

Didactical Document

Theme-Based Trail about Symmetry (Grades 5-6)

 Trail Code: **367326**

Title	Grade	Main concepts	Students learn	Data to collect	Objects	MCM References
Reflection Symmetry <i>Reflection Symmetry in the school plaque</i>	5	- Reflection symmetry - Reflection symmetry axis	- Identify the image of a point P by the reflection symmetry with axis r as the point P' such that r is the bisector of segment [PP']. - Identify a straight line as the "symmetry axis" of a given figure when the images of the points of the figure by the axis reflection form the same figure.	- Visual recognition - Number of elements that meet a requirement	Nameplate	1932739
Rotational Symmetry <i>Rotational symmetry in the school plaque</i>	6	-Rotational symmetry - Rotation angle - Fraction as part-whole	- Given two points, O and P, and an angle α , P' is the image of P by a rotation of centre O and angle α , when segments [OP] and [OP'] have the same length and angles α and POP' the same measure. - Identify a figure as having "rotational symmetry" when there is an angle of rotation that makes it invariant. - Use fractions to indicate the relationship between a given number of parts and the total number of parts into which a whole is divided.	- Visual recognition - Number of elements in a set - Number of elements that meet a requirement	Nameplate	0132741
Reflection Symmetry	5	- Reflection symmetry - Reflection symmetry axis	- Identify the image of a point P by the reflection symmetry with axis r as the	- Visual recognition - Number of symmetry axis	Chessboard in the playground	4932742

<i>Board game in the playground</i>			point P' such that r is the bisector of segment [PP']. - Identify a straight line as the "symmetry axis" of a given figure when the images of the points of the figure by the axis reflection form the same figure.			
Reflection Symmetry <i>Walking on the chessboard</i>	6	- Reflection symmetry - Reflection symmetry axis - Coordinates - Ordered pairs	- Identify the image of a point P by the reflection symmetry with axis r as the point P' such that r is the bisector of segment [PP']. - Identify squares of a grid through their coordinates.	- Visual recognition	Chessboard in the playground	3432743
Rotational Symmetry <i>Wind Energy</i>	6	-Rotational symmetry - Rotation angle	- Given two points, O and P, and an angle α , P' is the image of P by a rotation of centre O and angle α , when segments [OP] and [OP'] have the same length and angles α and POP' the same measure. - Identify a figure as having "rotational symmetry" when there is an angle of rotation that makes it invariant.	- Visual recognition - Number of elements in a set	Wind propeller	3932744
Rotational Symmetry <i>School Bar seats</i>	6	-Rotational symmetry - Rotation angle	- Given two points, O and P, and an angle α , P' is the image of P by a rotation of centre O and angle α , when segments [OP] and [OP'] have the same length and angles α and POP' the same measure. - Identify a figure as having "rotational symmetry" when there is an angle of rotation that makes it invariant.	- Visual recognition - Number of elements in a set	Seats/Chairs	2432745

Reflection Symmetry <i>Reflection Symmetry in the Fire Alarm</i>	6	- Reflection symmetry - Reflection symmetry axis	- Identify the image of a point P by the reflection symmetry with axis r as the point P' such that r is the bisector of segment [PP']. - Identify a straight line as the "symmetry axis" of a given figure when the images of the points of the figure by the axis reflection form the same figure.	- Visual recognition - Number of elements in an object - Number of elements that have reflection symmetry	Fire alarm	2832746
Rotational Symmetry <i>Rotational Symmetry in the Fire Alarm</i>	6	-Rotational symmetry - Rotation angle	- Given two points, O and P, and an angle α , P' is the image of P by a rotation of centre O and angle α , when segments [OP] and [OP'] have the same length and angles α and POP' the same measure. - Identify a figure as having "rotational symmetry" when there is an angle of rotation that makes it invariant.	- Visual recognition - Number of elements in an object	Fire alarm	1432747
Reflection Symmetry <i>Signage</i>	5	- Reflection symmetry - Reflection symmetry axis	- Identify the image of a point P by the reflection symmetry with axis r as the point P' such that r is the bisector of segment [PP']. - Identify a straight line as the "symmetry axis" of a given figure when the images of the points of the figure by the axis reflection form the same figure.	- Visual recognition - Number of symmetry axis	One way sign	7932748

Note:

The teacher should propose a trail with 7-8 tasks containing diversified concepts (reflection symmetry and rotational symmetry). It is also important to present tasks with different cognitive levels (low; high) to motivate/challenge students.