

# Science @ Home

## PENGUINS



**Waddle you waiting for? Become a penguin pro with over a dozen hands-on activities created for kids ages 4-8.**

Dive into a different penguin theme each day with guided videos, crafts, interactive programs, and live webcams. Kids will activate their inner ornithologist (a scientist who studies birds) and learn all about African penguins—including the ones that call the Academy home!

*Please note: While Science @ Home activities are designed to be conducted by kids, some little ones might need adult help with reading instructions and preparing crafts.*

### Day 1: Penguin Adaptations

30-45 minutes

- » P is for Penguin (video)
- » Penguin Puppet Performance (video)
- » Paper Penguin (craft) (en español)
- » Penguin Habitat Adaptation (video)
- » Penguin Feathers (video)

### Day 2: Penguin Check Up

60-90 minutes

- » *Pierre the Penguin* Storytime (video) (en español)
- » Color a Penguin (coloring)
- » Chick Check-Up (video)

### Day 3: Be a Penguin Scientist

30-60 minutes

- » Penguin Observation (activity)
- » Live Penguin Webcam (video)
- » Stand-Up Penguin (craft)
- » Faction Penguin (activity) (en español)

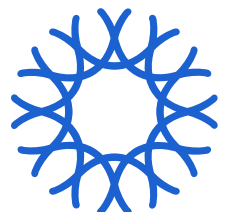
### Day 4: Behind the Scenes with Penguins

30-45 minutes

- » Feeding Time (video)
- » Hatching Penguin (craft) (en español)
- » Penguins Swimming & Braying (video)

### Extension Activities

- » Penguin Conservation (video)
- » Breakfast Club with Vikki (video)
- » Sustainable Seafood (activity)





