

Virtual Program

Waddle Like a Penguin (K-3)



Virtual Program Logistics

- We will be asking students to share their ideas with us. Call on students for ideas the same way you would on any other day. *If we are having trouble hearing individual students we may ask for you to repeat their answer or for them to come closer to the mic. Encourage them to speak slowly and clearly.*
- We encourage you to connect something we say or do to previous lessons or experiences. If you wish to do so, please either wait for a pause or use the chat to let us know you'd like to jump in for a moment.



Length of Program

20 - 40 minutes

Program Objectives:

By the end of this activity students will be able to....

- understand how a penguin's physical features help it survive in its environment.
- gain experience making observations, and asking questions.
- have an appreciation for penguins and the places where they live.

Program Summary

Students will meet and learn about one of the many animals that live here at the California Academy of Sciences, the South African Penguin. By observing the penguins in our colony, students learn how penguins are similar to other birds and how their differences help them survive in their environment. Students will explore what it is like to be a penguin by waddling and swimming like one. Students will observe our live South African Penguin colony to discover what helps penguins survive in South Africa. Finally, students will have the chance to ask their questions about penguins to Academy educator while watching the colony.

Pre-Activities:

In addition to discussing what they should expect during the program these pre-program activities are designed to be an introduction to the different species penguins or as a review.

- [See and Tell](#) lesson: it is designed to prepare your students to make quick observations.
- Ask students to list what they already know about penguins. If you are putting their ideas on the board, make sure to capture these to send along before your Academy program.
- Have students brainstorm what they wonder about penguins. Use the list of what they wonder to generate questions to ask. Capture their ideas and send them on to distancelearning@calacademy.org. You may also want to write their ideas on a large poster paper and leave it up during the program to help them remember what they wanted to know.

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Post-Activities

Use these activities to extend their learning after their *Penguin Adaptations* program.

- Read about one of our penguins in *Pierre the Penguin*
- Watch a short video or two featuring penguins, preferably without much narration. We have listed some examples, but feel free to choose your own.
 - [Arkive](#) has a whole lot to choose from. Here are a couple specific videos to use:
 - www.arkive.org/gentoo-penguin/pygoscelis-papua/video-00.html
 - www.arkive.org/galapagos-penguin/spheniscus-mendiculus/video-00.html
 - www.arkive.org/emperor-penguin/apterodytes-forsteri/video-00.html
 - Here are a few other videos:
 - www.youtube.com/watch?v=mj0_p7UldVs
 - www.youtube.com/watch?v=qF9bMcRRIQg
 - www.wimp.com/beingpenguins/

Program Back Up Plan

While we do not anticipate any interruptions, we can never guarantee that there will not be technical difficulties. In the unlikely event that we must end the program because of that, here are a few ideas for backup activities.

- If you have completed most of the program, brainstorm any lingering questions. Compile the questions and email them to distancelearning@calacademy.org.
- If you have some internet connection, you can view the penguin colony. www.calacademy.org/explore-science/live-penguin-cams/

Connections to the Next Generation Science Standards

Related Performance Expectation:

This Virtual Program is just one step toward reaching the Performance Expectation listed below. Additional supporting materials/lessons/activities will be required.

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.
- 3-LS2-1 Construct an argument that some animals form groups that help members survive.
- 3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

Science and Engineering Practices	Connections to Activity
Asking Questions and Defining Problems <ul style="list-style-type: none">• (K-2) Ask questions based on observations to find more information about the natural and/or design world(s).	<p>Student will be encouraged to ask questions based on their observations of the Academy live colony web cameras.</p> <p>Students will have an opportunity to ask an Academy educator questions they developed throughout out the program.</p>

