

Photo Spy



Essential Question

How can we use angles to create a better photograph?

VOCABULARY

recognize	focus
identify	frame
explore	composition
media art	
angle	

Materials List

- device to take pictures - camera, laptop, tablet, phone

Pacing

2-3 sessions

Assessment

SUMMATIVE

Students will capture images of shapes in nature.

Elements of MEDIA ART

- **COMPOSITION**
- **SPACE**
- **LIGHTING**

CONTENT Standard

CCSS.MATH.CONTENT.2.G.A.1

Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. **Identify** triangles, quadrilaterals, pentagons, hexagons, and cubes.

Additional Standards Addressed:
CCSS.ELA-LITERACY.W.2.1

ARTS Standard

MA:Pr5.1.2c

Demonstrate and explore identified methods to use tools to capture and form media artworks.

21st Century Skills

- Critical Thinking
- Media Literacy
- Productivity

Lesson Objective

Students will explore how to use a camera effectively while identifying geometric shapes in the real world.

Lesson Overview

Using media arts tools and methods such as photography allow students to think with a creative eye, as we have all become so visual in the way we gather information. Students will explore camera angles and focus while looking for shapes with given attributes in the world outside of your classroom walls.



Artful Thinking Routine

Headlines routine

Have students view the photograph of [Jane Goodall](#) by Michael Nichols and complete the analysis without telling them anything about the photo.

- Invent a 6 word headline for this photograph that captures an important aspect of it.

Allow students to share their titles and discuss various perspectives and interpretations.

Artful Thinking by Project Zero is licensed under a Creative Commons AttributionNonCommercial 4.0 International License. Routine found here: <http://pzartfulthinking.org/>

STEP

1

Introduction

Play a quick game of I Spy - Shapes with students. Just start off with something like, "I spy a straight edged figure with 3 sides that is yellow". Play for a few minutes, being sure to give clues that share attributes, rather than the name of the shape. For their responses, be sure students respond with "The yellow triangle on the bookshelf", naming the shape.

Students will want to be the person that spies something. If time allows, build it in, but it can also be fine to randomly do throughout the lesson to refocus. To do that, simply print out the image of the spyglass, and randomly place it on someone's desk. When they get it, they know when they are ready, they can do an "I-Spy" from their desk.

STEP

2

Using Cameras

In a social media world, students today know about cameras! You certainly won't need to show them how to take pictures or the purpose of pictures! Just ensure they know about the device you will be using. What they *do* need to start learning about are some of the methods photographers use such as focus, lighting and angles.

Go back to the photograph of Jane Goodall from the Artful Thinking activity and dissect it in terms of those elements.

- How does the lighting help the photo?
- Does the lighting help to direct the message of the photo?
- What is in focus? Everything, or just the items in the forefront?
- Speculate what this photo would look like if it was taken from a different angle. What other angles could you think of that would give a much different perspective?

Let students practice taking interesting pictures.



Spying Shapes

Show students the images of geometry in art. These are all photographs taken in a way that showcase the shapes. Go through all of them and consider what it is about each photo that draws your eye to notice shapes. Is it the focus? The lighting? The angles? Perhaps it is a combination of more than one element.

Ask students to think about how they normally take pictures without necessarily thinking of these things. Would they normally notice the shapes? Not only does it take the elements of photography, but it takes a sharp, creative eye that notices angles in the environment and objects that they might not normally see. It's about slowing down and really looking.

Take students on a walk, each with a device to capture pictures. They will also need the resource sheet to tell them what to be looking for as they are walking. Challenge them to find the shapes and angles that no one else will. So if they see someone taking a picture of something, they should look for something else.

Students should be looking for both named shapes as well as shapes described by specified attributes you have been working on, examples of which are italicized below:

- triangles
- pentagons
- quadrilaterals
- hexagons
- cubes
- *a shape with at least 2 square corners*
- *a shape with 4 corners*
- *a shape with 2 sets of equal sides*

For the attributes you give students, there are blank bullets on the student resource sheet. Students should write in what you give them.

STEP

4

Main Activity

After the walk, come back to your classroom and have students scroll through their pictures. They likely took many, and now it is time to edit them down.

With the student resource next to them, they need to find the single picture that they feel most creatively captures each shape they were looking for. They can share their choices with you by putting them all on one document and labeling the pictures if they are working on the computer. Or, they can print out their favorites, attach them to a piece of paper and label them.

They should then choose their very favorite picture that they feel is most creative and write a few sentences about why it is their favorite. What is it about the composition and framing of the picture they like?

Estimated Time: 1-2 sessions



Teacher to Teacher

Set up the blank book for the closure piece ahead of time, with the headings already set on the pages as they are listed on the student resource sheet. You will need multiple sheets for each shape and will likely have students wanting to keep adding to it with pictures they take at home. Consider keeping it in a three-ring binder so that it is easy to add to.

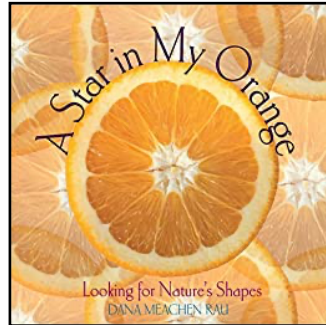
CLOSURE

Bring students back together. Show them a book you have made with blank pages and headings at the tops of the pages that match the shapes they were hunting for. Title the book "*Shapes Up Close*", and let students know you will all be adding to this throughout the year as they capture creative photos throughout the year at home or at school. Go ahead and begin filling some of the pages now with their photos.

It's a guarantee that students will keep spotting unusual shapes that will fit in the book and want to get the photo.

