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Empathy and Environmental Education: The Role of Zoos in Conservation

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Empathy and Environmental Education: The Role of Zoos in Conservation

**By
Ellen M. Moore**

**An Honors Thesis Submitted in Partial Fulfillment of the
Requirements for Graduation from the
Western Oregon University Honors Program**

**Dr. Gareth Hopkins and Dr. James Dawson,
Thesis Advisors**

**Dr. Gavin Keulks,
Honors Program Director**

Summer 2020

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Abstract

Facilities such as zoos, aquariums, natural history museums, wildlife refuges, and more have been implementing environmental education programs with the intention of educating visitors on topics including conservation, natural history, and being better stewards of the environment. In zoos, programs like these have been implemented as early as the 1950s (Hancocks, 2001). However, research on the effective methods of behavior change for the environment is few and far between, and may not always be taken into account in the development of some zoo education programs. This project will attempt to bridge this gap through an analysis of current research on empathy and pro-environmental behavior change. I will develop an improved day camp curriculum for incoming fifth grade children to not only teach them about animals and the environment, but to inspire pro-environmental behavior change within the children, based upon the research I conduct.

I will be focusing on the Oregon Zoo as my model, because I have been involved at the Oregon Zoo for over eight years, and know the grounds extensively. With this background knowledge of the individual animals living in the zoo, I will be able to intertwine classroom activities with grounds tours and other animal experiences. Interpreting living collections is what attracts, inspires, and enables people of all ages to act positively for conservation (Esson & Moss, 2010). The end result of this project will include a literature review, a new curriculum that could be

implemented at the Oregon Zoo, along with activity resources for camp, and a bonus activity that could be done by any Oregon Zoo visitor.

Literature Review

Pro-environmental Behavior Change through Education

Environmental psychology is a field with more questions than answers, and P.W. Schultz is one of few environmental psychologists who has conducted extensive research on the topic. Schultz states that “environmental problems have their origins in human behavior, and as a result, any solution to environmental issues will require changes in behavior” (Schultz, 2014). One of the common goals of education efforts at zoos is to spread awareness of environmental issues that animals and our planet face in the hope that visitors may create changes in their behavior to support the environment. However, one cannot expect people to change their behavior based solely on increased knowledge of an issue. There is little evidence that supports a causal link between knowledge and behavior, and increases in knowledge do not usually translate into behavioral changes (Schultz, 2014).

Schultz has outlined strategies that when combined, can help fill the gap between knowing more and actually doing something about it. These strategies include providing feedback, prompts, and making commitments (Schultz, 2014). The strategy of providing feedback is a specific type of education, and typically is provided to individuals regarding their prior behavior (Schultz, 2014). For example, providing feedback on an individual’s single-use plastic consumption. If an individual is not already motivated to make changes in their behavior, feedback alone is not very

effective, but when combined with other strategies it has shown to be an effective strategy (Schultz, 2014). Some behavior changes for the environment are skipped over because people simply forget to carry them out. For example, many people own reusable shopping bags, but end up using plastic bags in the store when they forget their reusable bag in the car or at home. Prompts are reminders people can use that are best suited for repetitive behaviors that occur frequently such as using reusable bags or turning off the lights (Schultz, 2014). The strategy of making commitments involves individuals making pledges to make changes in their behavior for the environment, which helps people hold themselves accountable (Schultz, 2014). People are more likely to follow through with pledges that are attainable and specific, which is also important to keep in mind when coming up with them (Schultz, 2014). Goals such as “saving the world” are too generic and ambitious, and while “using less water” is more attainable, it is very generic and is less likely to lead to change. If someone were to pledge to make a 10 minute shower playlist and finish their shower once the playlist ends, this is a specific and attainable goal that is much more likely to lead to changes in behavior.

When a goal feels attainable, individuals experience increased levels of hope, which gives them a sense of agency and ability to see possible solutions (Swim & Bloodhart, 2014). Emotions affect our behavior, and this is why fear as a tool for pro-environmental behavior usually backfires; people perceive the situation as

hopeless, and feel a lack of control and motivation (Swim & Bloodhart, 2014). Fear promotes protective behaviors in people, and guilt promotes reparative behaviors, and these rarely lead to long term changes that promote environmental stewardship (Swim & Bloodhart, 2014). However, empathy has been shown to be an effective tool to motivate humans to protect forms of life other than their own (De Berenguer, 2007).

Empathy for Behavior Change

Empathy has traditionally been studied in relation to humans, however in the community of conservation education there is increasing interest in its relationship, development, and impact with non-human animals (Khalil, Wharton, Young, 2018). As defined by Khalil et. al empathy is “a stimulated emotional state that relies on the ability to perceive, understand, and care about the experiences or perspectives of another person or animal” (Khalil, Wharton, Young, 2018).

Studies find that zoo and aquarium visitors are a group who may already exhibit more positive attitudes towards conservation and the environment than the general public, and it has been shown that informational campaigns can increase the reported willingness to take action among individuals who were already motivated to take action (Schultz, 2014). Despite this, it can still prove difficult to help people find the motivation to change their daily routines in favor of the environment (Khalil &

Ardoin, 2011). Because of this difficulty, there is a specific interest in empathy's role as an internal motivator for pro-environmental behavior change (Khalil, Wharton, Young, 2018).

Zoos provide opportunities for people to develop close relationships with individual animals, which is a critical step in the development of empathy (Khalil, Wharton, Young, 2018). The interpretive task in this instance is to foster empathetic concern for animals in the wild, through the bonds formed with animals in the care of the zoo (Khalil, Wharton, Young, 2018).

An individual's willingness to take conservation action is heavily based on their engagement with empathy triggering activities, and there are some animals that tend to elicit empathy more so than others (Khalil, Wharton, Young, 2018). The four characteristics that increase an animal's ability to elicit empathy are agency, affectivity, coherence, and continuity (Khalil, Wharton, Young, 2018). Agency refers to the behaviors and roles animals have, such as movement, eating, or grooming, that remind us of ourselves (Khalil, Wharton, Young, 2018). For example, two young monkeys playing together would more likely elicit agency than a bat hanging from a tree. Affectivity refers to the animal's ability to show emotion, and coherence refers to whether the animal can be easily understood as a living animal with a face, body, etc. (Khalil, Wharton, Young, 2018). A puppy that can physically show signs of excitement or distress would elicit more affectivity and coherence than a barnacle,

which does not even have a face. Continuity refers to the time spent with the animal; more time spent with an individual animal increases a person's understanding of and empathy for that animal (Khalil, Wharton, Young, 2018). This last characteristic is what zoos can utilize to elicit empathy for animals that may be harder for people to feel empathy for.

