

# PENGUIN PARENTING



TEACHER GUIDE

WONDER



# PLANNING

Here's a suggested schedule for this kit! The activities should be completed in order, but you can choose when the lessons take place over time.

ACTIVITY INFORMATION	SECTION (S)	TIME REQUIRED	DAY/ LESSON
<b>ACTIVITY 1: TO THE EXTREME</b> Parents go to extremes to care for their offspring! Total time: 30 min	<input type="checkbox"/> Penguin Parental Care	30 minutes	Day 1
<b>ACTIVITY 2: WHAT ARE NEEDS?</b> With art, show what penguin chicks need to survive. Total time: 1 h	<input type="checkbox"/> Penguin Chick Needs	15 minutes	Day 2
	<input type="checkbox"/> The Three Needs	30 minutes	Day 3
	<input type="checkbox"/> Show What You Know	15 minutes	Day 4
<b>ACTIVITY 3: CALL FOR HELP</b> Offspring signal to obtain resources. Total time: 1 h	<input type="checkbox"/> Nature Walk	30 minutes	Day 5
	<input type="checkbox"/> Making the Call	15 minutes	Day 6
	<input type="checkbox"/> Show What You Know	15 minutes	Day 7
<b>ACTIVITY 4: PROVIDING FOR PENGUIN CHICKS</b>	<input type="checkbox"/>		

*Full schedule available with purchase*

# PENGUIN CHICK NEEDS

2

**?** **Question:** In Activity 1, you saw penguin parents taking care of their baby. Draw a picture of a baby penguin. Add anything the baby penguin might need. Label your picture.

**Answer:** While your student creates their image, do not provide them any information about the needs a penguin chick has, nor how those resources are obtained. Students may think of food as a need and draw what they think the chicks need. It is likely that your student will not know all of the needs of penguin chicks. This is okay. They are going to learn this information in the following section and then create a drawing later that demonstrates what they have learned.

• Your student may add a scarf or hat to demonstrate that the baby penguin is cold and needs to be kept warm. While the need of warmth is correct, they have not correctly identified how the penguin chick obtains its warmth. Again, this is okay. Do not correct your student as they create their art. Allow them to make mistakes they can learn from.

## THE THREE NEEDS

### FOOD - CONTENT

- If you have a student who is particularly interested in diets, you can delve into the other animals that penguins eat. Other than krill and squid, the fish penguins diet includes lantern fish, sprats, pilchards, mullets, anchovies, sardines, cod, and opal eye.
- They can also learn about which types of fish are most common to the different species of penguin that exist.
- To go further with feeding and diet, you can connect with a local aquarium to participate in a penguin feeding. Some aquariums allow visitors to go behind the scenes and assist in feeding their penguins.
- Look into this before you go because you will likely need to make a reservation prior to your visit. Even if your local aquarium does not allow visitors to assist with feeding their penguins, you can visit the aquarium with your student to view the feeding.

### WATER - CONTENT

- Penguins have a supraorbital gland behind their eyes that helps to filter salt out of their bodies. When salty blood passes through the gland, the salt is collected.
- Because the water that penguins ingest is so salty, they will expel the excess salt to remove it from their system. This is a common behavior among many reptiles as well, including Chuckwallas.

### SAFETY - CONTENT

- If your student is interested in penguin predators, they can learn more by researching about leopard seals, fur seals, sea lions, sharks, and killer whales. Another bird that preys on penguin eggs and chicks are skuas.



## SHOW WHAT YOU KNOW

**?** **Question 1:** You have learned a lot about penguin chicks and the needs offspring have to survive. Draw a penguin chick and what it needs to survive to show what you have learned. Label your picture.

**Answer:** Your student's drawing should differ from the drawing they did at the beginning of this activity. To prepare your student, you can briefly review the material covered in the previous section.

- Their drawing should include penguin chicks huddling with their parents for warmth, or a penguin protecting its egg. It should also include evidence that parents are feeding their chick.

- Your student may draw fish for their penguin chick to eat instead. This is okay, but clarify with your student that this fish is partially digested and will not look like a whole fish when the penguin eats it. If the fish are in the water, have your student clarify how the penguin chick gets their food.
- Of the needs, it is most likely that your student will forget to include how penguins get water. They may instead label the water from the ocean. If they do so, ask clarifying questions such as, “how do the penguin chicks get the water?” to ensure they understand the chicks do not drink water like humans do.

