cK12.org Flexbook Links to Support Curriculum 2.0 Geometry and Honors Geometry

This document outlines concepts in each Topic for the Unit. When corresponding resources are available in cK12.org, a hyperlink is provided for the Flexbook. The cK12.org Flexbooks provide a variety of examples, definitions, and extra practice problems related to some of the concepts in Curriculum 2.0 Geometry and Honors Geometry. The concepts will be developed in greater depth and with appropriate vocabulary in the classroom. The materials in the Flexbooks are intended to provide additional support to the classroom expectations. The vocabulary and methods in these examples may differ slightly from the classroom expectation; however, the overall intent is consistent with the content expectation.

Unit 1: Constructions, Congruence, and Transformations

Topic 1: Foundations of Euclidean Geometry

- Define, recognize, and describe the fundamental terms of Euclidean Geometry. (cK-12 Flexbook Unit 1 Topic 1 SLT 1 & 2)
- Copy a segment and copy an angle. (cK-12 Flexbook Unit 1 Topic 1 SLT 3)
- Construct a perpendicular bisector. (cK-12 Flexbook Unit 1 Topic 1 SLT 4)
- Bisect a segment and bisect an angle. (cK-12 Flexbook Unit 1 Topic 1 SLT 5)
- Construct a line parallel to a given line through a point not on the line. (cK-12 Flexbook Unit 1 Topic 1 SLT 6)

Topic 2: Rigid Transformations

- Define and identify examples and non-examples of rotations, reflections, and translations. (cK-12 Flexbook Unit 1 Topic 2 SLT 7)
- Describe and draw horizontal and vertical translations. (cK-12 Flexbook Unit 1 Topic 2 SLT 8)
- Describe and draw horizontal and vertical translations and write the associated function with inputs and outputs. (cK-12 Flexbook Unit 1 Topic 2 SLT 9)
- Describe and draw reflections. (cK-12 Flexbook Unit 1 Topic 2 SLT 10)
- Draw a reflection when given a rule and write a rule given a reflection. (cK-12 Flexbook Unit 1 Topic 2 SLT 11)
- Describe and draw rotations of multiples of 90 degrees clockwise and counterclockwise. (cK-12 Flexbook Unit 1 Topic 2 SLT 12 & 13)
- Draw a rotation when given a rule with inputs and outputs and write a rule for a given rotation. (cK-12 Flexbook Unit 1 Topic 2 SLT 12 & 13)
- Identify the degree of rotational symmetry and the number of lines of reflectional symmetry of polygons (rectangle, parallelogram, trapezoid, and other regular polygons). (cK-12 Flexbook Unit 1 Topic 2 SLT 14)
- Specify a sequence of transformations that will carry a given figure onto another. (cK-12 Flexbook Unit 1 Topic 2 SLT 15)
- Combine transformations and write the associated function. (cK-12 Flexbook Unit 1 Topic 2 SLT 16 and cK-12 Flexbook Unit 1 Topic 2 SLT 17)
- Construct an equilateral triangle and describe its rotational and reflectional symmetry. (cK-12 Flexbook Unit 1 Topic 2 SLT 18)
- Construct a square and describe its rotational and reflectional symmetry. (cK-12 Flexbook Unit 1 Topic 2 SLT 19)
- Construct a regular hexagon and describe its rotational and reflectional symmetry. (cK-12 Flexbook Unit 1 Topic 2 SLT 20)

Topic 3: Congruence and Triangles

- Use the definition of congruence to explain why two figures are congruent. (cK-12 Flexbook Unit 1 Topic 3 SLTs 21, 22, & 23)
- Use the definition of congruence to explain why two figures are congruent through a sequence of rigid transformations. (cK-12 Flexbook Unit 1 Topic 3 SLTs 21, 22, & 23)
- Use definition of congruence in terms of rigid transformations to determine if two figures are congruent. (cK-12 Flexbook Unit 1 Topic 3 SLTs 21, 22, & 23)
- Explore and apply Side Side Side (SSS) criteria to prove triangle congruence. (cK-12 Flexbook Unit 1 Topic 3 SLT 24)
- Explore and apply Side Angle Side (SAS) criteria to prove triangle congruence. (cK-12 Flexbook Unit 1 Topic 3 SLT 25)
- Explore and apply Angle Side Angle (ASA) criteria to prove triangle congruence. (cK-12 Flexbook Unit 1 Topic 3 SLT 26)
- Explore and apply Angle Angle Side (AAS) criteria to prove triangle congruence. (cK-12 Flexbook Unit 1 Topic 3 SLT 27)
- Demonstrate why Side Side Angle (SSA) and Angle Angle (AA) are not sufficient criteria to prove triangles congruent. (cK-12 Flexbook Unit 1 Topic 3 SLT 28)
- Use triangle congruence criteria to evaluate if two triangles are congruent. (cK-12 Flexbook Unit 1 Topic 3 SLT 29 & 30)
- Use triangle congruence criteria to determine if there is sufficient information to classify two triangles as congruent. (cK-12 Flexbook Unit 1 Topic 3 SLT 29 & 30)

Topic 4: Proofs and Applications

- Define, recognize and describe special angle relationships. (cK – 12 Flexbook Unit 1 Topic 4 SLT 31)
- Define, recognize, and describe special angle relationships formed when lines are cut by a transversal. (cK – 12 Flexbook Unit 1 Topic 4 SLT 32)
- Use special angle relationships to solve for missing angle measures. (cK – 12 Flexbook Unit 1 Topic 4 SLT 33)
- Use angle relationships to solve for missing angle measures when parallel lines are cut by a transversal. (cK – 12 Flexbook Unit 1 Topic 4 SLTs 34 & 35)
- Construct a logical argument to develop a formal proof. (cK – 12 Flexbook Unit 1 Topic 4 SLT 36)
- Create proofs in multiple ways to prove triangles are congruent. (cK – 12 Flexbook Unit 1 Topic 4 SLT 37)
- Create formal proofs for triangle congruencies and corresponding parts. (cK – 12 Flexbook Unit 1 Topic 4 SLT 38)
- Prove and apply points on a perpendicular bisector are equidistant from the segment's endpoints. (cK-12 Flexbook Unit 1 Topic 4 SLT 39)
- Prove and apply interior angles of a triangle have a sum of 180°. (cK-12 Flexbook Unit 1 Topic 4 SLT 40)
- Prove and apply opposite sides and opposite angles of a parallelogram are congruent. (cK – 12 Flexbook Unit 1 Topic 4 SLT 41)
- Prove and apply the diagonals of a parallelogram bisect each other and its converse. (cK – 12 Flexbook Unit 1 Topic 4 SLT 42)
- Prove and apply rectangles have congruent diagonals.
- Prove and apply the medians of a triangle meet at a point. (cK-12 Flexbook Unit 1 Topic 4 SLT 44)
- Prove and apply the segment joining the midpoint of two sides of a triangle is parallel to the third side and half the length. (cK-12 Flexbook Unit 1 Topic 4 SLT 45)
- Prove and apply base angles of isosceles triangles are congruent and its converse (relationship between side lengths and angle measures). (cK – 12 Flexbook Unit 1 Topic 4 SLT 46)