In addition to overcoming psychological barriers, such as the idea that spiders and snakes are scary, education programs at zoos face anthropomorphism as a barrier to accurate empathy (Khalil, Wharton, Young, 2018). Anthropomorphism is the projection of human characteristics and purposes to nonhuman things (Khalil, Wharton, Young, 2018). Root-Berstein et al. makes sense of this behavior through the use of a spectrum (Root -Bernstein et al., 2013). At one end of the spectrum people see animals as “an unknowable other, beyond moral concern” and at the other end, people believe that animals experience the world just like humans (Khalil, Wharton, Young, 2018). Either end of the spectrum could be detrimental to promoting accurate empathetic behavior. Humans have dramatically different sensory experiences from most animals, and while anthropomorphism can be used to bring animal motivations into a sphere of moral inclusion and as a tool for building empathy, it is important that true similarities are found in order for accurate empathy to develop (Khalil, Wharton, Young, 2018). An appropriate way to utilize anthropomorphism for conservation purposes would be to “emphasize the

characteristics a species already possesses that people engage with during personal interactions” which can trigger empathy for the animal (Root -Bernstein et al., 2013). For example, if a condor’s chick died due to microtrash ingestion, we cannot know for sure if the condor feels emotions like we do. However, the condor would be distressed by this situation, and there would not be an issue for a child to compare the condor’s reaction to how a human would feel sadness.

Zoos and Education Programs

While zoos are often still viewed as places for family entertainment, structured education programs are not a new concept at these facilities. As early as the 1950s, zoos such as the Arizona-Sonora Desert Museum have been implementing programs with the intention of educating visitors on topics from conservation, natural history, ecology and more (Hancocks, 2001). The Arizona-Sonora Desert Museum has set the tone for displays that were designed to be a balance between animal comfort, ability for the visitors to see the animals, and interiors that could be kept as much like the natural habitat of the animal as their funds would permit (Hancocks, 2001). Today nearly every zoo is involved in education. Zoos accredited by the Association of Zoos and Aquariums (AZA) play a vital role in educating over 180 million visitors every year about wild animals, their habitats, their related conservation issues, and the ways that they can contribute to their preservation (*About Us: Association of Zoos & Aquariums*, 2020). Many zoos, such as the San Diego Zoo, offer educational materials

for parents and teachers to use at school or at home, in addition to their on-grounds education programs (*San Diego Zoo Kids Programs*, 2020).

Zoos hold a great potential for “enhancing public knowledge of biology and increasing our appreciation of nature” (Turkowski, 1972). The increased use of technology in our daily lives has resulted in a growing disconnect between people and the natural world (Khalil, Wharton, Young, 2018). This disconnect is what environmental education programs seek to reconnect. Wild animals are not usually accessible to most people, and television programs such as *Zoboomafoo*, or *Crikey! It’s the Irwins* are both examples of fairly successful attempts at using technology to engage children in lessons about the natural world. However, zoos have the advantage of access to live animals and can more effectively take on the mission of interpreting a holistic view of wildlife to convey our need to love, care for, and protect the diversity of the natural world (Hancocks, 2001).

Oregon Zoo Camp: Background & Limitations

Structured education programs are developing at more and more zoos, and very often they come in the form of week long day camps. Many of these camp programs are directed at children because of their potential to shape the future behavior of a developing generation (Khalil & Ardoin, 2011). Programs often focus on behavioral and stewardship outcomes through conservation education and

messaging, with the idea that campers will leave with more knowledge and concern about the effect of humans on the planet (Khalil & Ardoin, 2011).

The Oregon Zoo is an AZA accredited facility that has offered annual camp and other education programs since the 1990s. One of the main goals of the Oregon Zoo's camp program is to grow a new generation of wildlife stewards (*Camps, Classes, and Programs*, 2020). Camp counselors implement program curriculum and informal education activities using tours of zoo exhibits, hands-on activities, animal biofacts (such as pelts and skulls), thematic lessons, and interpretive presentations (*Camps, Classes, and Programs*, 2020). Camp programs are offered for children that haven't started preschool yet all the way up in age to incoming eighth graders. The older the campers are, the more in-depth the lessons and the higher number of special experiences their camp features. For example, in the current fifth grade camp curriculum, campers go on a field trip to the Jonsson Center for Wildlife Conservation, the zoo's condor breeding facility in Clackamas County, Oregon.

While the Oregon Zoo's current camp program has developed into a well established program over the years, some aspects can be further improved. For example, the current camp model is very structured and follows a tight schedule which ensures smooth execution of program activities and tasks with little wasted time. However, because it is a summer camp, campers often feel like they are in summer school and end up becoming quite disengaged, especially in the older grades.

Oregon Zoo Camp values assessment because it helps the coordinators see if campers are really learning and becoming more aware of how to be a better steward for the environment. The current model of assessment resembles a formative assessment one might see in a school. Formative assessment can be a useful tool that educators can use to see the current level of understanding from their students. Unfortunately, in practice the campers often don't take these assessments very seriously because they are at a summer camp, not school, and there is no internal motivation for the majority of campers to perform well in these assessments.

Zoos and aquariums are free choice learning settings, which means that people can explore and learn at their own leisure, and assessment that is embedded in the educational experience may be more effective and appropriate than traditional methods used in formal education settings like schools (Khalil & Ardoin, 2011). Research from cognitive psychology shows that content is retained better if the teaching is more learner centered than teacher centered (Randler et al., 2012). In a free choice learning environment, the learner can exercise a large degree of choice and control over the sequence, pace, and content of what they learn (Falk, 2005). In order to best foster learning and retention in an environment like at a camp, learners should be able to experience competency and autonomy (Randler et al., 2012). An example activity that would help a learner experience these qualities would be observing a zoo animal of their choice. The learner experiences autonomy through

what animal they choose, how they observe the animal, and what about that animal they choose to observe. They also have the opportunity to experience competence through sharing their observations with a peer or family member.

