

Lesson Title: Perimeter Predicament Designer: Diane Hunter
Discipline: Math Grade Level: 4-5

Activity 1: Equal perimeters...congruent figures?!?

(Appropriate for AFTER the Broadcast Lesson)

Activity Goal: Explore how different figures could have the same perimeter.

Targeted Math Skills: Identify that perimeters can take many different forms.

Materials: Figure samples (attached), blank paper, writing utensil, and calculator (optional).

Steps:

1. Choose one figure on the “figures samples” sheet and find the perimeter.
2. Look for another figure that would have the same perimeter.
3. Jot down what you notice about the figures with the same perimeters.

Questions to Consider:

1. Were the figures with the same perimeters what you expected?
2. Are there similarities beyond having the same perimeter?
3. Let’s pretend that these are shipping boxes. Why would someone choose to have a box that looks like one of these figures over the other?

Activity 2: Race Perimeter!

(Appropriate for AFTER the Broadcast Lesson)

Activity Goal: Create a racetrack that has different perimeters.

Targeted Math Skills: Finding perimeter of a complex figure.

Materials: Area for race (attached), race packet sheet (attached), writing utensils (multiple colors of colored pencils/markers/or crayons if possible), calculator (optional)

Steps:

1. Create 3 separate loops for a race that will take place. Use the race packet sheet for requirements.
2. Find the total distance around your 3 different loops.

Questions to Consider:

1. What makes one loop longer than the other?
2. How did you know how far this was?
3. How do you think you would figure out how far it was if it wasn’t on graph paper?

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Further Extension:

1. Use the scale on the map and add in some diagonal sections. How could you figure out the distance on those sections?
2. Could you create a loop that is in between two of the distances of your other loops?

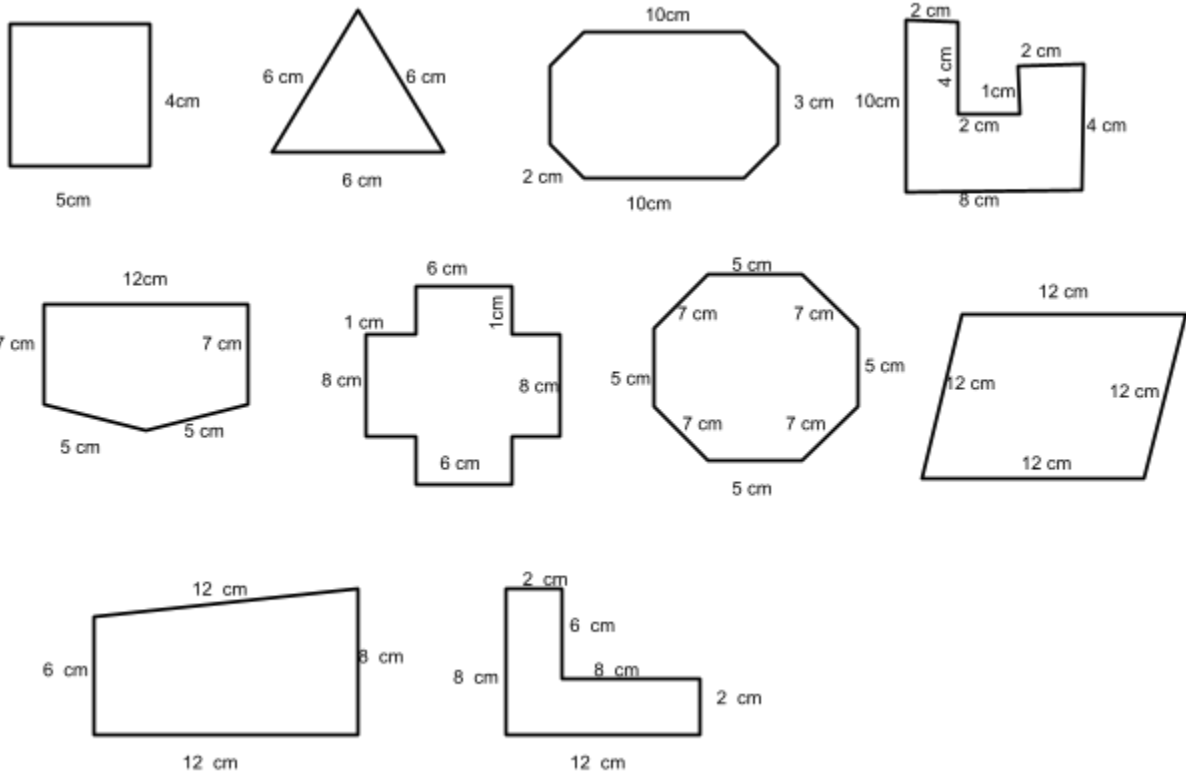
Additional Resources for Lesson-Related Extension Activities