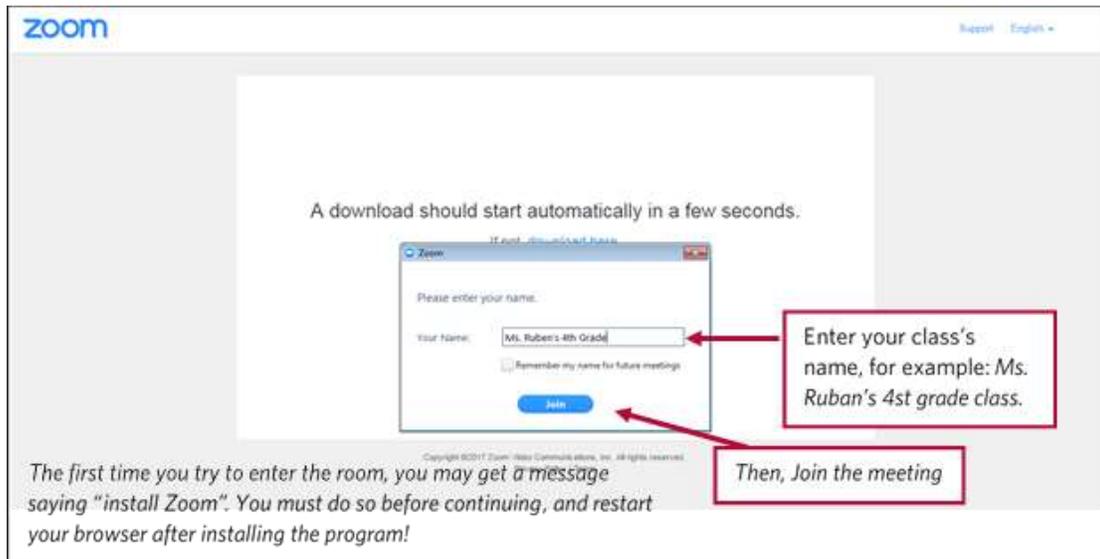
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<p>Constructing Explanations and Designing Solutions</p> <ul style="list-style-type: none"> (K-2) Use information from observations to construct an evidence-based account for natural phenomena. (3-5) Use evidence to construct or support an explanation or design a solution to a problem. 	<p>Throughout the program students will gather evidence, observations, previous knowledge and discussions, to construct an explanation for why South African Penguins are specially adapted to living the oceans of South Africa.</p>
<p>Disciplinary Core Idea</p>	<p>Connections to Activity</p>
<p>K-ESS3.A: Natural Resources</p> <ul style="list-style-type: none"> Living things need water, air, and resources from the land, and they live in places that have the things they need. 	<p>Observing the Academy penguin colony and images, students become familiar with the natural habitat of African penguins. They will connect the need of the penguin to the habitats resources.</p>
<p>1-LS1.A: Structure and Function</p> <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. 	<p>While students act like a specific penguin in our African penguin colony, they will make connections between the structural features of the penguins and the function on those features.</p>
<p>3-LS4.C – Adaptation</p> <ul style="list-style-type: none"> For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. 	<p>Based on their observations of our live penguin colony camera, students will identify the physical structure of penguins allow them survive in the ocean.</p> <p>During a discussion students will start to identify the actions and behaviors to protect themselves from predators</p>
<p>Crosscutting Concepts</p>	<p>Connections to Activity</p>
<p>Patterns</p> <ul style="list-style-type: none"> (K-2) Patterns in the natural and human designed world can be observed, used to describe phenomena and used as evidence. (3-5) Identify similarities and differences in order to sort and classify natural objects and designed products. 	<p>Using models of a penguin and other birds, students will compare them to understand the structural patterns that all birds have.</p> <p>While comparing the models students will discover the differences between the birds to help explain why penguins do not fly.</p>
<p>Structure and Function</p> <ul style="list-style-type: none"> The shape and stability of structures of natural and designed objects are related to their function(s). 	<p>While students act like a specific penguin in our African penguin colony, they will make connections between the structural features of the penguins and the function on those features.</p>

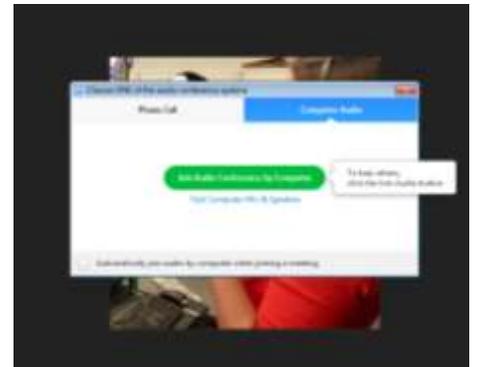
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Connecting to the Academy

1. Open a browser window. Our meeting platform is compatible with all browsers.
2. Enter the link you were given for the program.
3. You will be brought to this screen:



4. The first time you enter the room, you may get a message that says you need to have Zoom installed. You must do so before continuing.
5. If you already have Zoom installed, you will be taken to a screen that looks like this:
6. When you connect, you will see a pop-up window with "Join Audio Conference". Choose Audio connection "by computer" or "by phone". Most will connect "by computer".



7. Enable your Web Camera by clicking on the "Start Video" at the bottom of your screen.
8. Your Academy educator will see that you have signed on. You may not see a live Academy educator right away. Please wait. The Academy staff members are not yet ready to begin. If you get this at your designated meeting time, we'll connect shortly or call your classroom to let you know of any problems.

