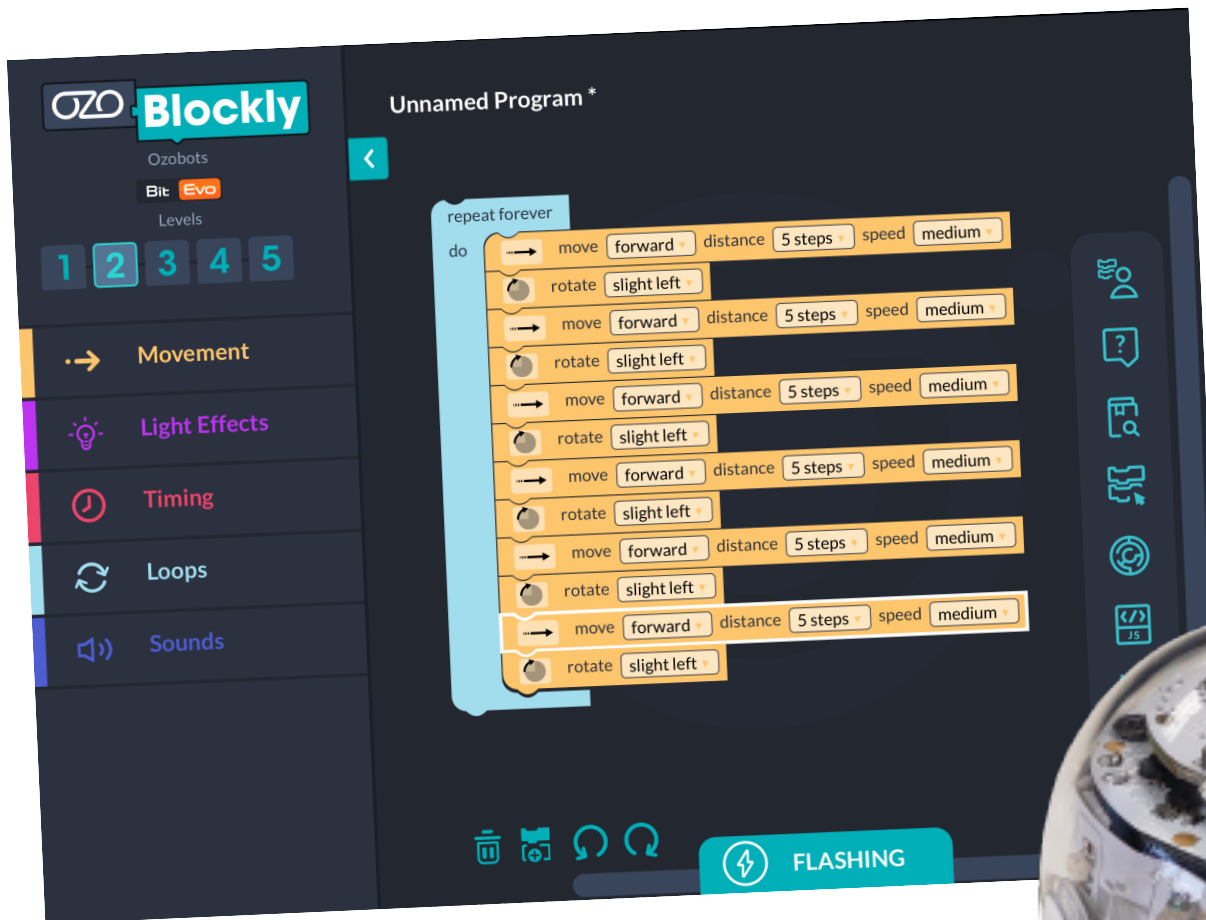


OZOBOT

POLYGON CHALLENGE



CCSS.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

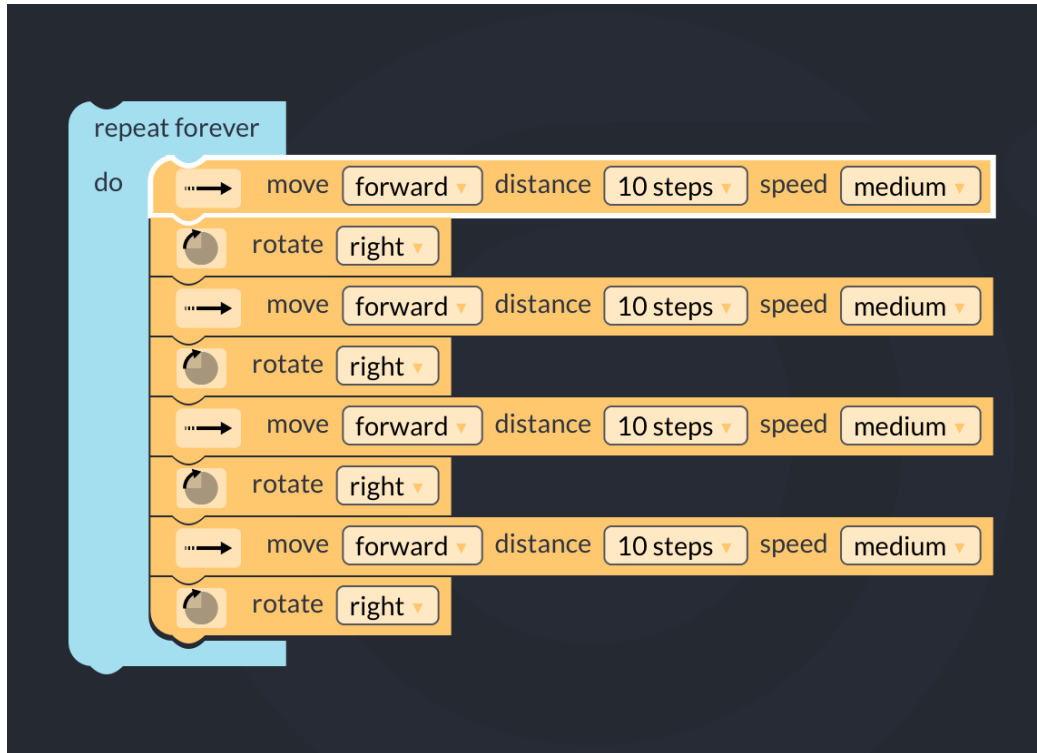
READING
with
Mrs. IF