The main limitations Oregon Zoo camp currently face are within the realm of intentionally developing empathy skills in the campers that will internally motivate them to change their behaviors in favor of the environment -- in the present, and as they grow up and hold more responsibility for their choices. I will utilize the natural care children have for animals widely accepted as cute, and then throughout the week the animals we focus on will fit less into the typical definition of cute. This will test the campers' abilities to empathize with different types of animals. For example, the week will start off teaching the campers about issues that Western Pond Turtles face, because you do not have to try hard to convince a child that helping baby turtles is a good thing. Later in the week, they will learn about the importance of Pacific Lamprey, and ideally they will be able to empathize with the alien-like fish.

Additionally, although the current Oregon Zoo camp model does include many lessons about conservation and some of the local projects that the zoo is involved with, there is not an entire camp curriculum dedicated to a local conservation theme. My goal with a week dedicated to local conservation is not only to educate campers on conservation issues, but to make it feel more personal by teaching about local species. Currently in zoo camp the kids learn about a lot of

endangered species from far off lands like polar bears and Asian elephants. While learning about how to help these species is important, it can make the issues feel like far away problems that could never be affected by kids in Oregon.

Lastly, while there are certain decisions that households make that usually do not include the input of children, there are many ways that kids can positively impact the environment and local species. The current fifth grade camp model at the Oregon Zoo includes an activity that focuses on how different types of bullets that when used while hunting are better or worse for scavengers such as California Condors. While the activity is engaging and informational, it is not very personal or relatable to a group of ten year olds in Portland. I plan on including activities that empower children to take their own action for the environment. For example, an activity I've designed that is entirely different from any other I have seen at the zoo is one where campers will have the option to come up with their own pledge to adjust something in their daily routine, and to send a postcard to an elected official in support of animal-welfare related legislative decisions. The zoo does a good job of explaining to campers different ways that people in general can help wildlife, but I want to empower campers to realize that even kids can make small differences that directly impact wildlife.

Aims and Methods

I have chosen to design an updated camp curriculum to be used at the Oregon Zoo for children entering the fifth grade. The Oregon Zoo Camp Model is already successful as a program, and there are many aspects that I plan on retaining. The core aim of my proposed camp program is to encourage and inspire internal motivation for children to care about conservation, and local conservation in particular. I will take the natural care that children already have for cute animals and build upon it, utilizing agency, affectivity, coherence and continuity to elicit empathy for other animals. I want them to think about what issues these animals they now care about face, and what they can do to help.

Children naturally anthropomorphize animals in order to relate with them, so rather than steer them in a different direction, I will lean into this behavior with them, working to develop a more accurate understanding of the animals' experience (Khalil, Wharton, Young, 2018). This is where teaching the campers natural history comes in. Cognitive empathy is when someone recognizes and imagines the reality of another individual, and this can be utilized to help campers empathize with animals when they develop a more accurate understanding of the animal's experience (Khalil, Wharton, Young, 2018).

Another important aim of my camp program will be to remain positive while shedding light on more serious topics of conservation. Fostering understanding of

what makes animals thrive will help campers learn how to help preserve and improve the lives of their wild counterparts, instead of focusing on their suffering and declining populations.

An additional goal of my camp program will be to keep it feeling like an enjoyable summer camp, instead of summer school. The goal for this camp's learning environment is to stay true to the free choice learning environment that zoos tend to have, which means that I will need to embed assessment into the curriculum in a way that does not make campers feel like they are taking a test at school. I plan on assessing the new knowledge of the campers through a scavenger hunt on natural history, conservation facts, and questions that ask for ways that they could help conservation efforts in daily life situations.

In Summary

Overarching Aim: To encourage and motivate children to care about conservation.

To achieve this, I will build upon their natural care for animals that are widely accepted as cute, leading them to care about other animals that are generally harder to empathize with.

More specifically, this will be done through carefully planned activities that take place in the classroom and out on zoo grounds, woven into my proposed camp curriculum.

Sub-aims and the intended methods to achieve them:

1. Elicit empathy in campers for animals they did not previously empathize with
 - a. Through utilizing agency, affectivity, coherence and especially, continuity.
 - b. Emphasizing characteristics that species possess that campers can engage with and relate to.
 - c. Providing natural history information to help campers accurately imagine the animals' experience.
2. Encourage campers to think about what issues these animals they now care about face, and what they can do to help.
 - a. Shedding light on serious topics while focusing on preservation ideas instead of the suffering, declining populations.

Implementation: Planning vs. COVID-19

My original plan for this project was to first design a mini-lesson about local conservation which would include empathy triggering activities for children to do at an elementary school. With the help of my advisors, I had begun to make connections with a local elementary school teacher and made contact with the Oregon Department of Fish and Wildlife, to schedule a classroom visit using a “cute” animal and a “scary” animal to practice building empathy with third graders. Unfortunately, as this was coming together the COVID-19 pandemic began and started to postpone, cancel, and close things down. I had intended to teach the mini-lesson and then reflect upon the classroom experience, to influence the decisions I made when creating my Zoo Camp curriculum. However, since I was not able to visit a school, my curriculum will be based solely on my research and my previous years at Oregon Zoo Camp.

Additionally, upon completing this project, I had intended to bring my lesson to Oregon Zoo Camp coordinators and share my research and ideas with them, to potentially help shape how Oregon Zoo Camp program looks in practice. However, COVID-19 has cancelled zoo camp indefinitely, and the majority of the camp and education staff have been let go. While this does not mean we will never see camp at the Oregon Zoo again, it does bring a lot more uncertainty to the impact of this project. While I will still design a modified camp curriculum that could be held at the

Oregon Zoo, I also want to make something that could be helpful and relevant right now. Because of this, I will also include an adapted activity that builds off of my empathy research that could be done by anyone visiting the zoo on their own time. This activity will be based off of the scavenger hunt activity in my zoo lesson, and will be included after the zoo camp curriculum is presented.

Curriculum, Rationale, and Resources

Curriculum Outline

- Overall Week Theme: Local Conservation - What animals here in Oregon face and how we can help them
- Overall focus for the day (which will include other lessons and activities that tie back to the overall theme)
 - Monday: Western Pond Turtles
 - Tuesday: Pollinators (Butterflies and bats, specifically)
 - Wednesday: PNW Fish
 - Thursday: Condors (Includes field trip to Jonsson center)
 - Friday: Ways we can get involved + Tie together/review/scavenger hunt (Long day, scavenger hunt takes place once the zoo closes)

Color Key:

Live Animal Visit, Meal Time, Off Grounds, Check in/out, Tour/Behind the Scenes (BTS), Game, Classroom Learning, Learning Activity.

