



Classroom Activity: I spy from this perspective!	
This activity encourages children to visualize environments from different perspectives to determine where to stand to take a given picture.	
<i>Materials:</i>	
<ul style="list-style-type: none"> Printed photos of a familiar location, such as a classroom or playground, from different perspectives Digital cameras, if available 	
Step	Math Talk Questions
Give children a photo of a familiar location. Ask children to describe the environment in the photo using spatial language.	<ul style="list-style-type: none"> What is on top of the _____? What is in front of the _____? What do you notice in the photo? What is close up (or far away) in this photo? Where is the (slide) in relation to the (swing)?
Challenge children to predict where they would need to stand to take the same photo.	<ul style="list-style-type: none"> What are you imagining in your head as you are making your prediction? What clues can you use to help you make your prediction? Does the photo look like it was taken by someone very tall or short? How do you know? How would the height of the person change what the photo looks like? Where you would need to stand? How did you use the photo to predict where you need to stand?
Ask children to stand in the location they predicted and evaluate their choice. [If digital cameras are available for child use, children can take photos for exact comparison. Cardboard cameras with a pinhole can also be constructed.]	<ul style="list-style-type: none"> Compare what you see to the original photo. What is the same or different? How would you need to change your position to make what you see the same as the photo? How would the photo change if you took 5 steps forward? 10 steps to the right?
Give groups of children different photos and repeat the steps.	<ul style="list-style-type: none"> Which photo of _____ was taken from farthest away? How is what you see different from what _____ sees? How did you decide this photo was taken from this perspective?

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Extension Activity for Home Learning: What would you see as you move?	
<p>This activity encourages children to visualize environments from different perspectives to determine the order they would see certain perspectives when walking around a space.</p>	
<p><i>Materials:</i></p> <ul style="list-style-type: none"> • Paper and pencils for drawing • Digital cameras, if available 	
Step	Math Talk Questions
<p>Allow children to choose a location that interests them, such as a neighborhood playground or a room in their house. Describe the location using spatial language.</p>	<ul style="list-style-type: none"> • What is to the left of you? • Imagine standing over there. What would be closest to you? • Let's stand in different places. How is what you see different from what I see?
<p>Walk around the location and create photos or drawings from different perspectives.</p>	<ul style="list-style-type: none"> • What is behind the _____? • Describe the location of the _____. • If both of us are standing in the same place, how different do you think our photos or drawings will look?
<p>Challenge each other to find where different photos or drawings were taken or drawn.</p>	<ul style="list-style-type: none"> • Which photo or drawing was created closest to the _____? • How did you decide to stand there instead of _____?
<p>Ask each other to put the photos or drawings in order based on a specified route.</p>	<ul style="list-style-type: none"> • Let's pretend you walked that way to take photos. Which photo or drawing would you have created first? Next? Last? • What did you notice in the photos or drawings that helped you decide to put them in this order? • How might you prove that the photos or drawings are in the right order?
<p>Give the child the set of photos or drawings in a specific order. Challenge the child to predict the route taken to create the photos or drawings.</p>	<ul style="list-style-type: none"> • Describe the route you would take to create these photos or drawings. • Where would you need to stand first? • What direction would you need to walk next? • What clues in the pictures tell you how far to walk?

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Figure 1.

What is different between the original photo and your photo?

“Oh! You took the picture from the top, and I took the picture from the bottom!”

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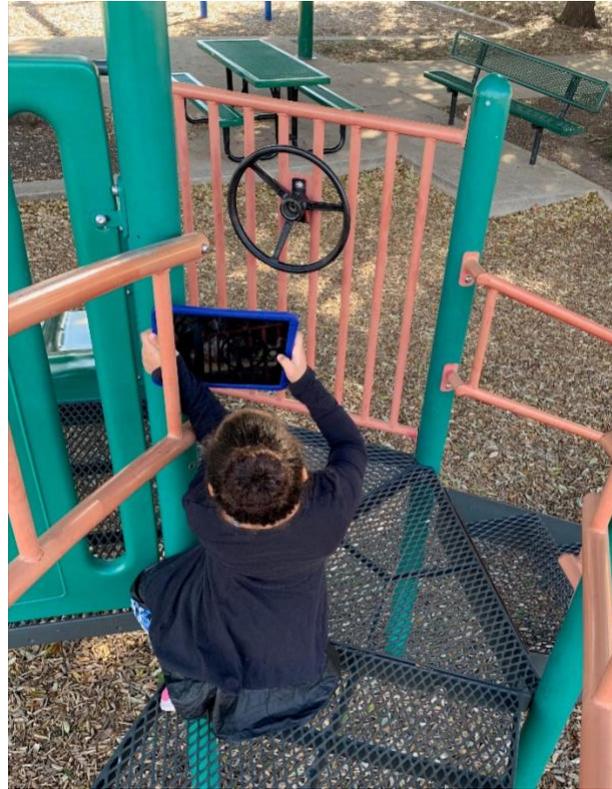


Figure 2. Consider using a “cardboard camera” for younger children to evaluate their position as compared to the original photo. Older children may use a tablet or digital camera to dynamically compare the position of the camera compared to the original photo.

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Figure 3

What makes you think the picture was taken from here?

“Hmm..not this slide; has holes...Aha! No holes!”

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Figure 4. Students draw from a similar or different perspective before comparing drawings.



Figure 5. Students predict the ordering of the photos before walking around the playground to compare.

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