Literature Connections

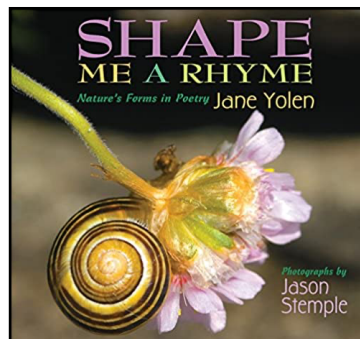
Your other favorites:



[A Star in My Orange](#)

Dana Meachen Rau

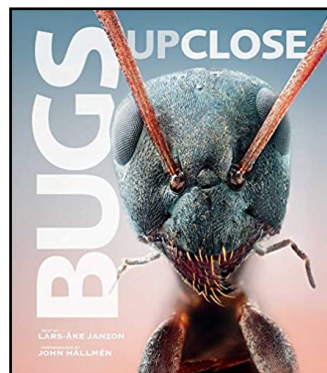
Help your students tune in and notice things differently with this clever book that asks you to look closely at the world around you and notice nature's shapes. A perfect book for students who struggle to find hidden shapes.



[Shape Me a Rhyme](#)

Jane Yolen

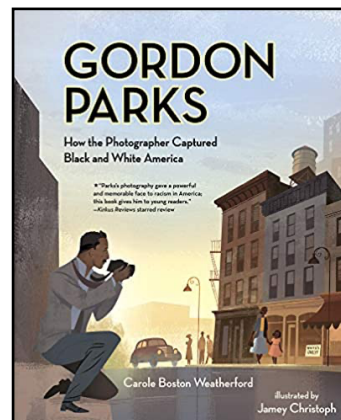
A beloved author combines with stunning photography and language to highlight the beauty we can find in nature. Nature and shapes play together in a way all will love and want to read again and again.



[Bugs Up Close](#)

John Hallmén

Second graders won't be able to get enough of this book! Stunning pictures you have to see to believe bring the idea of focus, angles and lighting to the forefront. You may need more than one copy of this one!



[Gordon Parks: How the Photographer Captured Black and White America](#)

Carole Boston Weatherford

When Gordon Parks, a young man with little money, bought a camera and taught himself how to take pictures, he didn't know he was changing his life forever. The true story of a man who was self-taught but captured America's attention.

By using the links on this page to purchase the books listed, we will receive a small commission as an affiliate. We only recommend books that are high quality, have been used in our own classrooms, and which have direct connections to this lesson.





[Geometry in Art](#), by hernanpba



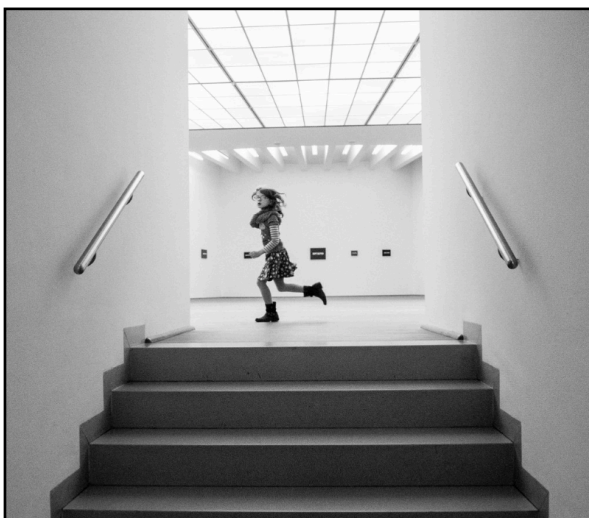
[Forms in Green](#), by Thomas Leuthard



[X](#), by Thomas Leuthard



[Vacuum](#), by Bindalfrodo



[Run](#), by Georgie Pauwels



[from a gilded age in shanghai](#), by the measure of Mike

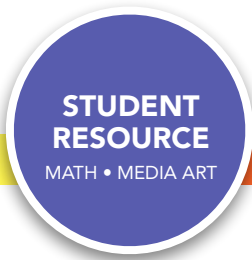


Photo Spy

Name: _____

You are going on a walk to capture geometry in the world! Remember to take pictures with interesting angles, focus and lighting.

Take pictures of shapes that you spy that are:

- triangles
- pentagons
- quadrilaterals
- hexagons
- cubes

Now write in a few more that your teacher gives you:

- _____
- _____
- _____
- _____

Total Score:

___ / ___ 8

Student: _____

CRITERIA	Distinguished (4 Points)	Excelled (3 Points)	Adequate (2 Points)	Basic (1 Point)
The student is able to recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	<input type="checkbox"/> The student is able to recognize, draw and use shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. They are able to seamlessly use the shapes in other work.	<input type="checkbox"/> The student is able to recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	<input type="checkbox"/> The student is able to recognize and draw some shapes that have specified attributes, such as a given number of angles or a given number of equal faces. They can identify most shapes - triangles, quadrilaterals, pentagons, hexagons, and cubes.	<input type="checkbox"/> The student is unable to recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. They have great difficulty identifying triangles, quadrilaterals, pentagons, hexagons, and cubes.
The student is able to demonstrate and explore identified methods to use tools to capture and form media artworks.	<input type="checkbox"/> The student is able to effectively demonstrate and explore identified methods to use tools to capture and form media artworks. They are then able to apply those methods to other work.	<input type="checkbox"/> The student is able to demonstrate and explore identified methods to use tools to capture and form media artworks.	<input type="checkbox"/> With support the student is able to demonstrate and explore identified methods to use tools to capture and form media artworks.	<input type="checkbox"/> The student is unable to demonstrate and explore identified methods to use tools to capture and form media artworks.

NOTES: Consider the process used by the student while completing the task.