Teacher: Peters

Unit: Lines, Angles, and Triangles
Topic: Interior and Exterior Angles of Triangles

Class: Geometry	Date:

Content Objective (I can…): ● I can discover the angle sum theorem and the exterior angle theorem	Math Objective: ● Understand and applying the triangle angle sum theorem and the exterior angle theorem
Key Vocabulary: ● Triangle Angle Sum Theorem ● Exterior Angle Theorem ● Adjacent ● Exterior angles ● Remote exterior angles	Materials: ● Computer ● Notebook ● Pencil

CCSS/Standards: ● CCSS.MATH.CONTENT.HSG.CO.C.10
Essential Questions: ● Why do all of the angles of a triangle equal 180º? ● Why do the two remote interior angles equal the exterior angle?
Lesson Delivery: *Warm-up:*   Students come in to class and will take out homework from the previous night and check their answers on the board. I will go over any questions they have. Homework from the previous day was on classifying triangles by their angles and sides. (5 min) Students will grab a laptop (or find a computer) and log in. (5 min)   *Instruction:*   Student will explore Triangle Angle Theorem (V1) by playing around with the vertices of the triangle and the slider. Once they have finished exploring, they will answer the questions at the bottom of the page. (5 min)   Quick discussion about what the students noticed. (5 min) *If needed, refer students to Animation 171 　▪ WHAT DID YOU NOTICE? – 2 observations   Student will then go to Triangle Angle Sum Theorem. They will again play with the vertices. Once they have finished exploring, they will answer the questions at the bottom of the page. (5 min)   Quick discussion about what the students noticed and answers they wrote down. (5 min)

- WHAT DO YOU NOTICE? DO THE INTERIOR ANGLES OF A TRIANGLE ALWAYS EQUAL 180? WHY

Student will explore Triangle Exterior Angle by playing around with the vertices of the triangle and the slider. Once they have finished exploring, they will answer the questions at the bottom of the page. (5 min)

Quick discussion about what the students noticed and answers they wrote down. (5 min)
*If needed, refer students to Animation 102
- WHY DO THE REMOTE INTERIOR ANGLES EQUAL THE EXTERIOR ANGLE?

Student will explore Triangle: Exterior Angle by playing around with the vertices of the triangle and the slider. Once they have finished exploring, they will answer the questions at the bottom of the page. (5 min)

Quick discussion about what the students noticed and answers they wrote down. (5 min)
- WHAT CAN YOU SAY ABOUT ALL THE EXTERIOR ANGLES OF A TRIANGLE?

Wrap up discussion about Triangle Angle Sum Theorem and Exterior Angle Theorem. (2 min)

Independent Practice:

Students will receive a worksheet to start during class and then finish for homework.

LINKS:
- Triangle Angle Theorems (V1)
  https://www.geogebra.org/m/munhXmzx#material/FAhtKpR5

- Animatin 171 https://www.geogebra.org/m/munhXmzx#material/xwsNkeqk

- Triangle Sum Theorem https://www.geogebra.org/m/munhXmzx#material/FzUM9TeD

- Triangle Exterior Angle
  https://www.geogebra.org/m/munhXmzx#material/sA5Mb4vd

- Animation 102 https://www.geogebra.org/m/munhXmzx#material/mMQBY92H

- Triangle: Exterior Angles
  https://www.geogebra.org/m/munhXmzx#material/ZBxDFenM