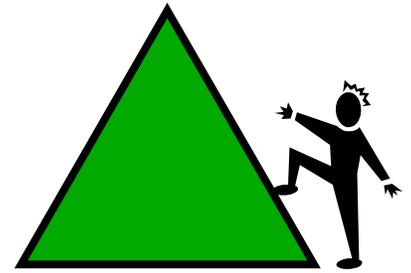


Toe to Toe Geo

I want to thank Amy Firmani for this activity idea. She's a student teacher from Campbell University in North Carolina. I tried it out with my students and it worked great! I made a few modifications to her basic activity, but the Toe to Toe Geo concept is her own. I know you and your students will enjoy it!



Overview: Students will mix around the room and stop to compare triangles. They will decide if the triangles are congruent, similar, or neither and will move to designated areas of the room based on their choices. Each variation of the activity is slightly different.

Advanced Preparation

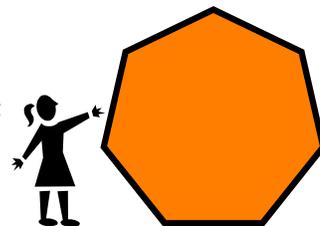
1. Duplicate enough copies of the triangle pattern page so that each student will have one triangle. You can duplicate them on different colors to make it more challenging.
2. Duplicate one copy of the signs (Congruent, Similar, and Neither) and cut them apart. Tape them up in the three places in the room that will serve as meeting locations.

Variation 1 - Compare and Classify

1. Begin by showing students several examples of congruent and similar figures. If you have a Smartboard or computer and projector, you can use a word processing program to demonstrate. Create a few geometric shapes, and then copy and paste them to show congruent shapes. Next, copy and resize them (keeping proportions the same) to show similar shapes. You can also rotate and flip the shapes to show that congruence and similarity are not dependent on how the shapes are oriented on the page.
2. To begin the activity, pass out one triangle to each student. Have them hide their triangles in their hands or behind their backs.
3. Play music and have the students mix around the room until you stop the music.
4. Say "Toe to toe!" and have students pair up with the person closest to them. They literally stand toe to toe with their partner. If they are uncomfortable being that close, they may take a step back but face their partner.
5. Tell students to compare their shapes and discuss whether their shapes are similar, congruent, or neither. Then have them move to the designated area of the room with that description. Move around the room checking student choices.
6. Play several rounds of Compare and Classify before moving to the next variation.

Variation 2 - Congruent Matches

1. Play another round but this time have students trade triangles as they mix around the room. As they meet each class member, they trade triangles so that they end up with a different one for the next activity.



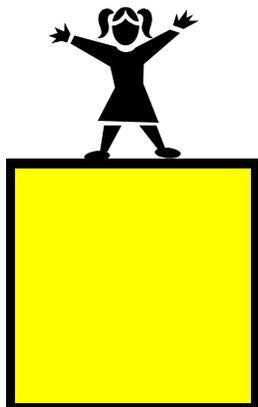
2. Stop the music and ask students to try to find a buddy whose triangle is congruent to their own. When they find a congruent match, they stand “toe to toe” with that person. Walk around the room and spot check for accuracy.
3. Students who can’t find a match move to the center of the room to be sure there are no more valid matches.

Variation 3 - Similar Matches

1. Have students mix around the room again, trading triangles as they move.
2. Stop the music and ask students to try to find a buddy whose triangle is similar but not congruent to their own. When they find a match, they stand “toe to toe” with that person. Walk around the room and spot check for accuracy.
3. Students who can’t find a match move to the center of the room to be sure there are no more valid matches.