# Penguin Shapes Craft

## Materials

Paper  
Scissors  
Markers, crayons, or colored pencils  
Glue stick

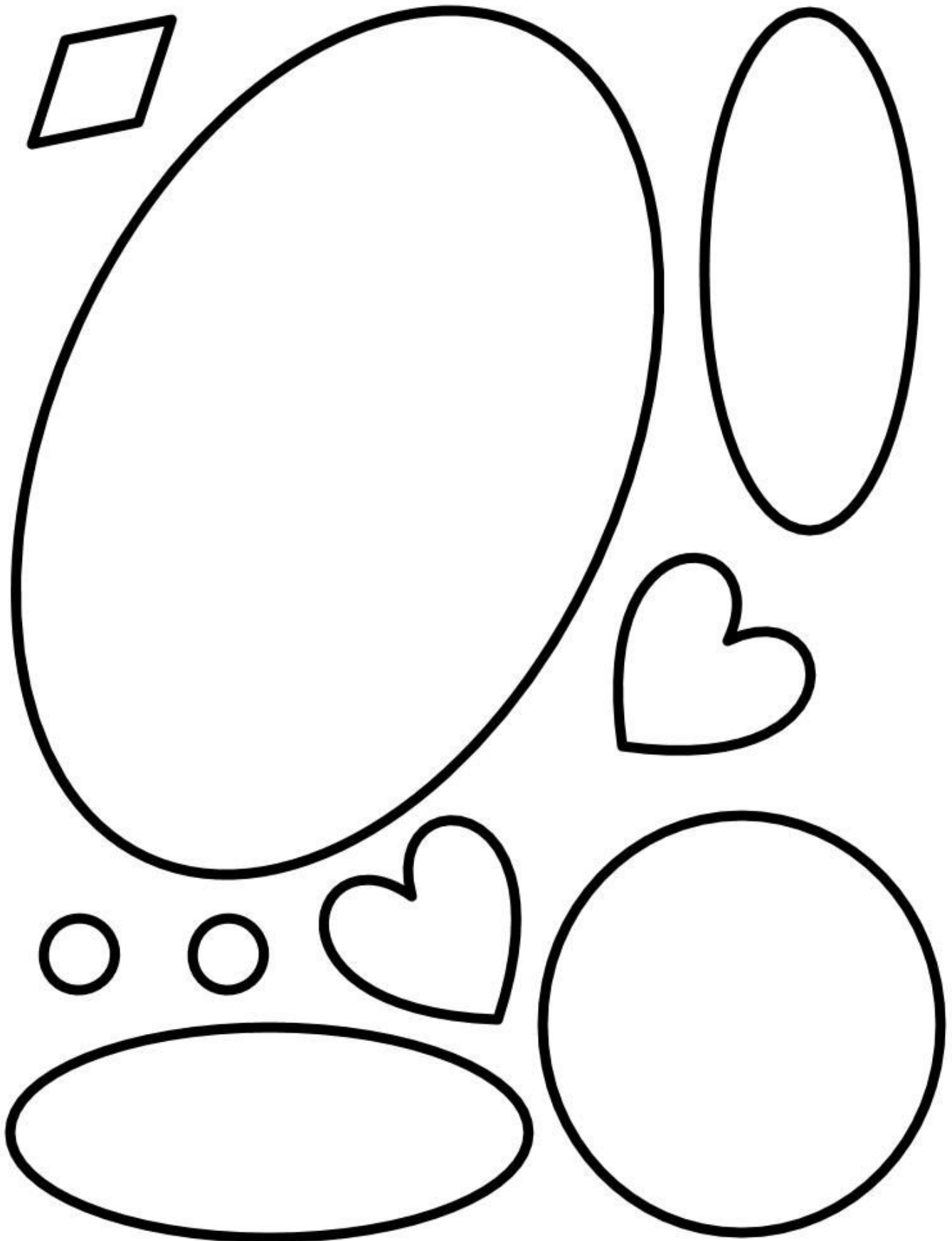
## Directions

1. Draw the following shapes (or use the print-out on the second page):
  - 1 large oval shape for the body
  - 1 medium-sized circle for the belly
  - 2 thin ovals for the wings
  - 2 small heart shapes for the feet
  - 1 small triangle for the beak
  - 2 small circles for the eyes
2. Color the shapes and then cut them out.
3. Glue the belly, wings, feet, beak, and eyes to the penguin's body.
4. Draw a design on the belly to look like an African penguin!





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# Artesanía de Forma de Pingüino

