

Mathematics Topics Intended at Each Grade by Kentucky

Topic	Grade											
	1	2	3	4	5	6	7	8	9	10	11	12
Whole Number: Meaning	●	●	●	●	●	●	●					
Whole Number: Operations	●	●	●	●	●	●	●					
Measurement Units	●	●	●	●	●	●	■	●	○	○	○	○
Common Fractions	●	●	●	●	●	●	●	●				
Equations & Formulas	●	●	●	●	●	●	●	●	●	●	●	●
Data Representation & Analysis	●	●	●	●	●	●	●	●	●	●	●	●
2-D Geometry: Basics	●	●	●	●	●	●	○	○	●	●	●	●
2-D Geometry: Polygons & Circles	●	●	●	●	●	●	●	●	●	●	●	●
Measurement: Perimeter, Area & Volume				●	●	●	●	●				●
Rounding & Significant Figures				●	●	○	○	○				
Estimating Computations	●	●	●	●	●	■	●	●	○	○	○	○
Whole Numbers: Properties of Operations	○	○	○	○	○	●	●	●				
Estimating Quantity & Size	●	●	●	■	●	○	○	○				
Decimal Fractions	●	●	●	■	●	●	●	●				
Relation of Common & Decimal Fractions	●	●	●	■	●	●	●	●				
Properties of Common & Decimal Fractions	○	○	○	○	○	●	●	●				
Percentages				●	●	●	●	●				
Proportionality Concepts				●	●	●	●	●				
Proportionality Problems				●	●	●	●	●	●	●	●	●
2-D Geometry: Coordinate Geometry	○	○	○	●	●	●	●	●	●	●	■	●
Geometry: Transformations	●	●	●	●	●	■	○	●	●	●	●	●
Negative Numbers, Integers, & Their Properties						■	●	■				
Number Theory	●	●	●	●	●	●	●	●				
Exponents, Roots & Radicals							●	●	●	●	●	●
Exponents & Orders of Magnitude							●	●	■	○	○	○
Measurement: Estimation & Errors	○	○	○	○	●	○	○	●				
Constructions using Straightedge & Compass							●	●				
3-D Geometry	●	●	●	●	●	○	○	●	●	●	●	●
Geometry: Congruence & Similarity	○	○	○	○	●	●	●	●	●	●	●	●
Rational Numbers & Their Properties							●	●	●	●	●	●
Patterns, Relations & Functions	●	●	●	●	●	●	●	●	●	●	●	●
Proportionality: Slope & Trigonometry							●	●	●	●	●	●
Real Numbers, their Subsets & Properties							●	●	●	●	●	●
Validation & Justification									●	●	●	●
Structuring & Abstracting									●	●	●	●
Uncertainty & Probability	○	○	○	●	●	●	●	●	●	●	●	●
Complex Numbers & Their Properties									●	●	●	●
Infinite Processes									●	●	●	●
Change											●	●
Vectors											●	●
Systematic Counting						●	●	●	○	○	○	○

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Science Topics Intended at Each Grade by Kentucky

Topic	Grades											
	1	2	3	4	5	6	7	8	9	10	11	12
Organs, tissues	●	●	●	●	●	●			●	●	●	●
Physical properties of matter	●	●	●	●	●	●	●	●	●	●	●	●
Plants, fungi	●	●	●	●	○			●				
Animal types	●	●	●	●	○			●				
Classification of matter	●	●	●	●		●	●	●	●	●	●	●
Rocks, soil	●	●	●	●				●				
Light	●	●	●	●	●							
Electricity	●	●	●	●	●				●	●	●	●
Life cycles	●	●	●	●				○				
Physical changes of matter				●	●	●						
Heat & temperature	●	●	●	●	○	○	●	●	●	●	●	●
Bodies of water						●						
Interdependence of life	●	●	●	●	●	●	●	●	●	●	●	●
Habitats & niches	●	●	●	●								
Biomes & ecosystems	●	●	●	●	○	●	●	●	●	●	●	●
Reproduction							●		●	●	●	●
Time, space, motion	●	●	●	●			●		●	●	●	●
Types of forces					●	●	●		●	●	●	●
Weather & climate	●	●	●	●	●	●		●	●	●	●	●
Planets in the solar system					●				●	●	●	●
Magnetism	●	●	●						●	●	●	●
Earth's Composition							●	●				
Organism energy handling									●	●	●	●
Land, water, sea resource conservation									●	●	●	●
Earth in the solar system	●	●	●	●	●	●	●		●	●	●	●
Atoms, ions, molecules								●	●	●	●	●
Chemical properties of matter	○	○	○	●		●	●	●	●	●	●	●
Chemical changes of matter						●	●		●	●	●	●
Physical cycles					●	●		●	●	●	●	●
Land forms						●						
Material & energy resource conservation								●	●	●	●	●
Explanations of physical changes				●								
Pollution								●				
Atmosphere					●				●	●	●	●
Sound & vibration	●	●	●	●								
Cells					●	●		●	●	●	●	●
Human nutrition												
Building & breaking				●		●	●	●	●	●	●	●
Energy types, sources, conversions					●	●	●	●	●	●	●	●
Dynamics of motion	●	●	●	●	●	●	●	●	●	●	●	●
Organism sensing & responding						●		●	●	●	●	●

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Science Topics Intended at Each Grade for Kentucky (cont'd)

Beyond the solar system						●	●	●	●
Evolution, speciation, diversity	●	●	●	●	●	●	●	●	●
Variation and inheritance			●	●	●	●	●	●	●
Explanations of chemical changes						●	●	●	●
Subatomic particles					○	○	○	○	○
Macromolecules, crystals, amorphous						●	●	●	●
Other organisms						●	●	●	●
Electrochemistry						●	●	●	●
Science applications in math, techn'y					●	●	●	●	●
Mathematics, techn'y influ on science						●	●	●	●
Wave phenomena					○	●	●	●	●
Rate of change & equilibria						●	●	●	●
Energy & chemical change						●	●	●	●
Organic & biochemical changes						●	●	●	●
Disease and health						●	●	●	●
World population						●	●	●	●
Nuclear chemistry						○	○	○	○
Biochemical processes in cells						○	○	○	○
Biochemistry of genetics					●	○	○	○	○
History of science & technology						●	●	●	●
Evolution of the universe						○	○	○	○
Quantum theory & fund'l particles						○	○	○	○
Animal behavior			●	●	●	●	●	●	●
Earth's history					●	●	●	●	●
Kinetic-molecular theory						○	○	○	○

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