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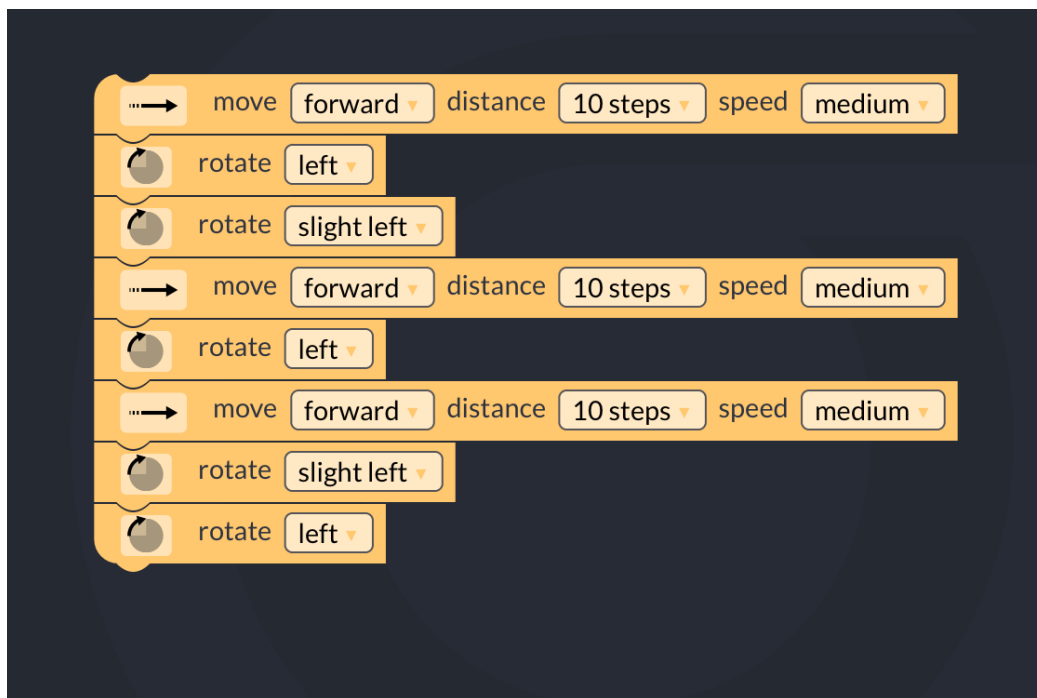
Teacher Cheat-Sheet

There are multiple correct ways to code polygons in Ozoblockly but here is an example for each polygon in this activity.

