

MathFLIX CHALLENGE

Measuring Earthquakes - an Exponential Scales

The strength of earthquakes is described by a number from 0 to 9 on the Richter scale. The Richter scale is an exponential scale which uses powers of 10 to compare the magnitude or size of earthquakes. Complete the chart below to get a sense of how the Richter scale works.

Type of earthquake	Richter scale	Multiplication problem	Exponential notation	Distance, by analogy
no movement	0	1	10^0	1 millimeter
not felt	1	10	10^1	1 cm
not felt	2	10×10	10^2	1 decimeter
felt at epicenter	3	$10 \times 10 \times 10$		1 meter
mild	4			1 dekameter
moderate	5			
strong	6			
very strong	7			
great	8			