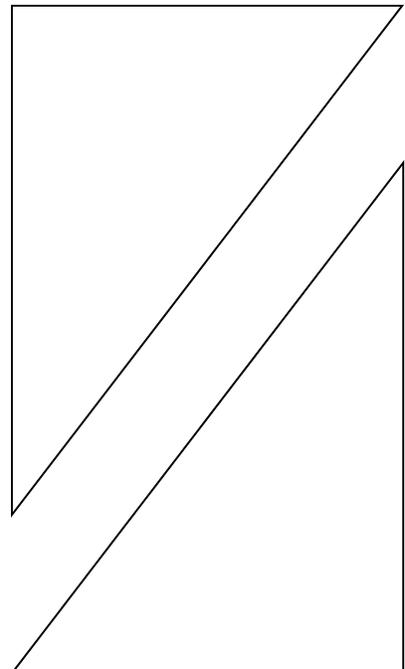
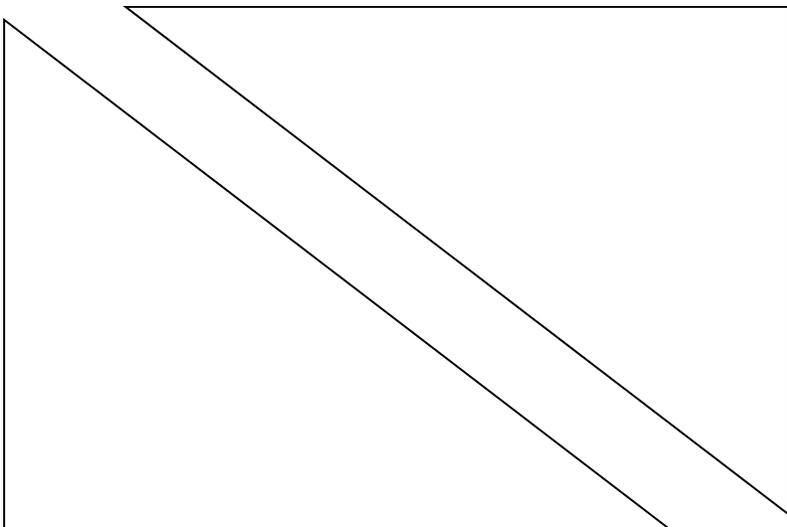
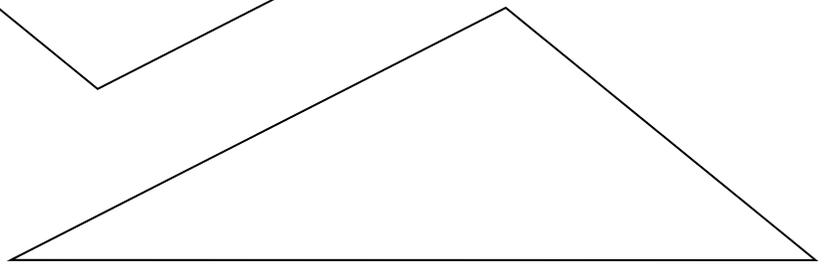
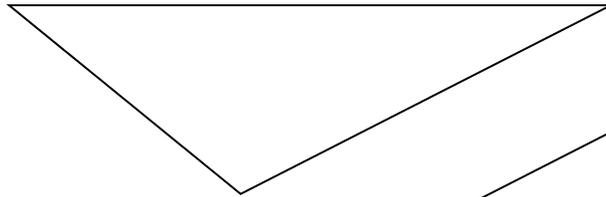
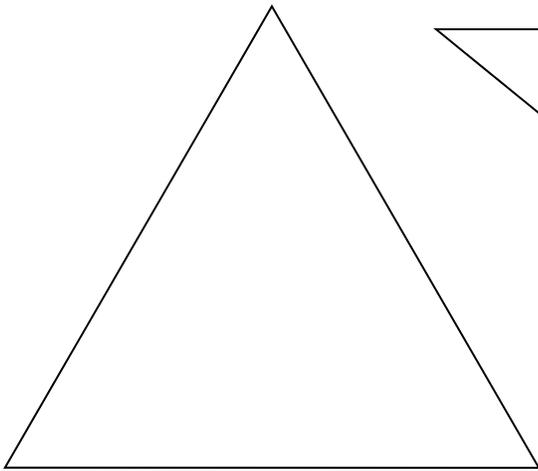
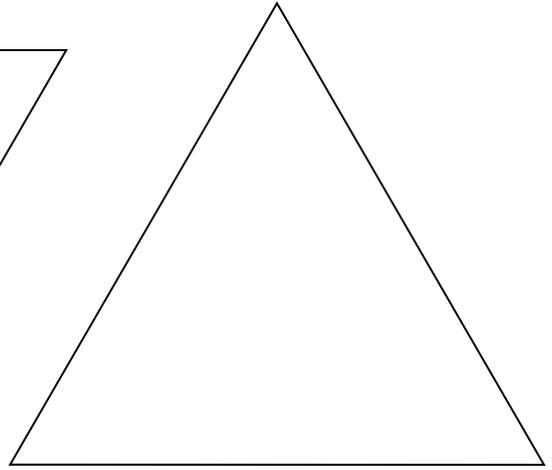
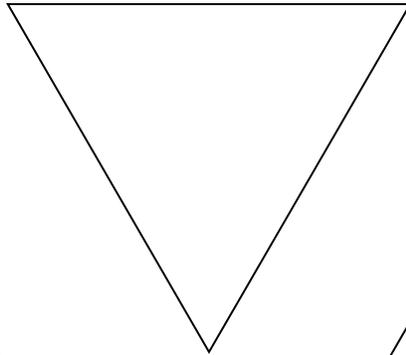
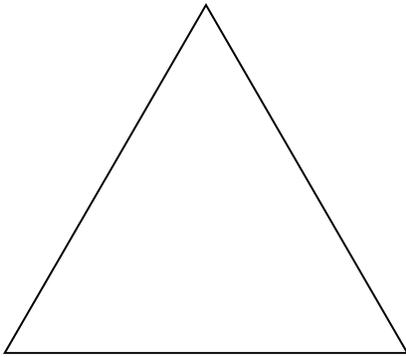
Variation 4 - Neither Similar Nor Congruent

1. Have students mix around the room again, trading triangles, until you stop the music.
2. Ask students to try to find a buddy whose triangle is neither similar nor congruent to their own. When they find a match, they stand “toe to toe” with that person.
3. Students who can’t find a match move to the center of the room to be sure there are no more valid matches.



Assessment Strategy - Have students draw examples of similar and congruent polygons in their math journals or using a word processing program. Students should clearly label their illustrations.

Congruent and Similar Triangles



Congruent

similar

Neither