- **Helpful Tips:** Allow for time to think. Decomposing numbers and thinking about what makes sense to one person takes time.
- **Student-Facing &/or Teacher-Facing:**
 - Additional lessons & practice to learn how to calculate the area and perimeter of rectilinear shapes (BBC) - <https://www.bbc.co.uk/bitesize/articles/znt3hcw>
 - Additional tutorial/review about calculating perimeter (Math antics) - <https://www.youtube.com/watch?v=AAY1bsazcgM>
- **Teacher-Facing:**
 - 10 Hands-on Strategies to teach area & perimeter (Scholastic) - <https://www.scholastic.com/teachers/blog-posts/genia-connell/10-hands-strategies-teaching-area-and-perimeter/>

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Activity 1 Materials

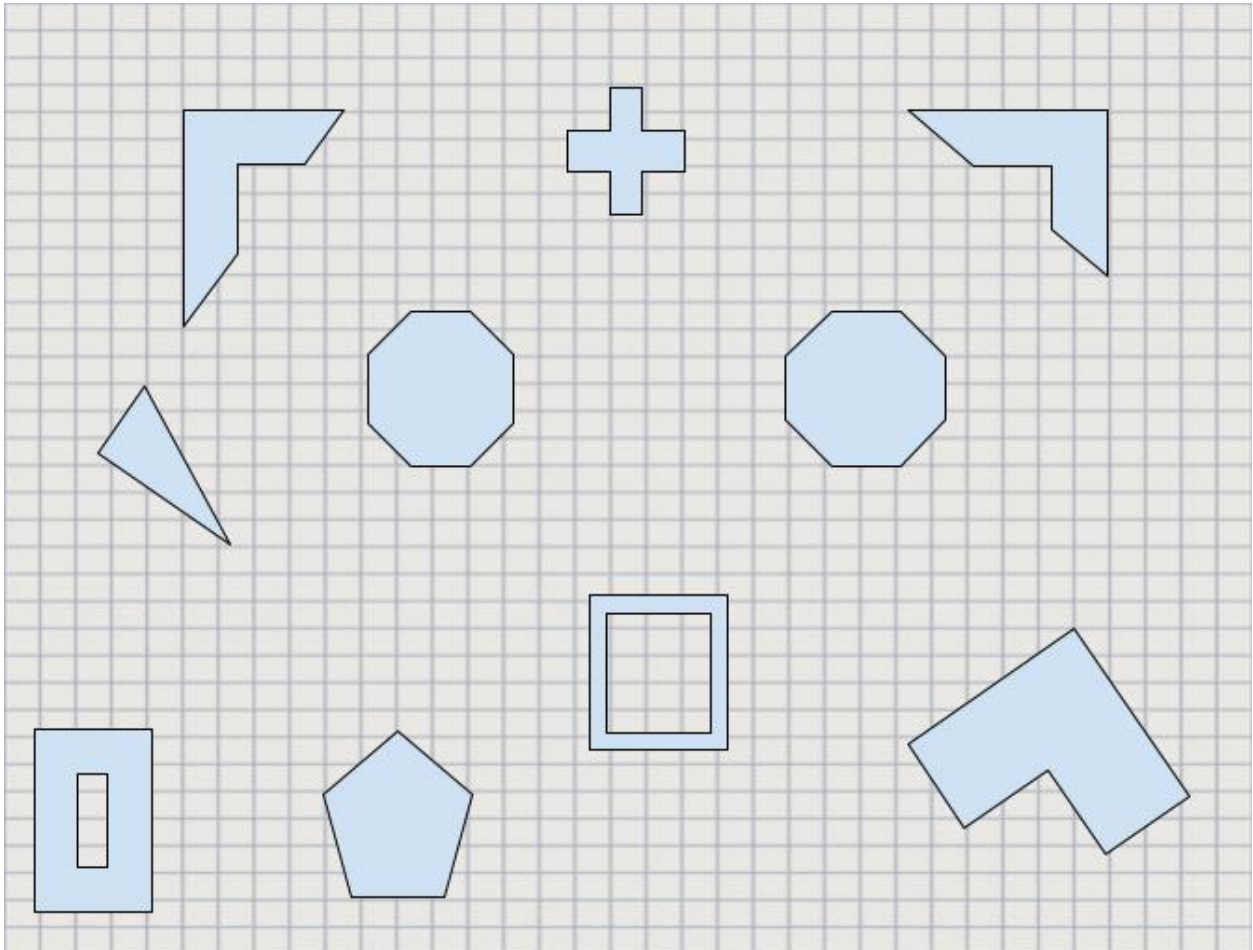
- Figures samples:



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Activity 2 Materials

- Race area map:



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Activity 2 Materials

- Race packet:
 - Hey Race Builders!

Thank you for helping me create these awesome races for people to do!

You should have your map. What we are looking for are 3 different routes. Using different colors for the routes would make things easier for me, too!

1. For the more experienced and advanced racers: it should go across the entire map and have many turns.
2. A medium race route: it can have some turns but does not need to go around the entire map.
3. A beginner's race route: this one should have very few turns and be the least complicated and the shortest.

Once you have created the route, I would like to know how far each of the routes are. Please list the perimeter on your map.

Oh, one last thing! Try to keep the turns on the line or close to them! It will make it easier to know how far each part of your loops are!