General outline for each day

(While the special guest presentations would have to be at scheduled times, for all other activities this can be used as more of a guideline than a set in stone schedule that must be followed.)

	Monday	Tuesday	Wednesday	Thursday	Friday
8:30am	Check In	Check In	Check In	Check In	Check In
9:00am	Intro to camp + the week long theme & daily theme	Intro to daily theme	Intro to daily theme	Intro to daily theme	Intro to daily theme
9:30am		Bat Kit	Great Northwest	Travel to Jonsson Center	Steller Cove
10:00am	African Rainforest + Butterfly Lab				
10:30am		Tiger Plaza, NEST	ODFW Visit		
11:00am	AZA Video				
11:30am	(11:15) Turtle				

12:00pm	Lunch	Lunch	Lunch	Lunch @ Carver Park (Includes Travel Time)	Lunch
12:30pm					
1:00pm	Games/Choice	Bat & Moth	Games/Choice		Wildlife Live
1:30pm	Critter Chat	Critter Chat	Critter Chat	Travel back to the zoo	Predators
2:00pm	Turtle Identifying & Measuring	Savanna + Giraffe BTS/Feeding	Elephants, Penguins, PB, Primates		Citizen Science
2:30pm					
3:00pm	Check Out	Check Out	Check Out	Check Out	Games/Choice

3:30pm	Reptiles
4:00pm	
4:30pm	Choice Tour
5:00pm	Dinner
5:30pm	
6:00pm	Scavenger Hunt
6:30pm	
7:00pm	
7:30pm	
8:00pm	
8:30pm	
9:00pm	
9:30pm	S'mores
10:00pm	Check Out

Detailed Descriptions + Rationale

Monday:

- Check In

<p>As campers are brought into the room, they'll set their belongings down and have a seat. A playlist of Oregon Zoo YouTube videos will be playing just as a way to familiarize the campers with recent exhibits, cute animal highlights, and projects the OZ may be working on.</p>	<p>Check in sets aside a 30 minute flex period so that campers have time to roll in without missing camp content. Playing the videos will create a low stress social environment, and start to get campers engaged and familiarized with what's new at the zoo.</p>
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- Intro to camp, week long theme, and daily theme

<p>Intro to camp:</p> <ul style="list-style-type: none"> · This would include going over camp expectations such as staying together while out on grounds, listening to counselors, being respectful to fellow humans and animals, etc. Counselors will tease them out of campers with leading questions so it feels more like they're coming up with the expectations together, rather than a counselor simply telling them what the rules are. <p>Intro to week long theme:</p> <ul style="list-style-type: none"> · The counselor's goals for this week are to encourage and motivate their campers to care about conservation. To introduce the theme of conservation in Oregon, touch on the animals we'll get to meet this week, and encourage 	<p>Even though I want this to feel like school as little as possible, in order for everyone to be able to safely have fun, it is important to set some ground rules for camp. The activity of coming up with the expectations as a group will not only help the campers feel more empowered and like they have some say in the rules, but it will also make the expectations feel more fair to them, than if a counselor just told them what the rules are.</p> <p>Introducing the weekly (on Monday) and daily theme every day in front of the whiteboard will help set the tone for each day, and plant a seed in the campers minds for what they should be thinking about throughout the day, and helping them make a connection between the activities we do throughout the day.</p> <p>While the current Oregon Zoo camp</p>
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<p>campers to think about ways that they, or others, could help combat the issues the animals that we introduce face.</p> <p>Intro to daily theme:</p> <ul style="list-style-type: none"> · Today is Western Pond Turtle day, so first briefly talk about WPTs in general (that they live here, what their habitat is like, natural history info, etc) and then introduce why we have them here at the zoo. Present problem without solutions for now. 	<p>model does include many lessons that teach kids about conservation and some of the local projects the OZ is involved in, there is not a camp dedicated to a local conservation theme. My goal with a week dedicated to local conservation is to not only educate campers on conservation issues, but make it feel more personal by teaching about local species, rather than making it feel like a far away problem.</p> <p>The reasoning for starting the week off with Western Pond Turtles as the highlighted animal of the day, is that baby pond turtles are really cute and easy to empathize with. You don't have to convince a child to think that helping baby turtles is a good thing. Throughout the week, the animals we focus on will fit less into the typical definition of cute, testing the campers' abilities to empathize with different types of animals.</p> <p>I also want to make sure to have as many hands on + live animal experiences and encounters as possible, because these are the experiences that will more likely trigger empathy for the animals, creating that internal motivation for sustained pro-environmental behavior change.</p>
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- Tiger Plaza and the NEST (Nature Exploration Station, which includes the insect zoo and turtle lab) Tour

<p>“Tour” at Oregon Zoo camp is when the camp is broken up into as</p>	<p>Tour is something that has always been a part of Oregon Zoo camp,</p>
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many groups as there are counselors (typically 3-4, depending on how many campers are enrolled that week) and the counselors lead them through different sections of the zoo. We break it down by sections and really take our time at each exhibit, so that counselors can teach lessons as well as give the kids ample time to observe and connect with the animals on exhibit. Even when the animal is not in view, counselors can still talk about the exhibit itself in relation to whatever lesson topics they wanted to cover for that animal.

