures earthquake *intensity*---considers effects on different types of infrastructure, 12 divisions expressed as Roman numerals, I is the least intense and XII is the most intense.

To be affective you would need a systematic grid of a particular object to see if it would or would not be affected. For example, in an intensity of V, the scale mentions that pendulum clocks stop or change rate. How many of the class have a pendulum clock? If you don't have one, how do you know if it would have stopped or not.

Speaking of Roman numerals and pendulum clocks, have you ever looked closely at the numbers on the face? Very interesting story about why that difference.

Modified Mercalli Scale—earthquake intensity

XII. Distorts lines of sight and level; damage nearly total; large rock masses displaced; objects thrown into the air.

XI. Puts underground pipelines completely out of service; rails bend greatly.

X. Destroys most masonry and frame structures; some well-built wooden structures and bridges destroyed; serious damage to dams, dikes, embankments; large landslides; water thrown on banks of canals, rivers, and lakes; sand and mud shift horizontally on beaches and flat lands; rails bend slightly.

IX. Causes general panic; poor masonry destroyed; good unbraced masonry heavily damaged; reinforced masonry seriously damaged; general damage to foundations; frame structures not bolted shift off their foundations; frame cracks; serious damage to reservoirs; underground pipes break; alluvial areas cracked conspicuously ejecting sand and mud; earthquake fountains and sand craters develop.

VIII. Affects steering of motor cars; damage to good unbraced masonry with partial collapse; some damage to good, somewhat reinforced masonry but none to masonry reinforced against horizontal stresses; walls of stucco and some of masonry fall; chimneys, factory stacks, monuments, towers, and elevated tanks twist and fall; frame houses not bolted down move on their foundation; loose panel walls thrown out; decayed pilings break off; branches break off trees; flow and temperature of springs and wells change; wet ground and steep slopes crack.

VII. Noticed by automobile drivers; walkers have difficulty keeping balance, weak chimneys break at roof lines; furniture breaks; poor masonry cracks; plaster, loose bricks, stones, tiles, cornices fall; small slides and caving develop along sand and gravel banks; water becomes turbid; large church bells ring; concrete irrigation ditches are damaged.

VI. Felt by all; many run outdoors in fright; people walk unsteadily; windows, dishes, glassware break; knickknacks, books, dishes fall from shelves; pictures from walls; furniture moves or overturns; weak plaster and poor masonry crack; small church and school bells ring; trees, bushes shake visibly and rustle.

V. Felt outdoors; sleepers awaken; liquids move and some spill; small unstable object move or fall; doors swing; shutters and picture move; pendulum clocks stop or change rate.

IV. Felt indoors like the vibrations from a passing heavy truck or the jolts of a heavy ball striking a wall; hanging objects swing; standing objects rock; windows, dishes, doors rattle; glasses clink; walls and frames may creak.

III. Felt indoors but may not be recognized as an earthquake; vibrations resemble those from a passing light truck.

II. Felt by persons at rest especially on upper floors or in similarly favorable places.

I. Not felt.