**? Question 2: In the table below, list the needs the penguin chick has. Then, answer the questions about that need.**

**Answer:** Your student should list the three needs: food, water, and safety. They should also say that they do have those same needs. How your student gets their needs met will vary. However, make sure that their responses are accurate. For example, your student should say they use repeating syllables to find their parents as a way to obtain safety. They can say that they hold their parents’ hand when they are scared.

Need	Do you have the same need?	If so, how do you get that need met?
Food	Yes	(answers vary)
Water	Yes	(answer vary)
Safety	Yes	(answers vary)

## CALL FOR HELP

Penguins will call for one another to obtain resources to find one another when they are lost. Penguins live in large, noisy groups which can make it difficult to find each other easily. Signaling is especially important for penguin chicks to inform their parents they are lost, hungry, or need help.

In this activity, your student will learn about signaling and the signals a penguin chick makes to obtain food and safety.

### ✓ LEARNING GOALS:

I can explore to see how the behavior of parents and offspring help organisms survive.

## MULTIPLE AGES AND ABILITIES:

If your student is not able to walk or does not enjoy walking, an alternative would be to sit outside or open a window to sit by for this activity. Every student can enjoy listening to nature, even if they do not go outside to do so. Another alternative for students who may struggle with sound and volume is to play videos with nature sounds at a volume that is suitable for them. Center for Global Soundscapes was created by Purdue University to study the impact of natural sounds on humans. You will not be a part of their study, but you can have your student listen to “Soundscapes Radio.” You can also use your phone’s application store to search for other options, such as “Nature Sounds.”

Also, if your student does not enjoy writing or writing would diminish their experience, you can record their responses for them or have an older student write down what is heard as the two students discuss what they are hearing together.

# SUCCESSFUL SEARCHING

## CONTENT

- Encourage your student to be thoughtful as they read through this section.
- Pause after each question to allow students to think about their own experience with the maze.

# JUST LIKE MOM AND DAD

Animal parents care for offspring that are their own. They know who is their offspring because offspring have traits that are similar to the parent. It is especially important for animal offspring to look similar to the father in many species that provide parental care. Animal mothers know who their offspring are because they gave birth to them. However, often offspring look more similar to their fathers initially so animal fathers will identify the offspring as their own and care for it.

In this activity, your student is going to make a set of creatures to model how we obtain our traits from our parents. The activity does touch on genetics, but is simplified to be understandable for your student.

# 5

## activity

### ✓ **LEARNING GOALS:**

I can see how offspring are like, but not exactly like their parents.

# WHY DO WE CARE?

## CONTENT

- Your student may question why humans care for children who are not their own. Most animals are not like humans and will not care for offspring that are not their own.
- Humans are different from animals because we often care for offspring that are not our own. We experience altruism.
- Altruism is the selfless care and concern for the well-being of others.
- It is common for blended families to have situations where offspring are cared for by adults who are not their direct relatives. Additionally, adoption brings in another opportunity for humans to care for offspring that are not their own.

8

# CREATURE CREATIONS

## ☑ **PREPARATION AND SUPERVISION**

- Your student will be making a model of two parent creatures with varying arm, leg, and eye colors. Parent one should have green eyes, white legs, and yellow arms. Parent two should have blue eyes, yellow legs, and white arms.
- While exact lengths of the pieces of pipe cleaner that are cut do not have to be exact, it is helpful for the pieces to be as close in length to one another as possible. This will ensure that no piece is too short later on.
- After your student has created both parents, you can allow your student to stop and come back another day. It is a great stopping point if students are getting tired. For students that enjoy art and have enough energy to continue, feel free to move on to creating the offspring creature.



# SCIENCE UNLOCKED

© Home Science Tools. All rights reserved.  
*Reproduction for personal or classroom use only.*

Contact us at: [www.homesciencetools.com/customer-service/](http://www.homesciencetools.com/customer-service/)

A Product of [Homesciencetools.com](http://Homesciencetools.com)

Kit	SU-PNGPRNT
Instructions	IN-PNGPRNT
Revision Date	3/2021