Tour Talking Points:

- For all animals, include names/ages of our resident animals, brief natural history, any fun facts about the species or the individual residents themselves, and whether or not they are an endangered species.
- In the NEST, make sure to spend some time looking at the Turtle lab

and I think it is important to keep it in the updated camp model because one of the main reasons why kids come to camp is to spend more time at the Oregon Zoo! Based on parent surveys we've sent out in the past, seeing the animals and learning more about our resident animals is consistently a highlight for campers. Something different I've done with Tour in my model is chosen sections of the zoo based on **not just location, but also theme**. Today we visit the NEST and Tiger Plaza because the NEST has the Western Pond Turtle lab, and I wanted the kids to be able to meet the turtles as soon as possible, to more easily trigger their empathy for the species (though like I mentioned earlier, it's not that hard to empathize for tiny baby turtles). Tiger plaza (which includes Tigers and Red Pandas) is the nearest section to the NEST, so that was a time efficiency decision. At Oregon Zoo camp, there is no formal training or guidelines for counselors regarding tour, and so sometimes I'll see less experienced camp counselors simply take their group from animal to animal and let them observe on their own -- which is not bad, but is also something the kids could do as visitors outside of camp. When the counselors share the animals' names, ages, cool fun facts and information about their conservation status, campers will have an easier time building empathy for the animals on exhibit, even if

	<p>they don't have a cute furry coat or a clear face with eyes. Continuity is a characteristic that increases an animal's ability to elicit empathy that refers to spending quality time with the animal and learning about the individual residents of our zoo.</p>
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- AZA Video

<p>This video (https://www.youtube.com/watch?v=NvSEkBWzbl4) illustrates the Western Pond Turtle project our zoo is involved in very clearly and concisely. To be shown in the classroom.</p>	<p>Throughout the day I try to mix things up and keep a balance between the modes that the campers receive information, so it doesn't get boring for them. I have found that even at a zoo with real live animals, kids are still easily excited and engaged by videos too, and this video does a really good job of further explaining what the WPT project is like, clearly and concisely.</p>
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- Turtle Visit

<p>A keeper, volunteer, or other staff member will come into the classroom to present a live Western Pond Turtle up close. If the campers are allowed to touch the turtle visitor (sometimes this is based off of the stress levels the individual turtle has shown that day), this would be an opportunity to do that as well.</p>	<p>I have seen presentations that have been done with the Western Pond Turtles before, but never in the Zoo Camps. Even though the campers can see the turtles on exhibit in the turtle lab, getting to touch and see the turtles up close in the classroom would be an experience that is much more likely to elicit empathy. Plus, special experiences that you wouldn't get to have as a typical zoo visitor are what make camp that much more exciting and memorable for the kids. Additionally, while the counselors</p>
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	<p>would have a standing knowledge on WPTs and the Oregon Zoo's involvement in their conservation, there still may be questions that campers ask that the counselors won't have an answer for, so this presentation would be a great opportunity for those questions to be answered. Additionally, this type of activity is a very transferable activity that could be done in an environmental education lesson outside of the zoo, like in a school classroom, or other scenarios in which one would want to help elicit empathy for animals in children.</p>
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- Lunch

<p>Eat lunch in the classroom or if campers choose, out on grounds, weather permitting.</p>	<p>While eating lunch outside is a small detail to change, lunch is generally eaten in the classroom in the current Oregon Zoo Camp model, and allowing the campers to choose to eat outside adds another element of choice for them (which is ideal for a free choice learning environment), and can make their free time feel even more like summer camp, and less like they're eating lunch at school. Additionally, I would eliminate the zoo lunch option (where the zoo provides lunch for an added cost), because in the past it has only created excessive amounts of trash, and delays with getting lunchtime started.</p>
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- Games/Choice

<p>As campers finish eating, this is sort of free choice time/games time. Campers are welcome to explore some tour related biofacts with a counselor in one part of the room, or if they have a lot of post-lunch energy (which they usually do) another counselor will be leading animal themed games.</p>	<p>Keeping with the theme of free choice learning, campers have the choice to do whatever they want (within reason) during this time. Often, the campers are all at very different energy levels after lunch, so it is nice to give them a period of time to rest up or blow off some hyperactivity-- whatever they need to do at this time. The tour related biofacts could be any item from the zoo's biofact closet that involves turtles, tigers, red pandas, etc. to further engage the campers with special up close animal experiences. The game can be any animal related game (or any other fun camp/group icebreaker/game) that fits the needs of the group size and energy level, and the counselor can do a variety of games if they want. There are a selection of animal themed games as a part of this document's resource pages at the end. While at Oregon Zoo camp there typically is some sort of game hosted after lunchtime, I wanted to add more of an element of choice for the campers during this time, because for some campers this block of time would be better used for a more relaxed activity.</p>
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- Critter Chat

<p>ZooTeen volunteers will visit our classroom with an Education animal (usually a bunny, chicken, duck,</p>	<p>Critter chat has always been a part of camp at the Oregon Zoo, and is consistently another highlight for</p>
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<p>hedgehog, lizard, snake, or an invertebrate), and while the animal might not directly relate to our daily theme, the teens generally try to relate the presentation back to our weekly theme. Half of the campers will be in the critter chat (in our classroom), and the other half can choose what they do during this time, and then they'll rotate half way through.</p>	<p>campers, because they get to pet and get an up close look at an animal in their own classroom. This is a valuable empathy eliciting activity that I would not change at all for my camp model.</p>
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- Turtle Identifying & Measuring

<p>Half of the group will do the turtle measuring activity in the NEST, and the other half will be exploring www.oregonturtles.com on iPads. The goal of these activities will be to deepen campers' understanding of the turtle conservation projects.</p>	<p>The turtle measuring activity is an activity that already exists at the Oregon Zoo, but is not utilized in camps at all. The NEST has a set of very lifelike Western Pond Turtles that can be measured and weighed with tools just like a biologist would out in the field to check in on released turtles. This activity is very hands on, which would keep the kids engaged in what could potentially be a more information heavy lesson. The other half of the group will be learning more about the natural history of the turtles that live here in Oregon. Both of these activities will help campers have a better understanding of the turtles and the conservation project, which would help them have a more accurate understanding of the turtles' experience, promoting accurate empathetic behavior.</p>
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- Check Out

<p>Check out will look very similar to check in. Counselors will put on a video of the campers' choice (from this lesson's video resource compilation).</p>	<p>Check out time, like check in, is just a 30 minute flex time for parents to come check out their campers, and the campers can do what they want during this time. Oregon Zoo camp also offers an after care program for campers with working parents, and I would retain this element too.</p>
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Tuesday:

- Check In - Will look the same each day. Counselors can switch up what they show the campers, and could also play games with them, but again this is a flex period so campers can arrive slowly without missing any camp content.
- Into to daily theme

