🔃 Rotational Symmetry & Point Reflection

Grades 5–6 | 180° Rotation & Point Reflection

Name: _____ Date: _____

> **What is Rotational Symmetry?** A pattern is rotationally symmetrical, if it does not change when rotated by 180° (half turn) or 90° (quarter turn)!

Difference: Reflection vs. Rotation

Reflection (Line Symmetry)	Rotation (Rotational Symmetry)
The pattern is mirrored along an axis. Top remains top.	The pattern is rotated by 180°. Top becomes bottom.
Example: Butterfly, heart	*Example:* S, Z, N

Exercise 1: Recognize 180° rotation

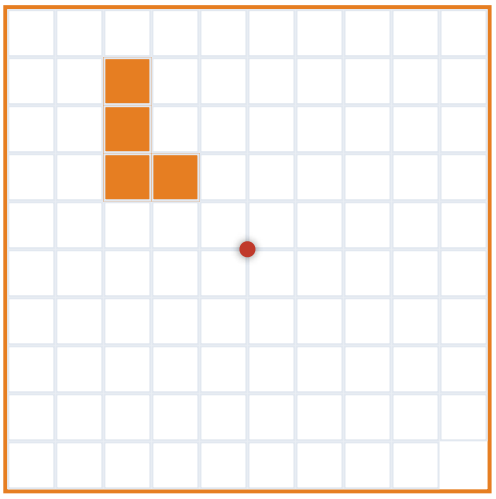
> **Trick:** Turn your worksheet by 180° (upside down). Does the pattern look the same? Then it has rotational symmetry!

Which of these letters have 180° rotational symmetry? Check the boxes:

A N S Z H O

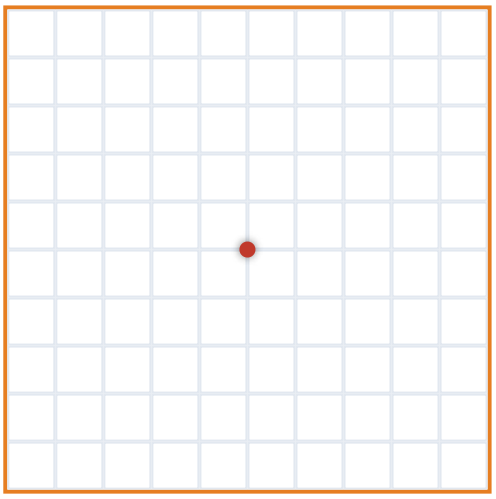
Exercise 2: Point Reflection – The other half

A pattern is rotated around its center point. The top left corner is given – complete the rotation!



Exercise 3: Design a pattern with rotational symmetry

Design a pattern with 180° rotational symmetry. Use colored pencils.



Tricky Questions – Something to think about

1. Does a rotationally symmetrical pattern always have reflectional symmetry? Or vice versa?
2. Which of the following letters has both symmetries? **D – E – F – I**

3. A square: How many times can you rotate it (90°, 180°, 270°) without the pattern changing?