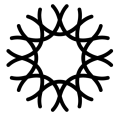
## Materiales

Papel  
Tijeras  
Marcadores, crayones, o lápices de color  
Pegamento en barra

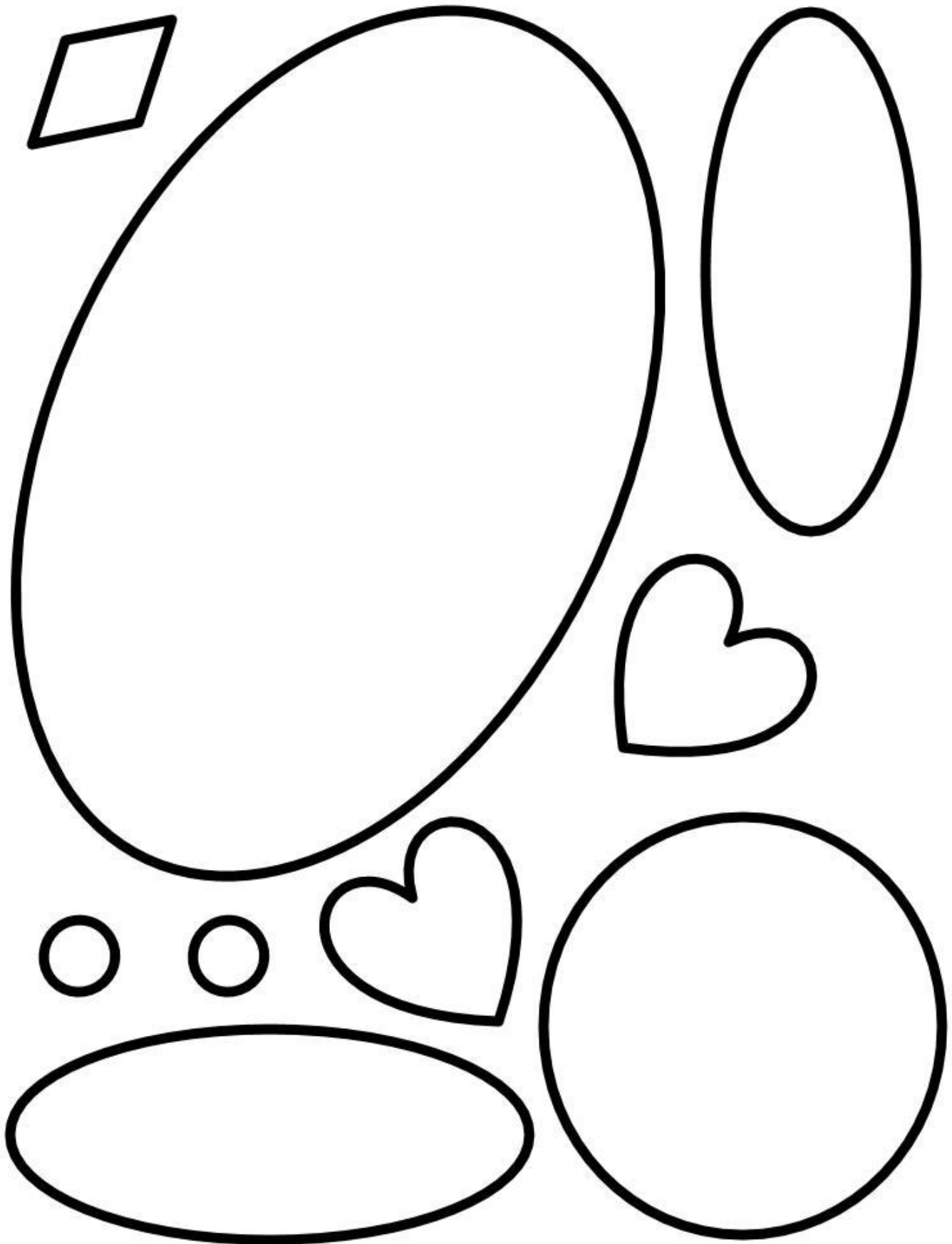
## Instrucciones

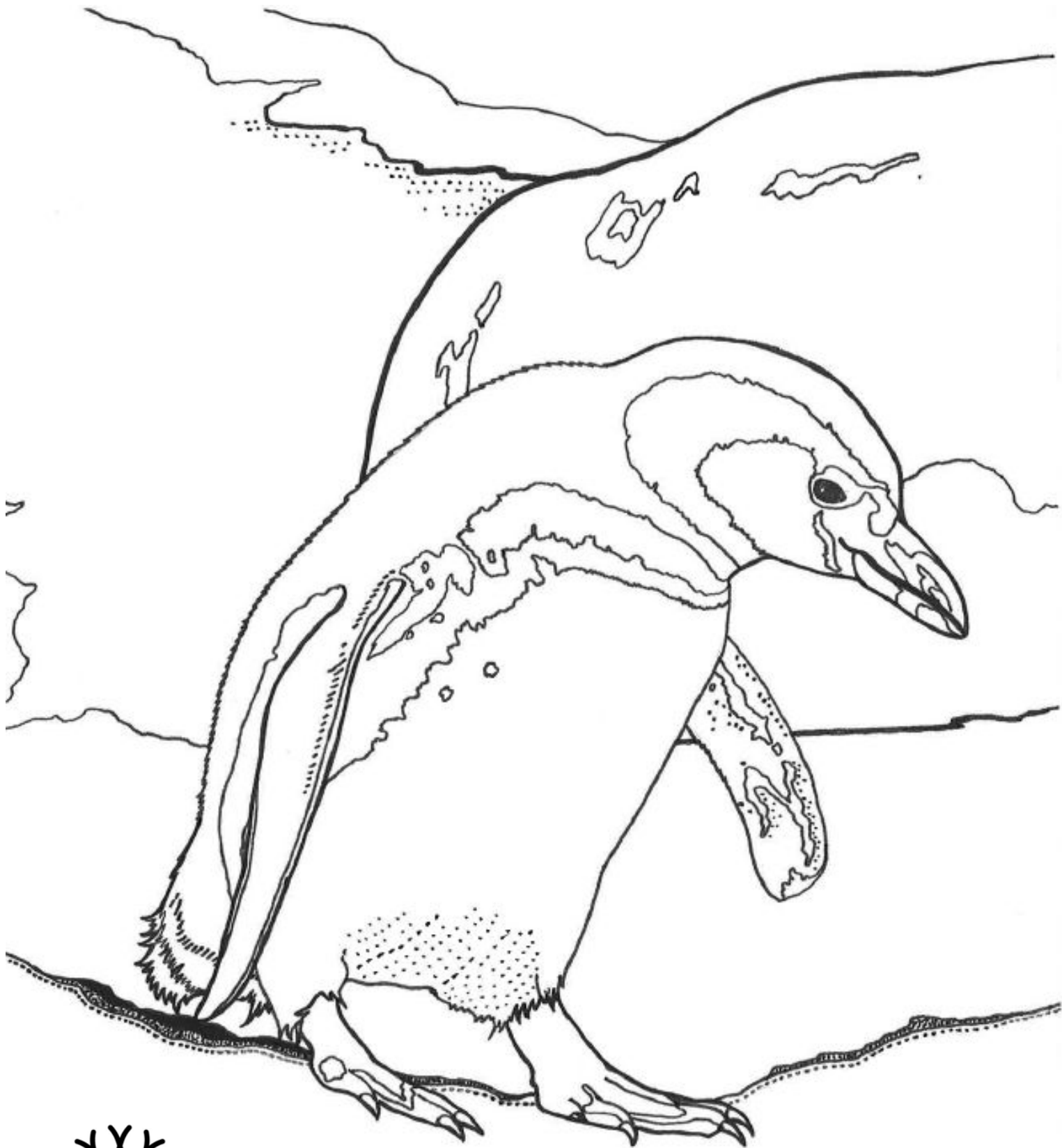
1. Dibuja las siguientes formas (o utiliza la impresión en la segunda página):
  - 1 óvalo grande para el cuerpo
  - 1 círculo de tamaño mediano para el vientre
  - 2 óvalos delgados para las alas
  - 2 corazones pequeños para los pies
  - 1 triángulo pequeño para el pico
  - 2 círculos pequeños para los ojos
2. Colorea las formas y recortalas.
3. Pega el vientre, las alas, los pies, el pico, y los ojos al cuerpo del pingüino.
4. Dibuja un diseño en el vientre para que se parezca a un Pingüino Africano!





