



peg+cat



EDUCATOR RESOURCE

Shapes and their Attributes

WATCH

Deep in the Magic Forest, Peg the Bold and Brave Sir Cat befriend a curious assortment of shape-loving creatures. Together with their shapely friends, these noble Knights of the Round Table embark on exciting adventures to retrieve an assortment of 2D and 3D shapes – including the Mermaid’s missing golden pyramids and a floating, sparkling sphere, which has carried away the Wizard Ramone. View clips from **The Golden Pyramid Problem** and **The Sparkling Sphere Problem** online at pbskids.org/learn and let the shape investigation begin!

PLAY!

Online, kids can join Peg the Bold and Brave Sir Cat on their own quest for missing shapes in **Magical Shape Hunt**, where players must rescue shapes from a raging river before they’re lost forever. (This game is best played on a laptop with a camera, but also works with traditional mouse and keyboard input.)

For more fun with shapes, try **Chicken Blastoff**, where kids must build their own rocketships out of available shapes to accommodate an ever-growing group of...chickens! Finally, the question will be answered: just *how* did those crazy chickens end up in space? (See **Peg + Cat Educator Resource: Numbers and Counting** to learn more about Peg and her chicken friends). Find both games at pbskids.org/learn.

EXPLORE

The hands-on activities on the following pages can be played in small or large groups to engage with 2D and 3D shapes – and they can be downloaded as PDFs from pbskids.org/learn:

- **Parts of Peg:** Children will label 2D shapes and learn shape attributes as they build a paper Peg doll.
- **I Spy Peg:** Children will go on a scavenger hunt to search for real-world objects that represent 3D shapes.

SHARE

At home, children can show off what they’ve learned about shapes as they work with an adult to create a stuffed beanie doll of Cat, or popsicle stick puppets of Peg and Cat. These activities will reinforce kids’ familiarity with shapes as well as their counting and measuring skills, and the completed crafts are sure to become favorite friends.

In this resource is a Parent Letter that you can send home with each child explaining the skills they’ve worked on today, and directing parents and caregivers to the Cat doll and popsicle stick activities at pbskids.org/learn.

All video clips, games, and activities in this resource can be found at pbskids.org/learn



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Dear Parent,

Today, your child learned about 2D and 3D shapes with **Peg and Cat, the problem-solving, math-loving duo from PBS KIDS**. Be sure to ask your child about the paper dolls we built out of common shapes, and/or the scavenger hunt we took to find shapes all around us. These fun group activities taught us about the following 2D and 3D shapes:

2D shapes: circle, triangle, square, rectangle, oval, and semi-circle.

3D shapes: pyramid, cube, and rectangular prism.

At home, you and your family can join in the fun by creating a stuffed beanie doll of Cat or popsicle stick puppets of Peg and Cat. You can find step by step instructions at pbskids.org/learn under "Shapes and their Attributes." And, you can encourage your child to continue exploring these and other early math concepts at pbskids.org/peg.

Learning math skills at a young age is important, so that children can succeed in school and in life. *Peg + Cat* makes math fun! Your family can watch the show weekdays on your local public television station and anytime at pbskids.org.

Estimados padres:

El día de hoy, su hijo aprendió sobre formas planas y tridimensionales con **Peg y Cat, el dúo de personajes de PBS KIDS, a quienes les fascinan las matemáticas y resolver problemas**. Pregunte a su hijo sobre los muñecos de papel que construimos a partir de formas geométricas simples y/o sobre el juego de la búsqueda de formas geométricas que encontramos a nuestro alrededor. Estas actividades divertidas nos enseñaron lo siguiente sobre las formas planas y tridimensionales:

Formas planas: círculo, triángulo, cuadrado, rectángulo, óvalo y semicírculo.

Formas tridimensionales: pirámide, cubo y prisma rectangular.

En casa, usted y su familia pueden unirse a la diversión creando un muñeco relleno de semillas de Cat o marionetas hechas con palitos de paleta de Peg y Cat. Usted puede encontrar instrucciones detalladas paso a paso en pbskids.org/learn; sección "Shapes and their Attributes". Además, usted puede motivar a su hijo a que continúe explorando estos y otros conceptos básicos de matemáticas en línea en pbskids.org/peg.

