



# GEOMETRY

As an object of study, geometry is well suited to push students' thinking in many directions. While working with spatial objects, for example, students can reason concretely and abstractly, discuss relationships, and make logical connections. It is often the case that topics in measurement take a prominent role in middle school. Although concepts of measurement are important, many geometric ideas go *beyond* measurement. The Editorial Panel of *Mathematics Teaching in the Middle School* encourages readers to submit manuscripts that address some of these aspects of geometry teaching and learning. The categories below may help frame your ideas.

## GEOMETRIC PROPERTIES

- How do you encourage students to make and test conjectures about geometric properties?
- How do you help students analyze geometric properties and identify relationships between and among them?
- How can interactive geometry software or other technological tools be leveraged to help students explore what stays the same in the midst of change?

## REASONING AND SENSE MAKING

- How do you help students transition from exploring concrete objects (whether physical or digital) to generalizing their findings more abstractly?
- How do you invite students to explore why geometric definitions exist, the hierarchy that is built into the definitions, and the properties that result from the definitions?
- What different forms can geometric arguments take, and how do students develop greater capacity for proof?
- What connections do you foster between geometry and other mathematical domains, such as algebra or proportional reasoning?

## VISUALIZATION

- How can students develop the capacity to visualize geometric objects by mentally transforming, composing, or decomposing them?
- How do you foster the ability to flexibly visualize three-dimensional shapes using two-dimensional representations (such as nets, slices, isometric views, and so on)?
- What experiences are helpful for students to visualize and reason about geometric transformations?
- How do you help students see geometry in art and the world around them?

## TEACHING PRACTICE

- How do you foster a habit of perseverance in your students during a geometric exploration?
- What formative assessment tools have been useful to capture students' geometric reasoning?
- How do you design tasks that use geometric tools as a springboard for student thinking?

The manuscript should be no more than 2500 words. Upload submissions to this open-ended call for manuscripts at <http://mtms.msubmit.net>. On the Keywords, Categories, Special Sections tab, select this specific call from the list in the Department/Calls section.



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