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Drawn by Sharon Abe for the California Academy of Sciences

# JUNIOR SCIENTIST ADVENTURE

SELF-GUIDED ACTIVITY

## Penguin Observation Activity Chart

observe



**An observation is made when someone uses their senses to explore the world around them.**

record



Scientists use these observations to record information about plants, animals, and anything else they may be studying. This information helps scientists ask questions and solve problems.

share



Penguin biologists use observations to record penguin diet and behavior so that they can better understand the health and well-being of the African penguin colony.



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# DIRECTIONS

1 Observe 2-3 penguins for five minutes.

2 Mark down what you observe on the chart.

## PENGUIN

The bands on the penguins' wings help biologists tell them apart.



See the African Penguin Colony chart to identify the penguins!



## PREEN

Look for a penguin cleaning their feathers with their beak.



## EAT

Our penguins eat sustainable seafood, mainly herring & capelin. Explore **Seafood Watch** to learn how you can eat sustainably too!

EXAMPLE

*Poppy*

*Orange band, left wing*

///

*Once when they got out of the water + 2 other times*

///

*3 big fish & 2 small*




3 Talk with others in your group about what you noticed.

4 Continue to make more observations about life here at the Academy & beyond!



## SWIM

Penguins swim to look for food, bathe, play, and exercise.



## COLLECT

Penguins collect leaves or similar materials for nests. Look for green nesting materials that are not leaves.



## WALK

Look for a penguin walking around on land. Where is it going?



## INTERACT

Penguins communicate with each other in many ways. Notice penguins looking at each other, preening one another, or fighting.

<p>//</p> <p><i>Swam for 2 minutes</i></p>	<p> </p> <p><i>Stole nesting materials from another penguin!</i></p>	<p>///</p> <p><i>Walked to get food and interacted with their mate</i></p>	<p>///</p> <p><i>Stared at another penguin and then brayed (penguin call)</i></p>



## FIELD NOTES

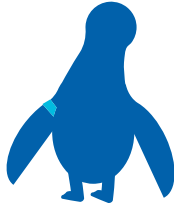
*Sketch an African penguin you observed.*

Focus on Observations before Art: Scientific drawing isn't about a perfect picture. It's about recording your observations visually. Your sketch can include labels, questions, and even your thoughts and ideas.

