MATH NEWS

Grade 4, Module 4, Topic A

4th Grade Math

Module 4: Angle Measure and Plane Figures

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 4 of Eureka Math (Engage New York) covers Angle Measure and Plane Figures. This newsletter will discuss Module 4, Topic A.

Topic A: Lines and Angles

Words to know

Figure – set of points on a plane
Vertex - a point, often used to refer to the point where two lines meet, such as in an angle or the corner of a triangle

Always name a ray by starting with its endpoint

Define	Figure	Spoken	Written
straight path that extends in both directions without end	L M	Line LM	$\overleftrightarrow{LM}$
part of a line connecting two points	D E	Line Segment DE	$\overline{DE}$
part of a line which starts at a point and goes off in a particular direction to infinity	B C	Ray BC	$\overrightarrow{BC}$
precise location on a plane	R	Point R	R

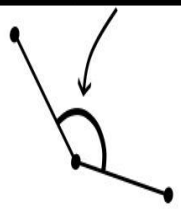
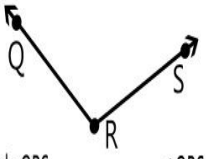
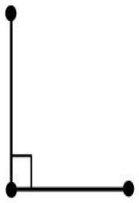
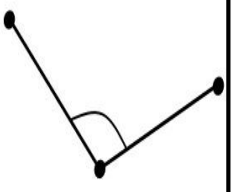
Objectives of Topic A

1. Identify and draw points, lines, line segments, rays, and angles and recognize them in various contexts and familiar figures.
2. Use right angles to determine whether angles are equal to, greater than, or less than right angles. Draw right, obtuse, and acute angles.
3. Identify, define, and draw perpendicular and parallel lines.

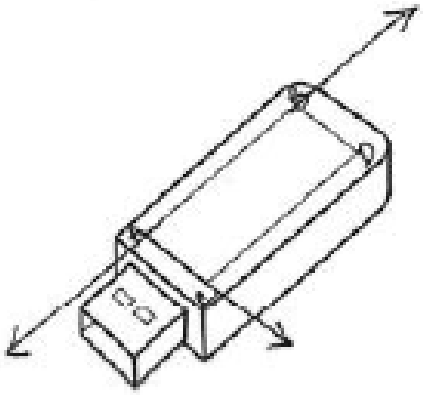
Focus Area – Topic A

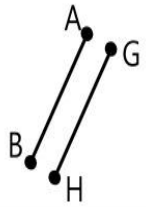
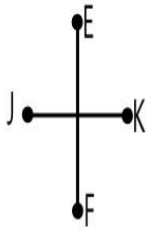
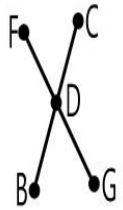
Lines and Angles

Words to know

	Define	Figure
Arc	connected portion of a circle	
Angle	union of two different rays or segments sharing a vertex	
Right Angle	angle that measures 90°	
Acute Angle	angle that measures less than 90°	
Obtuse Angle	angle that measures more than 90° but less than 180°	
Straight Angle	angle that measures 180°	

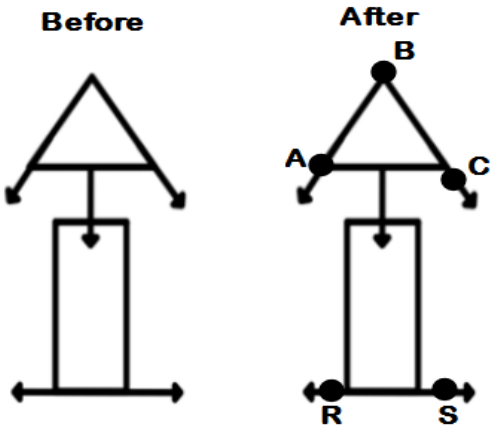
In topic A students use their understanding of angles to explore relationships between pairs of lines, defining and recognizing intersecting, perpendicular, and parallel lines. Their knowledge of right angles leads them to identify and define as well as construct perpendicular lines. Students learn how lines that never intersect also have a special relationship and are called parallel. They explore these concepts by finding parallel and perpendicular lines in common shapes and objects.



Define	Figure	Spoken	Written
Parallel Lines two lines in a plane that do not intersect		line segment AB is parallel to line segment GH	$\overline{AB} \parallel \overline{GH}$
Perpendicular Lines two lines that intersect and any of the angles formed between the lines is a 90° angle		line segment EF is perpendicular to line segment JK	$\overline{EF} \perp \overline{JK}$
Intersecting Lines lines that contain at least one point in common		line segment FG and line segment BC intersect at D	

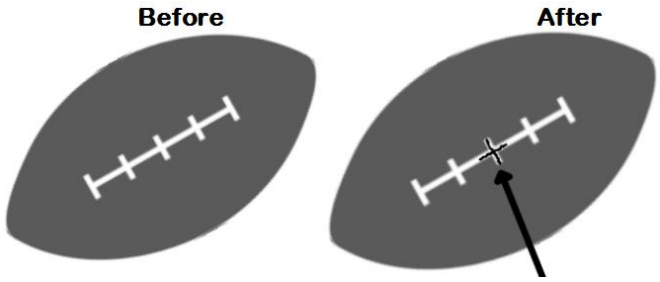
Example Problem and Answer

Label points on the figure and then use those points to label and name representations of each of the following in the table below: ray, line, line segment, and angle.



ray	$\overrightarrow{BC}$
line	$\overleftrightarrow{RS}$
line segment	$\overline{BA}$
angle	$\angle ABC$

Trace at least one pair of lines that are perpendicular.



Trace at least one pair of lines that appear to be parallel.