

Standard 3: Geometry Benchmark 3: Transformational Geometry

Organizer	Indicator lead in phrase/wording	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade	Sixth Grade	Seventh Grade	Eighth Grade	Ninth and Tenth Grade
Cardinal Points and Directions	describes, knows, and/or uses...	K.1...the spatial relationship between two concrete objects using appropriate vocabulary	K.1...the spatial relationship between two concrete objects using appropriate vocabulary	K.1...the cardinal points (north, south, east, west)	K.1...cardinal points (north, south, east, west) and intermediate points (northeast, southeast, northwest, southwest)	K.1...a transformation using cardinal points or positional directions					
	follows, uses, and/or describes...	A.2...directions to move concrete objects from one location to another using appropriate vocabulary	K.3 & A.2...movement of concrete objects using appropriate vocabulary and directions to move concrete objects from one location to another using appropriate vocabulary	A.2...directions to move objects from one location to another using appropriate vocabulary and the cardinal points (north, south, east, west)	A.2...directions to move from one location to another on a map and follows directions including the use of cardinal and intermediate points	A.2...cardinal points or positional directions to move from one location to another on a map or grid					
Transformations and Tessellations	recognize, identify, describes, draws, and/or performs...			K.3...when a shape has undergone one transformation (flip/reflection, turn/rotation, slide/translation)	K.2 & A.1...one transformation (reflection/flip, rotation/turn, and translation/slide) on a two-dimensional figure and real-world transformations (reflection/flip, rotation/turn, and translation/slide)	▲K.2 & A.1...one transformation (reflection/flip, rotation/turn, translation/slide) on a two-dimensional figure or concrete object and real-world transformations (reflection/flip, rotation/turn, translation/slide)	K.1 & A.1...through two transformations (reflection, rotation, translation) on a two-dimensional figure and a two-dimensional figure after performing one transformation (reflection, rotation, translation)	▲K.1...one or two transformations (reflection, rotation, translation) on a two-dimensional figure	K.1...single and multiple transformations (reflection, rotation, translation, reduction (contraction/shrink ing), enlargement (magnification/growing)) on a two-dimensional figure	K.1 & A.2...single and multiple transformations (reflection, rotation, translation, reduction (contraction/shrink ing), enlargement (magnification/growing)) on a two-dimensional figure after undergoing two specified transformations without using a concrete object	K.1 & A.2...single and multiple transformations (reflection, rotation, translation, reduction (contraction/shrink ing), enlargement (magnification/growing)) on two- and three-dimensional figures and a simple three-dimensional shape after undergoing one specified transformation without using concrete objects to perform the transformation