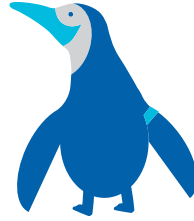
**Keep on exploring, observing, and asking questions about the world around you!**

# African Penguin Colony

AS OF OCTOBER 2020



**Left Band**  
Female



**Right Band**  
Male

**Stanlee**  
2018

**Tux**  
2006

**Kianga**  
2007



**Dunker**  
2007

**Poppy**  
2018



**Darcy**  
2013

**Dassen**  
1984



**Grendel**  
1991

**Ty**  
2011



**Robben**  
2001

**Opal**  
1988



**Pete**  
2007



# Stand Up Penguin

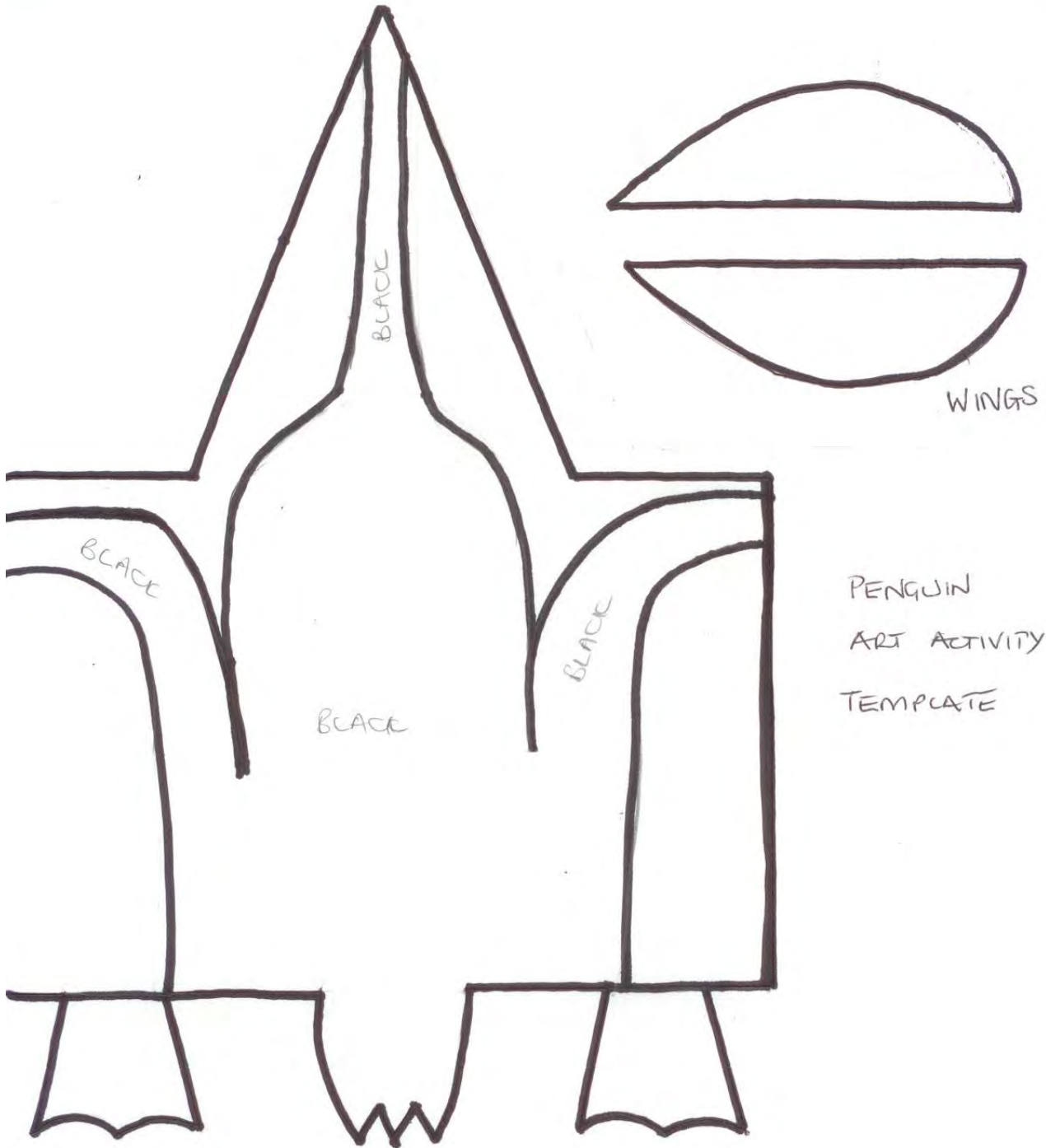
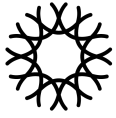
## Materials

