Polygons

Ava is getting on the bus to head home after her trip to Morocco. While she is riding the bus, she passes through a construction zone and notices there are polygons everywhere! Now she wants to keep drawing polygons in her journal!

Are you ready to help Ava identify and draw the polygons?

As the bus slows down, Ava notices the red stop sign. Is that a polygon, she wonders? She counts the sides:

1, 2, 3, 4, 5, 6, 7, 8.

Yes! The stop sign is an octagon! An octagon has 8 sides and 8 angles!

She draws the stop sign and labels it as an octagon.

The bus slows down again, and the driver says that they're coming up on a construction site.

Ava says, "Look! It's a quadrilateral!"

Is she correct? Is it a polygon?

The sign is a closed shape. There are no openings. It has four straight sides and four angles.

This road work sign is a quadrilateral. Ava draws and labels it in her journal.

As the bus driver drives up to the construction zone, Ava sees the detour sign.

She knows the detour sign is a quadrilateral, but she wonders what polygon the arrow inside the detour sign is.

Ava asks herself these questions:

Is this a closed shape? Yes. Is this 2-dimensional? Yes.

Are there at least three sides?

Let's count the sides: 1, 2, 3, 4, 5, 6, 7. There are seven straight sides. That means there are 7 angles too.

What polygon has seven sides and seven angles? A seven-sided shape is a heptagon.

Ava continues on her ride and sees a yield sign.

What kind of polygon is the yield sign?

Ava asks the three questions:

1. Is this shape closed?
2. Is this shape 2-dimensional?
3. Does the shape have 3 or more straight sides?

It is a closed shape. It is 2-dimensional and there are three straight sides and three angles. So this is a triangle.

Ava made sure to draw a triangle in her journal.

The next sign Ava sees has two lines next to each other.

Ava proudly says that those two lines do not make a polygon. Do you know why? (pause)

The lines don't form a closed shape.

Ava knows that to be a polygon, the answer to each of the three questions must be yes!

Ava is almost to the end of her journey when she sees the End Construction sign.

Ava has been busy drawing in her journal all of the polygons she has seen.

Let's take a look and see what she drew!

octagon

quadrilateral

heptagon

triangle

not a polygon

Ava is ready to share her journal with her friends!