<p>Review camp expectations that the campers and counselors came up with together yesterday, and then introduce the theme of Pollinators. Before telling campers facts about pollinators outright, use leading questions to introduce topics such as what pollinators are and why they hold an important role in their ecosystem, and that not all pollinators are insects, since they will most likely be familiar with the idea that bees and other flying insects pollinate. Vocab: ecosystem, niche</p>	<p>As mentioned for Monday, going over the expectations and theme for the day is the best way to set the tone and get the kids thinking about the daily theme throughout the activities. The reason I wanted to have a day dedicated to pollinators is that the campers will most likely already be familiar with bees as pollinators and with the concept that many bee species are dying, but may not know that other types of animals that we have at the zoo are also pollinators. Additionally, the zoo grows and releases Taylor's Checkerspot butterflies and Oregon Silverspot butterflies, and these are also examples of endangered pollinators from right here in Oregon. Getting to see the butterfly lab and learning that there are</p>
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	<p>endangered species in our own state will reinforce the idea that conservation is more than just saving the polar bears and chimpanzees.</p>
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● Bat Kit

<p>The bat kit is a pre-made interactive kit put together by ODFW to teach the campers cool things about bats. While one counselor sets out the bat kit on a table, another will play this (https://www.youtube.com/watch?v=LiczM-w3V-U) eleven minute video for the campers that further explains pollination and the relationship between plants and the animals that pollinate them. In addition to the important role pollinators play for plants, make sure to highlight the different foods we wouldn't have if it weren't for pollinators such as most fruits and vegetables, chocolate, vanilla, coffee, sugarcane, and more.</p>	<p>The bat kit is very engaging because of its exciting visuals and interactive props, and learning about the different adaptations bats have will help promote more accurate empathy in the campers. Plus, I included this interactive classroom activity to be right before we tour the African Rainforest, where our fruit bat exhibit is, so the campers can observe our resident bats with a more scientific eye.</p>
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● African Rainforest + Butterfly Lab

<p>Tour Talking Points:</p> <ul style="list-style-type: none"> · For all animals, include names/ages of our resident animals, brief natural history, any fun facts about the species or the individual residents themselves, and whether or not they are an endangered species. · Make sure to spend some extra time at the fruit bat exhibit and 	<p>As mentioned earlier, an opportunity to go behind the scenes at the butterfly lab will be a much more memorable educational experience than just learning about the project from pictures and videos, and seeing the bats up close and watching them exhibit similar behaviors to our own will likely elicit empathy from the campers.</p>
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<p>talk about the benefits of their poop (spreading seeds)</p> <p>The tour groups will also take turns touring the butterfly lab to learn about the Oregon Zoo's work with Taylor's Checkerspot and Oregon Silverspot butterflies. Campers will get a chance to go behind the scenes at the butterfly lab, learn about the conservation project, and learn more about how they can help pollinators.</p>	<p>Conveniently, the butterfly lab is also located right by the African Rainforest section of the zoo.</p>
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- Lunch - Will look about the same every day.
- Bat & Moth

<p>Campers can choose to do their usual post-lunch activities, but instead of random animal related games, the game leading counselor will lead a game of bat and moth today.</p> <p>While fruit bats don't use echolocation, bats that hunt for prey (insects) use echolocation to find flying insects in the dark. The game is similar to marco polo, and looks like this:</p> <p>Campers will form a circle, and there will be a handful of campers in the middle who are "moths." One camper will be blindfolded (or close their eyes) and their role is "bat." The bat will periodically call out "Bat!" and the moths will respond with "Moth!" and using "echolocation" (or their human sense of hearing) the bat will catch and eat (tag) the moths who are</p>	<p>While this game doesn't necessarily help you learn what it's like to be a bat accurately, simulation games like this can still elicit empathy in the campers because they'll learn more about the experience of bats.</p>
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<p>mobile and trying to not get eaten. When a moth is tagged, they join the outer circle. Make sure the campers are only walking, to avoid high speed collisions. Campers can play multiple rounds so they can have a chance playing different roles.</p>	
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- Critter Chat - Will be a different animal than yesterday, but same process.
- Savanna + Giraffe BTS/Feeding

<p>Tour Talking Points:</p> <ul style="list-style-type: none"> · For all animals, include names/ages of our resident animals, brief natural history, any fun facts about the species or the individual residents themselves, and whether or not they are an endangered species. · Make sure to talk about giraffes as pollinators if it hasn't come up in any lessons yet! Giraffes serve as pollinators for Acacia trees, which have blossoms very high up in their branches. <p>In addition to touring the savanna area, campers will get a chance to go behind the scenes in the giraffe barn, and have the opportunity to feed a giraffe at the feeding platform.</p>	<p>As already touched on, the behind the scenes experience + live animal interaction will be very engaging and memorable for the campers, and these experiences are highly likely to elicit empathy in the campers.</p>
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- Check Out - Will look about the same each day.

Wednesday:

- Check In - Will look the same each day. Counselors can switch up what they show the campers, and could also play games with them. But again, this is just a flex period so campers can arrive slowly without missing any camp content.

- Intro to daily theme

<p>Review camp expectations that the campers and counselors came up with together yesterday, and then introduce the theme of PNW Fish. Sometimes talking all about endangered species can feel defeating, especially for kids who have less control over their carbon footprint and such, but today will cover successful recovery stories! Introduce some of the cool PNW fish we will see and learn about today such as Bull Trout (listed species) Lamprey (species of concern), and the Oregon Chub (delisted species).</p>	<p>Fish are typically a little trickier for kids to empathize with than cute baby turtles and giraffes, but as the week goes on and the campers learn more natural history and spend more time with the animals, their empathizing abilities are likely to increase, allowing them to feel similarly towards animals like Lamprey, who may initially be scary to some. Once they learn the story of PNW Lamprey and get to observe them at their exhibit, the goal is that they will feel concern for even the alien-like fish.</p>
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- Great Northwest

<p>Don't forget the usual talking points as mentioned previously, and take extra time and attention at the bull trout and lamprey exhibits. Additionally, see if the campers recognize the turtle species at the turtle exhibit! Skip over the wall of small critters, because we will come back to that for the backyard animals activity next.</p>	<p>The Great Northwest is the perfect section of the zoo to do next, as it has all of the fish we are talking about today, plus it has some adult WPTs and Painted Turtles that the kids can see. Also, tomorrow is the field trip to the Jonsson Center, so it is nice for the campers to see the condor exhibit before the field trip, rather than after.</p>
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- Backyard Animals