QUADRILATERAL



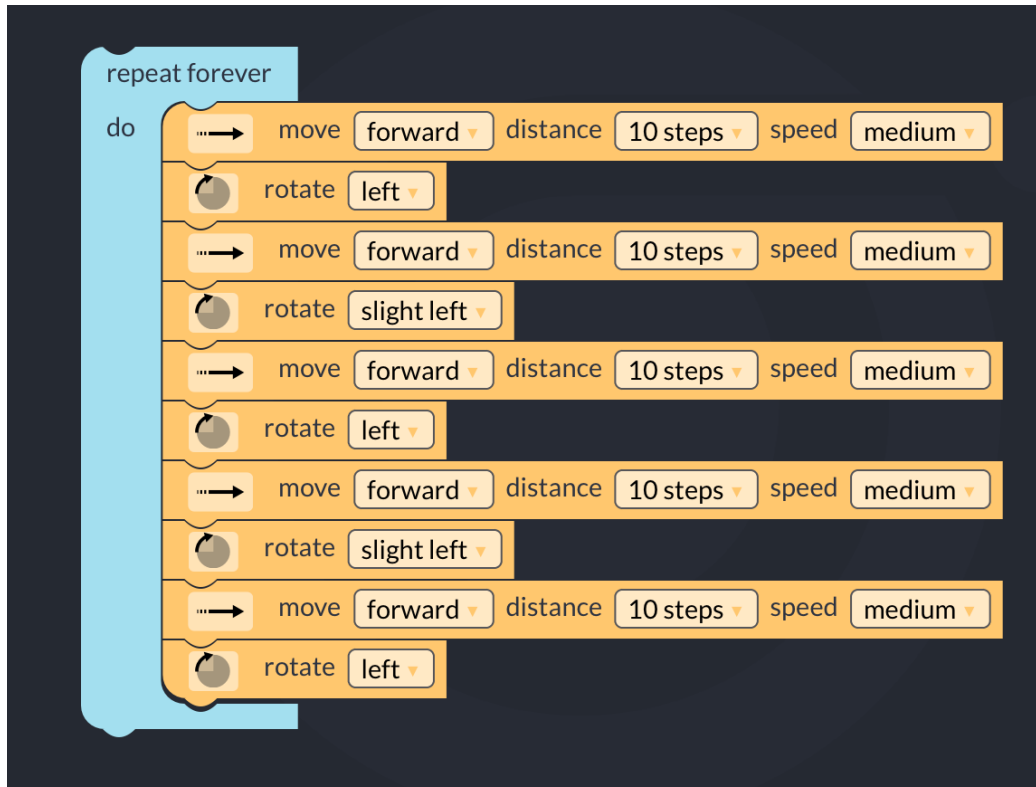
TRIANGLE



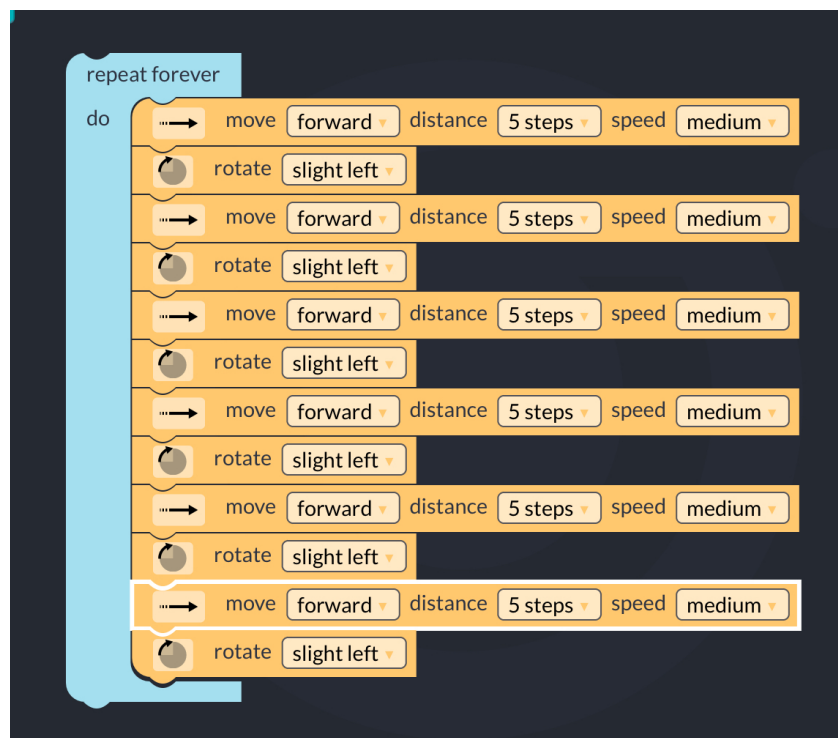
Teacher Cheat-Sheet

There are multiple correct ways to code polygons in Ozoblockly but here is an example for each polygon in this activity.

PENTAGON



HEXAGON



Student Suggestions

Use these suggestions to help students, as needed, based on the support your students might need with the challenge.

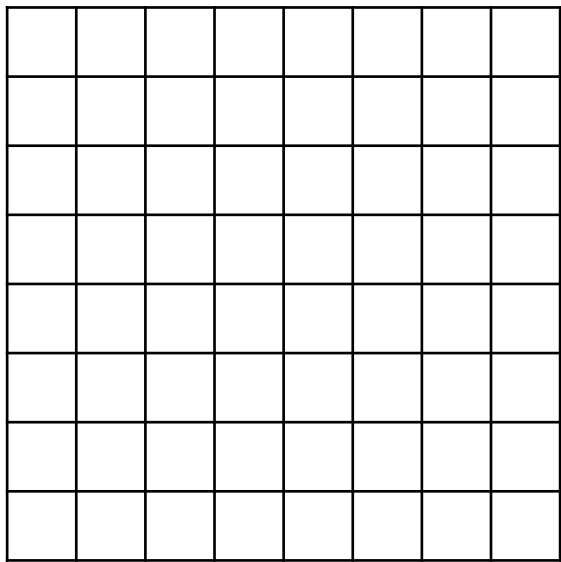
- ☐ Draw your polygon on paper first to help you visualize what you are trying to code.
- ☐ Turn your paper to simulate the Ozobot moving to help determine what kind of turn they should make (slight left vs. left).
- ☐ Change the distance number when moving forward to a large number (i.e., 5 steps or more). It's easier to "see" the shape the Ozobot is making when it's larger distance.
- ☐ Combine rotate codes to help move more than a 90 degree turn. For example, 'rotate left' and 'rotate slight left' work well together for a really wide left turn like you need in a triangle.
- ☐ Some students might find it helpful to put their code in a 'repeat forever' loop so they can see the shape the Ozobot is making better.

Name: _____

Ozobot Polygon Challenge

Directions: Use Ozoblocky to code your Ozobot to make the following polygons. Then answer the questions for each polygon.

- ☐ Code a quadrilateral.
- ☐ Draw the polygon you coded here:



Answer these questions:

