Write two things you learned about penguins today.

1. **Answers may vary.**

2. **For example Adélie penguins are a type of brushtail penguins.**

Write two things you would like to ask a scientist about penguins or Antarctica.

1. ____________________________________
   ____________________________________

2. ____________________________________
   ____________________________________

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**Penguin Life Cycle**

Student drawings will vary. All descriptions are explained in the lesson plan.

Stage One:

Stage Two:

Stage Three:
Penguin Life Cycle

Stage Four:

Stage Five:

Penguin Vocabulary

Colony (rookery): a breeding ground for penguins or other birds

Pebble Nests: nests made by brush-tail penguins, that are made up of pebbles

Fasting: periods of time during breeding seasons where the penguins do not leave nesting areas to feed

Regurgitates: to bring up food in the stomach by throwing up, so that it can be fed to young chicks

Crèche: a group of young chicks; a nursery where chicks gather for safety while their parents are at sea

Fledglings: a young bird that has just grown its adult feathers

Tobogganing: speeding over snow and ice by sliding on one’s belly
Comparing and Contrasting Life Cycles: Teacher guide

Penguin

- Grows up from a chick when it hatches.
- Its growth stages blend together.
- Live for 15-20 years
- A chick's parents feed, take care of, and protect it.

Butterfly

- When it hatches from the egg it becomes a caterpillar.
- Has 4 separate stages.
- Looks completely different in each stage.
- Live for 20-40 days
- Does not know who its parents are.
Center Activity 1: Waterproof Feathers

Write a complete sentence when you report your findings.

What happened to the water on the colored penguin?
The water did not go through the paper. It stayed in droplets on the penguin.

What happened to the penguin that was not colored?
The water went through the paper and the whole penguin got wet all the way through.

Center Activity 2: Why do penguins have different wings?

Write a complete sentence when you report your findings.

Which wing was easier to push through water?
The paper folded up like a penguin's wing was easier to push through the water (the one shaped like a triangle).

Which wing do you think is best for swimming? Why?
I think the wing shaped like a triangle is best for swimming because it is easier to move than the one shaped like a birds wing. It is easier to paddle and steer with the wing like a triangle.
Center Activity 3: The Balance Behind Penguins

Write a complete sentence when you report your findings.

Which ruler was easier to balance (up-and-down or side-to-side)?

Balancing the ruler from side to side was easier (horizontally).

What would happen if a penguin leaned over?

It would fall on its stomach.

Center Activity 4: Build a Nest Like a Penguin

Write a complete sentence when you report your findings.

Was it easy to build a penguin nest?

Answers will vary.

Why do you think the penguins build their nests out of pebbles?

Penguins build their nests out of pebbles to keep the egg off the ice and incubate it.

Did your egg get wet?

Answers will vary.
Center Activity 5: Toboggan and Walk Like a Penguin

Write a complete sentence when you report your findings.

Now that you have walked and toboggan, why do you think penguins toboggan?

Penguins toboggan a lot because it is easier and quicker to travel than walking.

Is it easier to toboggan or walk like a penguin?

Answers will vary.

My Penguin Poem

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Penguin Web-quest

Notes

My Paragraph

Global Warming Experiment

Observations:

__________________________________

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__________________________________

__________________________________
Global Warming Experiment Continued

What happens to the sea level when the ice melts in dish 1?
The sea level rises when the ice melts off into the baking dish.

What happens to the island as the water level rises in dish 1?
As a result, the island is closer to being flooded. This is similar to what is currently happening in Antarctica. The ice caps on land are melting and causing more water to enter the ocean.

What happens when the floating pieces of ice melt in dish 2?
Floating ice does not change the sea level.

Why do you think the water level stays the same in dish 2?
The reason is that the water is already displaced by the ice cube when it is floating. Therefore, when the ice melts the level does not change.

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What Can I Do to Reduce Greenhouse Gases?

1. List three things that you do at home that use electricity?
   
The computer, video games, the television, the microwave, refrigerator, washer and dryer, etcetera.

2. List three activities you could do that would not produce greenhouse gases.
   
Ride a bicycle, play outside, plant a tree, recycle, etcetera.