<p>For this activity, we will be spending an extended period of time at the</p>	<p>The small GNW animals wall is almost always skipped over, but has</p>
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<p>wall of small critters in the Great Northwest section of the zoo, because this area is often neglected. Campers will be given a “field notebook” and pick an animal to observe. Teach them about what to look out for, and encourage them to write down any questions they may have. After about 15 minutes of observing (which may feel like an eternity for some of them) move to a more open space and allow them to conduct further research on their chosen animal on an iPad.</p>	<p>some really interesting animals (Rough skinned newts, garter snakes, a variety of frogs, alligator lizards, and more). I wanted the campers to pay close attention to these animals because these are animals that they could easily spot if they went out to local forest areas and even in their own backyard. Plus, the observation activity helps use a couple empathy eliciting characteristics, like continuity (time spent with an animal) and the research portion will help them more accurately understand the experience of those animals.</p>
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- ODFW Visit

<p>This is a presentation that is already a part of the Oregon Zoo 5th grade curriculum. An ichthyologist from ODFW comes to the classroom and conducts an interactive presentation about the Endangered Species Act, endangered and delisted species of fish in the PNW, and talks generally about what being a naturalist is like.</p>	<p>I wanted to keep this presentation in my updated Zoo Camp because if the counselors are the only people leading classroom presentations, the campers will start to lose interest, so mixing it up with a guest speaker with cool sounding credentials is usually quite successful in keeping campers engaged. Plus, the presentation covers the ESA in great detail but in a way that the campers are still able to follow, understand, and ask questions along the way. Additionally, this presentation is great for instilling hope in the campers, because the main story in the presentation is the success story of the Oregon Chub.</p>
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- Lunch - Will look the same every day.

- Games/Choice

<p>Same as previous days, campers are welcome to explore some tour related biofacts with a counselor in one part of the room, or if they have a lot of post-lunch energy another counselor will be leading animal themed games.</p>	<p>Since the campers just did a lot of sitting and absorbing information (even though the ODFW does have some interactive props) the kids will probably want to have some time to run around and play games after lunch. However, as usual they still have the choice to be calm if that is what they need to do at this time.</p>
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- Critter Chat - Will be a different animal than yesterday, but same process.
- Elephants, Penguins, Polar Bears, Primates

<p>Cover the usual tour talking points (names, natural history, fun facts, etc.) and try to relate talking points to the overall weekly theme. These animals don't directly relate to the daily theme of local fish, but they each have their own interesting stories related to conservation.</p>	<p>This section of the zoo has a lot of endangered species that don't directly relate to any of the daily themes, so now is a good time to still see this section of the zoo and talk about the conservation issues they face.</p>
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- Check Out - Will look the same each day.

Thursday:

- Check In - Will look the same each day. Counselors can switch up what they show the campers, and could also play games with them, but again this is a flex period so campers can arrive slowly without missing any camp content.
- Intro to daily theme

<p>Review camp expectations that the campers and counselors came up</p>	<p>I chose to make today's theme Condors, because I prioritized</p>
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<p>with together, and to go over any additional expectations there may be for going on a field trip. Then, introduce the theme of condors. Counselors should be sure to highlight the reasons behind the concerns condors face (human impact!) and pose the problems (micro-trash litter, for example) without solutions for now, to get the kids thinking about potential solutions on their own.</p>	<p>keeping the Jonsson Center field trip in the curriculum since that is a really special experience, and Condor conservation is another big project that the OZ is working on. Since condors are big and bald and eat gross dead things, they may not be as easy to empathize with, which is another reason why I have saved them for later in the week.</p>
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- Jonsson Center Field Trip

<p>This field trip is already something that the Oregon Zoo camp model has, and is a wonderful and exciting experience. The campers get to see a tour of the zoo's Jonsson Center for Wildlife Conservation in rural Clackamas County, and learn all about the captive breeding program, the current status of condors as a species, and throughout the entire interactive presentation the campers are always welcome to ask the keepers questions about anything related to condors, the program, and being a keeper.</p>	<p>The Jonsson center's exact address and location is not public information, so the fact that they let us visit with campers every week is a very special experience, and it is consistently one that campers enjoy. They get to tour the grounds, see condors from afar (but not too close since they are the condors that get released into the wild), try out the condor feeding puppet, and more. The entire field trip is guided by the keepers at the center, and is a really engaging and empathy eliciting experience. Campers also learn that one main obstacle to the success of condor babies' survival is microtrash, which is a cause of death that even kids can help prevent.</p>
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- Lunch at Carver Park

<p>Carver park is nearby the Jonsson</p>	<p>Spending time out in nature is a</p>
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<p>center, and eating lunch here is already a part of the field trip day at Oregon Zoo camp. As the kids finish eating their lunches, one counselor can supervise those sitting and finishing up in the grass while another can supervise campers who want to play by the stream and skip rocks and look at wildlife.</p>	<p>valuable way for kids to get to know and feel concern for wildlife. Plus, playing outside, skipping rocks and looking at wild fish and other critters in the stream are fun ways to enjoy summer camp.</p>
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- Check Out - Will look the same each day.

Friday:

- Check In - Will look the same each day. Counselors can switch up what they show the campers, and could also play games with them, but again this is a flex period so campers can arrive slowly without missing any camp content.
- Intro to daily theme

<p>Review camp expectations that the campers and counselors came up with together and go over any other expectations that may be added to apply to the late night tonight. Then introduce that today the campers will get to learn how they can take action to help protect local species, and that today's late night activity will require them to recall the things they've been learning about all week in an all around the zoo scavenger hunt activity.</p>	<p>While we've been discussing ways that we can help animals throughout the week, I wanted to have a day dedicated to driving home the message that even kids can have a direct positive impact on local conservation (and conservation in general). Also, the way the Oregon Zoo camp currently does assessment feels a lot like a school test, and this usually leads to campers not taking it seriously, and giving joke answers. Also, while the Oregon Zoo camp does have a late night all around the zoo game on Thursday night, I have opted to make it happen on Friday. This is because I can use it as an assessment to see what the campers have retained throughout the week,</p>
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	<p>and to see if they might really change behaviors in their life for the environment. Plus, when the late night is on Thursday the campers spend their last day of camp exhausted, so having the late night on Friday will prevent that as well.</p>
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- Steller Cove