Penguin print-out template (page 2)  
Scissors  
Crayons  
Tape and/or glue

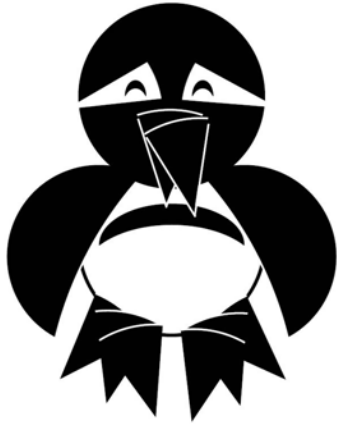
## Directions

1. Color the penguin template on the second page. Use the African Penguin image below for inspiration.
2. Cut out the penguin template, including the body piece and two wing pieces.
3. Fold the sides of the body piece around to make a cylinder and then tape or glue them together. Make sure the colored side is facing out.
4. Fold the feet and tail out.
5. Fold the tip of the triangle over to make the penguin's head and beak. Tape or glue the tip of the beak to the penguin's chest.
6. Glue or tape the penguin's wings to its sides.





PENGUIN  
ART ACTIVITY  
TEMPLATE



# Fraction Penguin

## Materials

Any object with a circular base that you can use to trace a circle  
White and black construction paper

Pencil

Black marker

Scissors and glue

## Directions

1. Trace and cut out four black circles and two white circles. Tip: use a CD, container lid, plastic bowl, or anything with a round base to trace the circles.
2. Make four back feathers by cutting 1 whole black circle into four  $\frac{1}{4}$  size pieces. Glue all four feathers onto the white belly circle. Your penguin's body now has countershading: their white bellies and black backs help penguins camouflage while swimming in the water.
3. Turn the penguin over so that the white belly is facing up.
4. Glue 1 whole black circle to the top of the penguin's body to make its head.
5. Cut 1 whole black circle into two  $\frac{1}{2}$  size pieces to make its wings. Glue the wings to the sides of your penguin's body.
6. Cut 1 whole black circle into  $\frac{1}{8}$  size pieces. Glue three  $\frac{1}{8}$  size pieces together to make a foot. Repeat for the second foot, then glue both feet to the bottom for the penguin's body.
7. Use the two remaining  $\frac{1}{8}$  size pieces to make a beak. Put one 1 piece on top of the other to make a top and bottom beak. Glue them together just along the wide edge. Then glue the bottom beak to the penguin's face.
8. Cut 1 whole white circle into sixteen  $\frac{1}{16}$  size pieces. Glue two of these pieces to the penguin's head to make eye masks.
9. Draw eyes on the eye mask and a chest band on the body.