Aprender habilidades matemáticas a una edad temprana es importante para que los niños tengan éxito en el colegio y en la vida cotidiana. ¡Peg + Cat hacen las matemáticas más divertidas! Su familia puede ver los programas de televisión en su estación de televisión pública entre semana y en cualquier momento en línea en pbskids.org.



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ACTIVITY # 1

Parts of Peg

Children label 2D shapes and learn shape attributes as they build a paper Peg doll.

LEARNING GOALS

- Name and recognize 2D shapes: circle, triangle, square, rectangle, oval, semi-circle
- Investigate the attributes of these 2D shapes

ITEMS NEEDED

- Glue Sticks
- Safety scissors (one per child)
- Construction paper (to use as backing for Peg dolls)
- Printable pages:
 - “Parts of Peg” illustration to show the group, folded in half along the dotted line
 - “Pieces of Peg” printable page (one per child)

GET READY

With your group, view video clips from *The Golden Pyramid Problem* and *The Sparkling Sphere Problem* at pbskids.org/learn. Ask the children to pay special attention to the shapes they see in the episode.

Cut apart the shapes on each “Pieces of Peg” page so that each child will have one complete set of shapes when the activity begins. Older children can use safety scissors to cut out the shapes by themselves as part of the activity.



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ACTIVITY # 1

Parts of Peg

(continued)

HAVE FUN!

1. Review basic shapes with the group: circle, triangle, square, rectangle, oval, semi-circle. You can hold up the cut-out shapes and ask children to name and describe them one-by-one. Give an example: "This is a circle. A circle goes round and round and has no sides." Or, "This square has four corners and four sides that are all the same size." Ask the children what they notice about each shape.
2. Now hold up the folded "Parts of Peg" illustration. Explain, "This is Peg. Peg is actually made out of shapes." Unfold the page to show the other half of the Peg image. Ask, "Can anyone see any shapes in Peg? What shape is Peg's head? What shape are her legs?"
3. As children identify the shapes, continue to talk about each shape's attributes. You might ask, "How many corners does Peg's dress have? Remember, it's a triangle."
4. Give each child a set of pre-cut Peg shapes or the "Pieces of Peg" page and safety scissors so they can cut out their own. Hand out construction paper to use as backing. Explain, "We have a BIG PROBLEM! These pictures of Peg are in pieces! We need to glue the shapes to the paper and put Peg back together!"
5. It's time to create. Lead children in gluing the shapes onto the construction paper to create their own paper Peg dolls.
6. After children have made their dolls, encourage them to decorate Peg and add any missing features: hair, eyes, buttons, buckles, or even their favorite Peg + Cat background.

MORE FUN IDEAS

- As each child is holding her Peg doll, play a shape identification game. Say, "I'm thinking of a shape that is round and has no corners." Have children point to that shape as they say its name.
- Cut out some extra shapes and see what else children can make with the shapes. Can they make a house for Peg or a car for Peg?
- Have kids draw their own Peg! They can follow the instructions on the "Drawing Peg" handout.

PROBLEM SOLVED!

When everyone has completed their Paper Peg doll, sing the "**Problem Solved**" song!

♪ *Problem solved! The problem is solved!*
We solved the problem! Problem solved!



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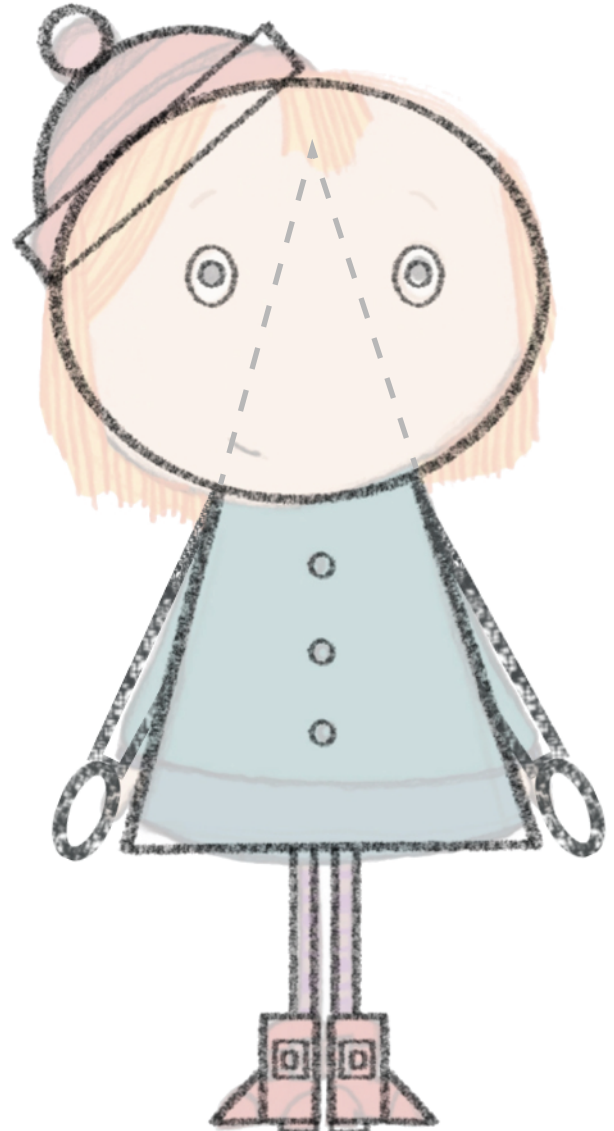