How many sides does your polygon have? _____

How many vertices does your polygon have? _____

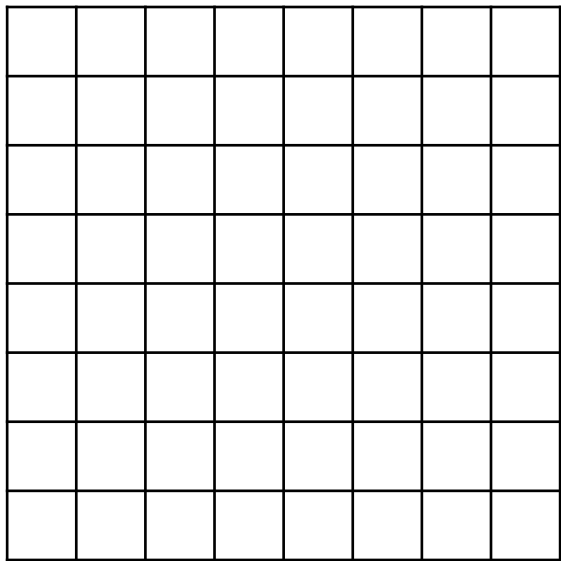
How many angles does your polygon have? _____

How many parallel sides does your polygon have? _____

How many right angles does your polygon have? _____

Is your polygon convex or concave?

- ☐ Code a triangle.
- ☐ Draw the polygon you coded here:



Answer these questions:

How many sides does your polygon have? _____

How many vertices does your polygon have? _____

How many angles does your polygon have? _____

How many parallel sides does your polygon have? _____

How many right angles does your polygon have? _____

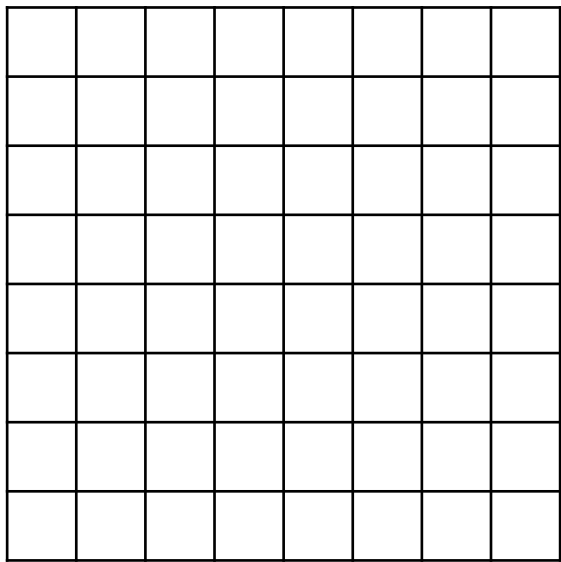
Is your polygon convex or concave?

Name: _____

Ozobot Polygon Challenge

Directions: Use Ozoblocky to code your Ozobot to make the following polygons. Then answer the questions for each polygon.

- ☐ Code a pentagon.
- ☐ Draw the polygon you coded here:



Answer these questions:

How many sides does your polygon have? _____

How many vertices does your polygon have? _____

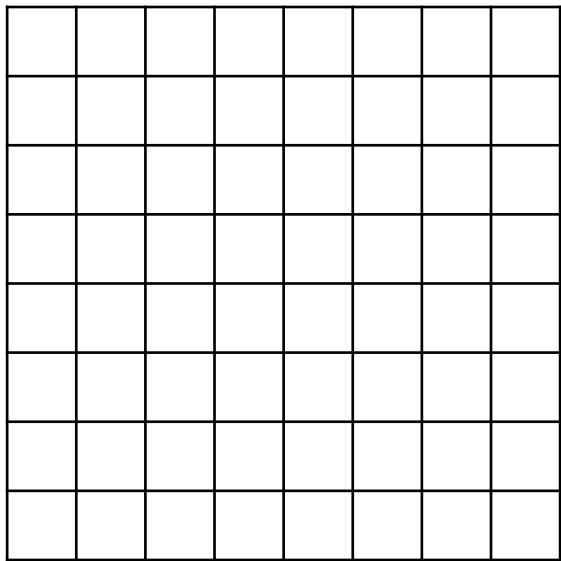
How many angles does your polygon have? _____

How many parallel sides does your polygon have? _____

How many right angles does your polygon have? _____

Is your polygon convex or concave?

- ☐ Code a hexagon.
- ☐ Draw the polygon you coded here:



Answer these questions:

How many sides does your polygon have? _____

How many vertices does your polygon have? _____

How many angles does your polygon have? _____

How many parallel sides does your polygon have? _____

How many right angles does your polygon have? _____

Is your polygon convex or concave?