## Recipe for a Fraction Penguin

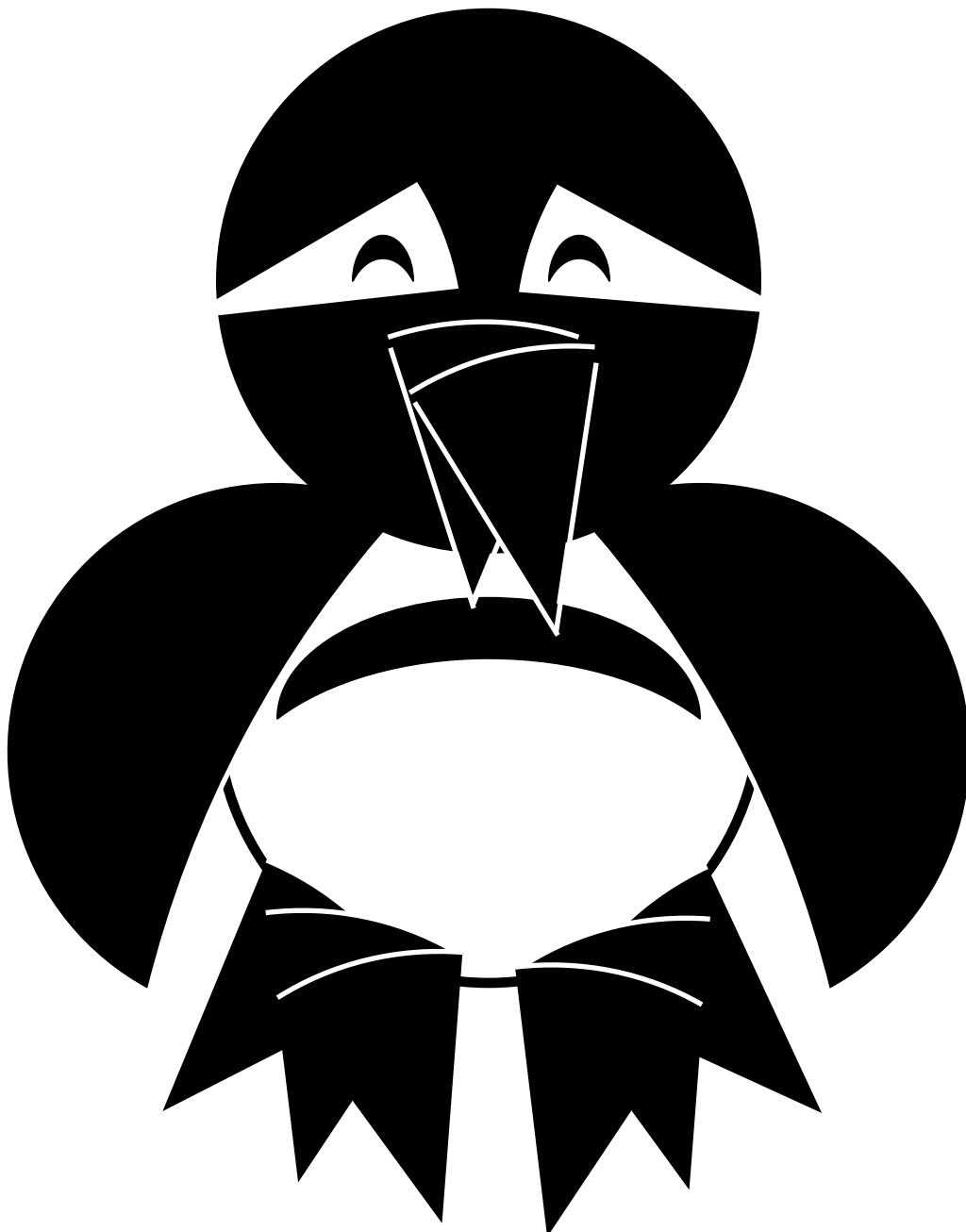
### **Black (4 whole circles)**

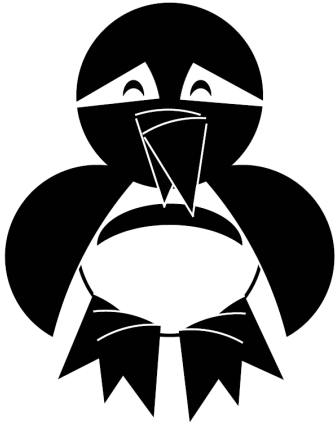
- 1 head, size 1
- 2 wings for swimming, size  $1/2$
- 4 back feathers, size  $1/4$
- 6 toes for waddling and hopping, size  $1/8$
- 2 beak parts for grabbing fish, size  $1/8$

### **White (1 whole circle, plus mini slices)**

- 1 belly, size 1
- 2 eye masks, size  $1/16$

Use a black marker to draw on eyes and a chest band, and voila!





