



Digital Adventure 360 Experience - Raptors

Lesson Summary

Through [360° images](#), students will inquire about raptors, specifically related to their characteristics, habitat/niche and human impact including climate change.

Learning Objectives

Identify the characteristics of a bird of prey.

MS-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS4-2 Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.

MS-LS3-1 Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

Name their habitat and niche.

MS-LS4-4 Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

Discuss to what extent human behavior impacts birds of prey.

MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations:

MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Learning Activities

Pre-activity

1. Choose what to watch and have students complete a [see-think-wonder](#).
 - A. Watch Fun with Raptors (1:25) <https://dptv.pbslearningmedia.org/resource/78e06b93-89e5-4e4d-a317-9e48c3863b2f/fun-with-raptors-wild-kratts/#.Wig46lWnHcs>
 - B. Watch Birds of Prey (2:08) <https://dptv.pbslearningmedia.org/resource/idptv11.sci.life.oate.d4kbop/birds-of-prey/#.Wig5mVWnHcs>
 - C. Watch Seasonal Science: Raptor Migration (2:43) <https://dptv.pbslearningmedia.org/resource/33ea5ff0-6dc7-49bb-93c6-f80865a9079f/seasonal-science-raptor-migration/#.Wig59FWnHcs>

Core Activity -

In pairs have students investigate the [Thinglink 360° images on raptors](#) for 20-30 minutes. Students are to choose 2 hotspots and complete a [I used to think, now I think](#) on each.

- What makes a bird a raptor? - http://idahoptv.org/sciencetrek/topics/birds_of_preyl_facts2.cfm
- 20 largest birds of prey - <https://www.youtube.com/watch?v=AHbD5wVLN4k>
- Swimming eagle of Baton Rouge - <https://www.youtube.com/watch?v=87xNpOYOIQ4>
- Rehabilitated eagle released in Alaska wild - https://www.youtube.com/watch?v=YH_uqSsvR6s
- Evicted Norfolk eagle refuses to leave botanical garden - https://pilotonline.com/news/evicted-norfolk-eagle-refuses-to-leave-botanical-garden/article_a31a3e6c-89cb-52f3-98f1-505d76706503.html
- Habitat and Habitat loss - <http://school.eb.com/?target=%2Flevels%2Fmiddle%2Farticle%2Fhabitat%2F325503>
- Inside the Ohio rehab center, the patients are birds of prey - <http://radio.wosu.org/post/inside-ohio-rehab-center-patients-are-birds-prey#stream/0>
- Meet Julie Anne Collier, raptor rehabilitator - <http://www.pbs.org/wnet/nature/pale-male-interview-julie-anne-collier-raptor-rehabilitator/2423/>
- A history of falconry - <http://www.pbs.org/falconer/man/index.htm>

Culminating Activity

Extension:

1. Research why the eagle is the national bird.
2. Write persuasively to legislation for protection of birds of prey.
3. Visit a nature center/arrange a visit with the birds themselves.
4. Jack London, Aldo Leopold as reading possibilities with ELA

Further research can be done through the Michigan eLibrary (<http://mel.org/>).
Recommended databases (<http://mel.org/databases>) by grade level are as follows:

Additional Resources

Grade Level	Database Name	Weblink (for all Michigan residents)
PreK - 3	Scholastic BookFLIX	http://galesupport.com/migeoipcheck/migeoipcheck-scholastic.php
K - 4	Britannica Elementary	http://www.galesupport.com/migeoipcheck/migeoipcheck-brit.php?database=BRELEM
5 - 7	Britannica Middle	http://www.galesupport.com/migeoipcheck/migeoipcheck-brit.php?database=BRMDDL
8 +	Britannica High	http://www.galesupport.com/migeoipcheck/migeoipcheck-brit.php?database=BRHIGH
PreK - 2	Early World of Learning	http://worldbookonline.com/ewol/home?subacct=O610
K - 8	eBooks K-8 Collection	http://galesupport.com/migeoipcheck/migeoipcheck-ebSCO.php?database=EBK8
K - 5	Kids InfoBits	http://www.galesupport.com/migeoipcheck/migeoipcheck-gale.php?database=ITKE
K - 8	NoveList K8+ (to identify books to read and create reading lists)	http://galesupport.com/migeoipcheck/migeoipcheck-ebSCO.php?database=NOVEL
K - 5	World Book for Kids	http://www.worldbookonline.com/kids/home?subacct=O6106
6 +	Gale Virtual Reference Library (Reference books including <i>Grzimek's Animal Life</i>)	http://www.galesupport.com/migeoipcheck/migeoipcheck-gale.php?database=GVRL
6 +	General Reference Center Gold	http://www.galesupport.com/migeoipcheck/migeoipcheck-gale.php?database=GRGM
6 +	InfoTrac Student Edition	http://www.galesupport.com/migeoipcheck/migeoipcheck-gale.php?database=STOM
6 +	Opposing Viewpoints in Context	http://www.galesupport.com/migeoipcheck/migeoipcheck-gale.php?database=OVIC
6 - 8 +	Research in Context	http://www.galesupport.com/migeoipcheck/migeoipcheck-gale.php?database=MSIC
K-12	PBS Learning Media	https://dptv.pbslearningmedia.org/

Variations in Beaks and Feet of Some Birds of Prey



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MLA Citation of photo above: Prey, bird of: variations in beaks and feet of some birds of prey. Image. Britannica School, Encyclopædia Britannica, 1 Nov. 2017. school.eb.com/levels/middle/assembly/view/91317