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ACTIVITY # 1

Parts of Peg Illustration



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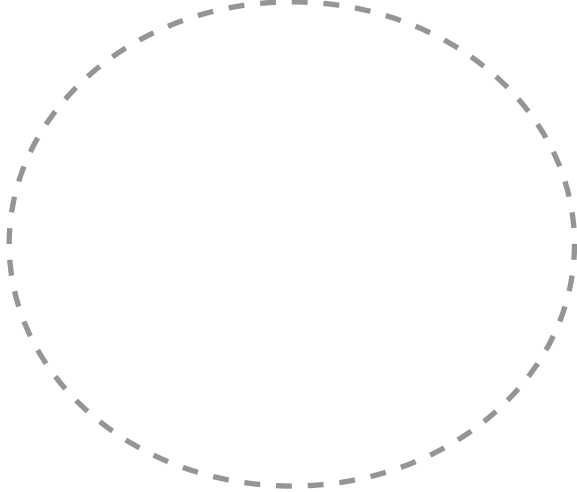
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ACTIVITY # 1

Pieces of Peg Handout

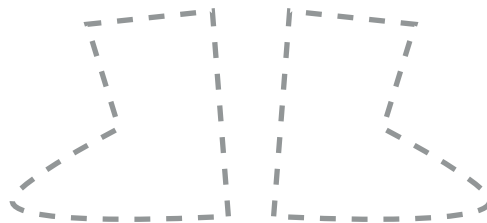
Head



Hands



Boots



Hat



Legs



Arms



Dress



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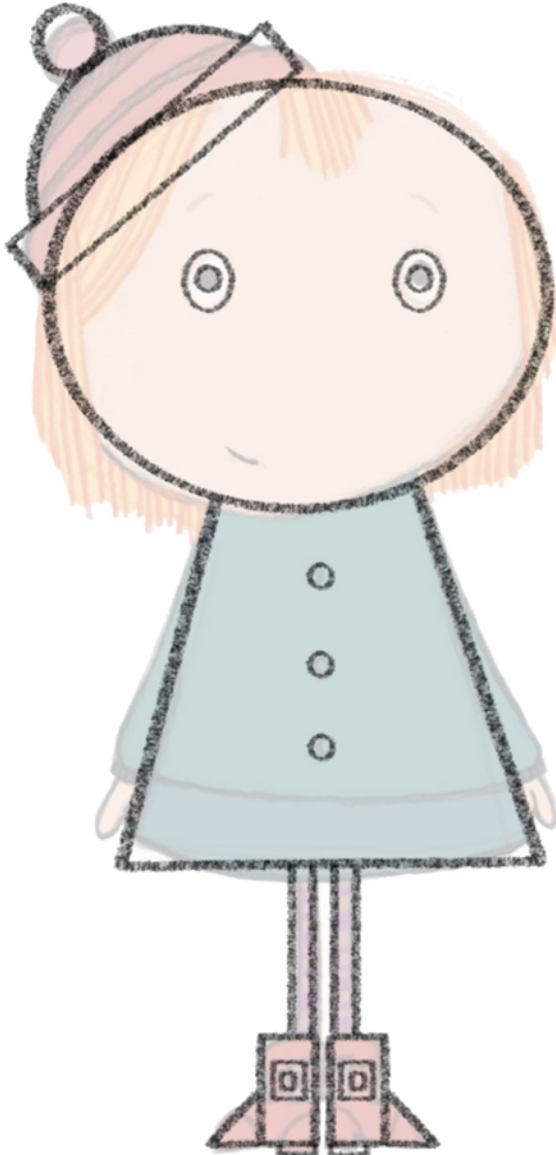


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ACTIVITY # 1

Drawing Peg Handout



Peg is made up of lots of simple shapes and lines.

