Exploring Adaptations Package

In this package you will find both a pre-museum activity to complete in your classroom as well as an activity to complete while you are visiting the Beaty Biodiversity Museum. Both activities focus on the concept of physical animal adaptations.

Included Activities
Locating Specimens .................................................................2
Exploring Adaptations Part I: Pre-Museum Activity .........................3-5
Exploring Adaptations Part II: Museum Activity ..........................6-10

Curricular Connections
Grade 1 and 2 Science
• Make and record observations
• Demonstrate curiosity and a sense of wonder about the world

Grade 3 and 4 Science
• Living things are diverse and can be grouped
• Demonstrate curiosity about the natural world
• Biodiversity in the local environment
• Represent and communicate ideas and findings in a variety of ways
• Make observations about living and nonliving things in the local environment

Grade 5 and 6 Science
• Make observations in familiar or unfamiliar contexts
• Express and reflect on personal, shared, or others’ experiences of place
• The overall scale, structure and age of the universe

Grade 7 Science
• Evidence of climate change over geological time
• Survival needs
• Evolution by natural selection provides an explanation for the diversity and survival of living things

Additional Resources:

Explore the evolution of whales in more detail:
https://evolution.berkeley.edu/evolibrary/article/evograms_03

Explore the concept of evolution and natural selection with a series of short videos:
How to locate specimens within the Beaty Museum collections

As this activity encourages students to try and find examples of specimens in the museum, it is helpful to explain to your students how the museum is organized. There are 52 rows of specimens in the museum, and they are organized into 6 different sections. The row under the blue whale skeleton is row 1. The row behind it, with all of the taxidermy animals is row 2, and so on and so forth. The tetrapod section is comprised of 10 rows altogether.

To view the full map, please click on the following link:
Exploring Adaptations - Part I: Pre-Museum Visit

Procedure:

- Divide the class into groups of 2 or 3

- Project the two different photos below using a smart board, or print off copies for each group (For access to a larger version of the two images, click on the link below each photo).

- Have the groups examine the images and think about the following questions:

  1) What changes do you see?

  2) Why do you think these changes occurred?

  3) How long did it take for these changes to occur?
1) What changes do you see?

2) Why do you think these changes occurred?

3) How long did it take for these changes to occur?

1) What changes do you see?

2) Why do you think these changes occurred?

3) How long did it take for these changes to occur?

Exploring Adaptations Part II: In-Museum Activity

Below are a series of images. In a group of 2-3 students, locate the modern day counterparts in the Museum and discuss the following questions together (record your thoughts!):

1) What changes do you see?

2) Why do you think these changes occurred?
Find the armadillo in row 2 of the tetrapod section of the Beaty Museum and compare:

Image 3: Glyptodon. Photo by Wikimedia Commons user, Sadi Carnot, under a creative commons license.
Find the emperor penguin in row 2 in the tetrapod section of the Beaty Museum and compare:

Image 4: Waimanu manneringi. Photo by Wikimedia Commons user, Nobu Tamura, under a creative commons license.  
Find the blue whale skeleton in the tetrapod section of the Beaty Museum and compare:

Find the chicken (*Gallus gallus*) in row 2 of the tetrapod section and compare it to an Archaeopteryx dinosaur below:

![Image 6: Archaeopteryx. Photo by Wikimedia Commons, under a creative commons license.](https://upload.wikimedia.org/wikipedia/commons/0/02/Archaeopteryx_2.JPG)