Chapter 8 Application Guide

Use the application guide to connect these ideas and tools to your classroom practices.

Chapter 8 Topics	Connect to Your Classroom
Moving through the van Hiele levels	For kindergarten and first grade, implement activities that allow students to feel and see 2-D shapes, build and take them apart, and draw and mold them. For second and third grade, introduce activities where students analyze and classify 2-D and 3-D shapes so they begin to see shapes as subclasses of one another. For fourth and fifth grade, support students as they begin to use if-then reasoning to classify shapes and create and follow informal deductive arguments.
Teaching 2-D and 3-D shapes	Use activities like Constructing Flagging Shapes, Transform, and Secret Shape to help students become familiar with the essential attributes of shapes like side lengths or angles. Scaffold correct terminology by bridging the informal terms (for example, ball, can, or box) with the formal terms (for example, sphere, cylinder, or rectangular prism).
Composing shapes	Utilize tangrams, geometric solids, unit blocks, magnetic tiles, geoboards, and other hands-on materials to expose students to shape composition and decomposition. Try activities that involve partitioning and tiling to help students see how shapes can be composed of other shapes.
Applying spatial reasoning	Try Spaceman Says and the Positional Word Obstacle Course to integrate movement with spatial reasoning and the application of positional words. Use everyday experiences such as putting away class materials to use positional words in real-world context.
Using geometry manipulatives	Amplify hands-on learning with manipulatives by playing games like Look, Make, Fix and Attribute Block Trains. Use questioning and discussion throughout the task and during the wrap up to develop mathematical language and help students make connections between the geometry ideas in the tasks.
Practicing geometry vocabulary	Teach geometry terms intentionally with frequent review through games and activities as well as in the body of a lesson. Strive to always use correct language as an example for students.
Leveraging real-world connections	Engage students in Geometry Walks and Photo Geometry Scavenger Hunts to open their ideas to the functionality of shapes in the environment.