First draw an oval for her head, two little ovals for her eyes, and two little circles for her pupils.

Then a triangle (or a trapezoid) for her dress, and three circles for the buttons.

Draw two thin rectangles for her legs.

Her hat looks hard, but it's really just a rectangle with a semicircle, and a little circle for the poof on top.

The boots are a bit tricky, but if you look carefully you'll see that they're really just a series of rectangles, and a triangle for the toe. You can round them off if you want to get fancy. The buckles are two squares.

To finish, you just need to draw a bunch of lines, some straight and some curvy, for her hair, arms, and fingers.



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ACTIVITY # 2

I Spy Peg

Children will go on a scavenger hunt to search for real-world objects that represent 2D and 3D shapes.

LEARNING GOALS

- Learn the names of four 3D shapes: sphere, pyramid, cube, and rectangular prism
- Investigate the attributes of these 3D shapes

ITEMS NEEDED

- A box with equal sides, or a ball
- "I Spy Peg" printable scorecards: one for the class to share, OR one per child/per pair of children
- The paper Peg dolls constructed in the previous activity (optional)

GET READY

With your group, view video clips from *The Golden Pyramid Problem* and *The Sparkling Sphere Problem* at pbskids.org/learn. Ask the children to pay special attention to the shapes they see in the episode.

The activity works best if each child has completed the previous activity and constructed a paper Peg doll.

HAVE FUN!

1. Have each child hold up his or her paper Peg doll. Together, review the shapes that make Peg. Ask, "What shape is Peg's head?" Or say, "I'm thinking of a part of Peg that is round. Which part of Peg am I thinking of?"
2. Explain to the group that the shapes in their paper Peg dolls are flat, but that shapes can also be **three-dimensional**. Give an example: "This ball is

round and has no sides, like a circle. But, a circle is flat and this ball is not flat. It is a solid shape or three dimensional. It is called a **sphere**." Or, you can use your finger to outline the face of the box and explain: "Here are four corners and four equal sides, like a square. But this box is three dimensional, not flat. It is called a **cube**." Continue by discussing a **triangle/pyramid** and a **rectangle/rectangular prism**.

(continued)



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ACTIVITY # 2

I Spy Peg

(continued)

HAVE FUN! (cont.)

3. Ask, "Did you know that flat and solid shapes are all around us?" Give some examples. Hold up a piece of paper and ask children, "What shape is this?" Point to a clock and ask, "What shape is this?" Ask, "What other shapes do you see?"
4. Now say, "We are going to be shape hunters. We are going to hunt inside and outside for things in the real world that have the same shapes as those that make up Peg!"
5. Move around the room or venture outside and keep hunting for Peg's shapes in 2D, 3D, or both. Kids can work individually, in pairs, or as one larger group. Mark the shapes on the scorecard as they are found. Children might find a triangle in a rooftop, a rectangle in a window, or a sphere in a soccer ball. Investigate each shape that you discover. Don't stop until you've found all of Peg's shapes.

PROBLEM SOLVED!

When all the shapes have been found, sing the "**Problem Solved**" song!

♪ *Problem solved! The problem is solved!
We solved the problem! Problem solved!*



ANOTHER FUN IDEA

Bring in found objects like cereal boxes and paper towel rolls. Work together to create a 3D Peg. As you work, name and describe the shapes that you are using.

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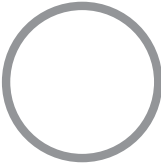







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ACTIVITY # 2

“I Spy Peg” Scorecard Handout

2D: Circle 3D: Sphere	2D: Oval	2D: Semi-circle
		

2D: Square 3D: Cube	2D: Rectangle 3D: Rectangular Prism	2D: Triangle 3D: Pyramid
		



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