FAMILY MATH
## Lines and Angles

Dear Family,

Your student is learning about geometric figures and angle types. They begin by drawing and labeling a point. They connect two points to make a line, a line segment, or a ray, and then connect two rays to make an angle. They learn to draw and compare different types of angles. Your student is also learning to identify and draw parallel and perpendicular figures. Students apply their learning in a real-world context as they create and describe floor plans. Understanding basic geometric figures will help your student classify shapes in future lessons.

Key Terms

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acute angle	obtuse angle
angle	parallel
endpoint	perpendicular
figure	point
intersect	ray
line	straight angle
line segment	vertex

Term	Example	Notation
point	A	A
line segment	$A \quad B$	$\overline{AB}, \overline{BA}$
line	$C \quad D$	$\overleftrightarrow{CD}, \overleftrightarrow{DC}$
ray	$E \quad F$	$\overrightarrow{EF}$
angle	$G \quad H \quad I$	$\angle G,$ $\angle HGI,$ $\angle IGH$

right angle

straight angle

acute angle

obtuse angle

$\overline{AB} \perp \overline{CD}$

$\overline{AD} \| \overline{BC}$
$\overline{AB} \| \overline{DC}$

Students draw and name geometric figures. They label their drawings with letters. Then they use the letters and symbols to identify the figures.
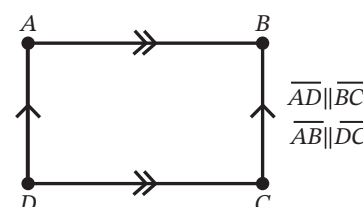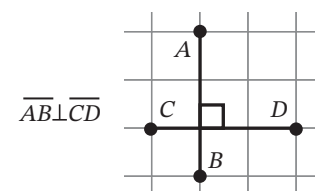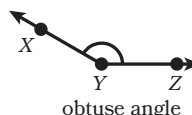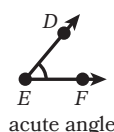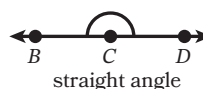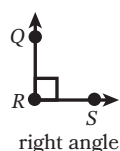
Students compare the size of an angle to a right or a straight angle to determine whether the angle is acute or obtuse.

Students learn that two line segments, lines, or rays are perpendicular if they intersect to form a right angle and are parallel if they never intersect.

At-Home Activities

Angle Exercises

Play a game with your student to practice identifying types of angles. Gather eight index cards or pieces of paper. Label four cards as the following body parts: *arms*, *legs*, *hands*, and *whole body*. Put these cards in one pile. Label the other four cards as the angles: *acute*, *obtuse*, *straight*, and *right*. Put these cards in another pile. Take turns choosing a card from each pile and then using the body part on the card to make the angle. For example, if you pick *hands* and *obtuse* then you could use one or both hands to show an obtuse angle. If you pick *whole body* and *right* then you could sit up straight with your legs outstretched in front of you, arranging your whole body into a right angle. Play a few rounds with your student. If combinations repeat then try to show the angle in a different way each time.

Which Is It?

Encourage your student to point out perpendicular and parallel relationships they see in their everyday life. For example, while on a walk notice that the sides of buildings are parallel and that streets are perpendicular at intersections. At home, your student may notice that the sides of a doorway are parallel to each other and perpendicular to the top of the doorway. At the start of the activity ask your student to predict how many parallel and perpendicular relationships they think they can find in one search. Keep a tally of how many of each relationship they find and compare it to their predictions.