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

Detroit Public TV [http://dptv.org/edu](http://dptv.org/edu)
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/#.Wig46IWnHcs](https://dptv.pbslearningmedia.org/resource/78e06b93-89e5-4e4d-a317-9e48c3863b2f/fun-with-raptors-wild-kratts/#.Wig46IWnHcs)
   B. Watch Birds of Prey (2:08) [https://dptv.pbslearningmedia.org/resource/idptv11.sci.life.oate.d4kbop/birds-of-prey/#.Wig5mVWnHcs](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](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.

- 20 largest birds of prey - [https://www.youtube.com/watch?v=AHbD5wVLN4k](https://www.youtube.com/watch?v=AHbD5wVLN4k)
- Swimming eagle of Baton Rouge - [https://www.youtube.com/watch?v=87xNpOYOlQ4](https://www.youtube.com/watch?v=87xNpOYOlQ4)
- Rehabilitated eagle released in Alaska wild - [https://www.youtube.com/watch?v=YH_uqGsvR6s](https://www.youtube.com/watch?v=YH_uqGsvR6s)
- 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](http://radio.wosu.org/post/inside-ohio-rehab-center-patients-are-birds-prey#stream/0)

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

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<thead>
<tr>
<th>Grade Level</th>
<th>Database Name</th>
<th>Weblink (for all Michigan residents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-12</td>
<td>PBS Learning Media</td>
<td><a href="https://dptv.pbslearningmedia.org/">https://dptv.pbslearningmedia.org/</a></td>
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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