# Pingüino de Fracción

## Materiales

Cualquier objeto que tiene una base que puedes usar para trazar un círculo

Papel de construcción blanco y negro

Lápiz

Marcador negro

Tijeras y pegamento

## Instrucciones

1. Traza y corta cuatro círculos negros y dos círculos blancos. Consejo: usa un CD, tapadera, un tazón plástico o cualquier material que tiene una base redonda para trazar círculos.
2. Haz cuatro plumas traseras cortando 1 círculo negro entero en cuatro trozos de tamaño  $\frac{1}{4}$ . Pega las cuatro plumas en el círculo blanco del vientre. El cuerpo de tu pingüino tiene ahora contra sombra: su vientre blanco y su espalda negra ayuda a los pingüinos a camuflarse mientras nadan en el agua.
3. Da le vuelta al pingüino para que el vientre blanco quede hacia arriba.
4. Pega 1 círculo negro entero en la punta del cuerpo del pingüino para hacer su cabeza.
5. Corta 1 círculo negro entero en dos trozos de tamaño  $\frac{1}{2}$  para hacer sus alas. Pega las alas a los lados del cuerpo de tu pingüino.
6. Corta 1 círculo negro entero en trozos de  $\frac{1}{8}$ . Pega tres trozos de  $\frac{1}{8}$  para formar el pie. Repite la operación para el segundo pie, y luego pega ambos pies a la parte inferior del cuerpo del pingüino.
7. Utiliza los dos trozos restantes de  $\frac{1}{8}$  para hacer el pico. Coloca una pieza sobre la otra para hacer un pico superior e inferior. Pégalos juntos justo a lo largo del borde ancho. Después, pega el pico inferior a la cara del pingüino.
8. Corta un círculo blanco entero en dieciséis trozos de un  $\frac{1}{16}$  de tamaño. Pega dos de estas piezas a la cabeza del pingüino para hacer un antifaz.
9. Dibuja los ojos en el antifaz y la banda del pecho en el cuerpo



## Receta para un Pingüino de Fracción

### Negro (4 círculos enteros)

1 cabeza, tamaño 1

2 alas para nadar, tamaño  $1/2$

4 plumas negras, tamaño  $1/4$

6 dedos de los pies para menear y saltar, tamaño  $1/8$

2 partes del pico para agarrar pescado, tamaño  $1/8$

### Blanco (1 círculo entero, más rebanadas pequeñas)

1 vientre, tamaño 1

2 antifaz, tamaño  $1/16$

Use un marcador negro para dibujar ojos y una banda del pecho.



# Hatching Penguin

## Materials

Colored construction paper

Scissors

Glue stick

Optional: cotton ball, pulled apart into small pieces

Optional: hole-reinforcing circles or googly eyes

## Directions

1. Draw a large oval on white paper and cut it out.
2. Trace the white oval onto black paper and then cut out the black oval.
3. Use a zig-zag line, cut the white oval into two pieces.
4. Put the two pieces of the white oval on top of the black oval and then glue just the tips in place.  
Allow the glue to dry for about 1 minute.
5. Open the egg from the middle so that the top piece folds up and the bottom piece folds down.
6. Add two eyes. You can cut out two small white circles and glue it on, or use hole-reinforcement stickers or googly eyes.
7. Add a beak. Cut out a small triangle and glue it down.
8. Add a white belly by adding some glue to the tummy and then sticking on pieces from a cotton ball. Or, you can cut out a white circle and glue it on.



# Pingüino en Eclosión

## Materiales

Papel de construcción de colores

Tijeras

Pega en barra

Opcional: bola de algodón, separa en trozos pequeños

Opcional: círculos de refuerzo para huecos o ojos saltones

## Instrucciones

1. Dibuja un óvalo grande en papel blanco y recortalo.
2. Traza el óvalo blanco en papel negro y después recorta el óvalo negro.
3. Con una línea zig-zag, corta el óvalo blanco en dos trozos.
4. Pon las dos piezas del óvalo blanco sobre el óvalo negro y después pega sólo las puntas. Deja que el pegamento se seque aproximadamente por 1 minuto..
5. Abre el huevo por el centro de forma que la pieza superior se doble hacia arriba y la inferior hacia abajo.
6. Añade dos ojos. Puedes recortar dos pequeños círculos blancos y pegarlos, o utilizar pegatinas de refuerzo de agujeros o ojos saltones.
7. Añade un pico. Recorta un pequeño triángulo y pégalo.
8. Añade un vientre blanco añadiendo un poco de pegamento al vientre y pegando después trozos de una bola de algodón. También puedes recortar un círculo blanco y pegarlo.