<p>In addition to the usual tour talking points, be sure to highlight ways that people have worked to protect Sea Otters, and that while they're still a threatened species, they've come a long way.</p>	<p>The main reason behind touring Steller Cove here in the schedule is because it is the second to last part of the zoo that hasn't been toured yet, and Predators of the Serengeti is right by where Wildlife Live is located.</p>
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- Pledges and Postcards Activity

<p>For this activity, campers will get the chance to see how even they as kids can make a direct impact for local conservation. They will have the option to come up with their own pledge to adjust something in their daily routine/life at home, and to send a postcard to an elected official in support of animal-welfare related legislative decisions. Campers can choose to do one or both of the presented options, whatever time allows. They're also more than welcome to do multiple of the same thing, or think more about it at home!</p> <p>For the pledges: A counselor can help lead a</p>	<p>This is an activity that is entirely different from any activity I have ever seen/been a part of at Oregon Zoo camp. The zoo does a good job of explaining to campers different ways that people in general can help wildlife, but I really want to empower campers to realize that even kids can make small differences that directly impact wildlife. The reason why I want the campers to brainstorm their own ideas for a pledge is because not only will they be more engaged in an activity that is student led vs. teacher led, but people are more likely to stick to a pledge that they come up with on their own.</p>
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brainstorming session writing ideas on a whiteboard. They should try to encourage campers to think outside the box, and to be very specific with their pledge ideas! For example, we've all heard the idea of taking shorter showers, but to make it more specific, if they shower to music they could pledge to shower for the length of a 7 minute long playlist, for example. Whatever the pledges may be, try and come up with ideas that the kids could carry out themselves, because not all household decisions that affect the environment are made by the kids. Once the campers decide on a pledge, provide craft supplies for them to write it down on a pretty piece of paper they can hang up in their room or somewhere around their house.

For the postcards:

The campers doing this activity will use the class set of iPads and visit <https://awionline.org/compassion-index>. With their counselors' assistance, they can either individually pick or pick as a group, an animal-welfare related legislative decision to support. Counselors may want to pick a handful of options ahead of time since the website has a TON of choices. Using the tool, campers will see who their elected officials are, and then be able to either use the provided template or write their own postcard. Campers should be familiar with some animal-welfare related legislation because of the ODFW fish

The reasoning behind the postcard activity is because it is a way for campers to make a direct impact on local conservation efforts through government programs and protections, but also a postcard is a short and sweet way to communicate a message. Plus, with the website resource, there are many example messages and templates campers can use, so they do not need to feel intimidated if they aren't quite sure what to say. With the help and encouragement of their counselors, even kids can contact their representatives and express their support for animal-welfare and conservation efforts. I think that this kind of activity will be very empowering for the campers.

<p>presentation, but leading a review of policies like these before starting the activity would probably be helpful. The campers will decorate the back of the postcard, and may either mail it themselves, or that can be taken care of for them.</p>	
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- Lunch - Will look about the same every day
- Wildlife Live

<p>Counselors will take the campers down to the concert lawn a few minutes before the show starts and watch the free flight bird show! They can stay after to see some of the birds up close and ask the keepers any questions they may have.</p>	<p>Wildlife Live shows every day, but I wanted to save watching the free flight show for Friday, because the show doesn't just involve beautiful birds flying above the audience, but it is also full of wonderful ideas for people to be more environmentally friendly in their daily lives. This ties wonderfully with the theme for today, and the up close encounters with live birds will be another empathy eliciting activity.</p>
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- Predators

<p>As usual, cover the main tour topics while on tour at Predators of the Serengeti. While the Oregon Zoo is not working on any conservation projects involving the animals at these exhibits, there are still conservation points to bring up at some of the animals.</p>	<p>The main purpose of this section of the zoo being the tour of this slot is that Predators of the Serengeti is right by where Wildlife Live is, and it's the last section of the zoo that hasn't been toured yet.</p>
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- Citizen Science

<p>This will be a presentation that could be put on by someone that works on the zoo's conservation team about how anyone can be a scientist and help with local conservation projects, such as Pika Watch, Frog Watch, and the WPT sightings logger. Campers will learn a little bit about the local species that are affected, and then how they can help by recording sightings while hiking, for example.</p>	<p>The idea behind including this presentation is that this can be another way the kids can have a direct impact on local conservation efforts, and will hopefully empower campers to do so when they go out in nature. They will already be very familiar with WPT's from Monday, but they can also learn about local Frog Species, and the adorable Pika that live in the PNW.</p>
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- Games/Choice

<p>Same as previous days, campers are welcome to explore some tour related biofacts with a counselor in one part of the room, and another counselor will be leading animal themed games.</p>	<p>The Citizen Science presentation is a little less interactive than other ones from the rest of the week, so having some game time right after will be good for those campers who need to expend some energy now.</p>
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- Reptiles

<p>The Oregon Zoo Guides (adult volunteers) often put on interactive reptile presentations, similar to the Zoo Teen critter chats, which is a fun and engaging opportunity for campers to learn about our education reptiles while getting to touch the animal and see them in close proximity. Multiple presentations will be going on at once and campers will rotate through so they get a chance to see all of the reptiles.</p>	<p>A portion of the campers might be afraid of snakes and lizards, so this up close and personal experience with them where they get to learn natural history information and fun facts about the individual animals themselves will hopefully elicit understanding and empathy from the campers. The end goal would be to have all of the campers comfortable with touching the animal visitors, and even be excited about it.</p>
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- Choice Tour

<p>At this point in the week, the campers have seen each section in the entire zoo, so now within tour groups, campers can vote to choose which animals they would like to revisit. As usual, counselors can share any fun facts they may have about the animals, however this choice tour can be a little less educational and more about just watching and observing the campers' favorite animals.</p>	<p>Allowing the campers to choose where they go for this tour can be an exciting time because they get to revisit their favorite animals in the zoo. This activity supports the free choice learning environment that we try to build for them at camp.</p>
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- Dinner

<p>While at least one counselor supervises the kids eating dinner, another counselor will be setting out the scavenger hunt parts around the zoo.</p>	<p>Dinner is typically provided at Zoo Camp (pizza), and is served outside by the concert lawn. This is something I would keep the same in my updated camp model.</p>
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- Scavenger Hunt

<p>Detailed instructions + the scavenger hunt questions and process will be outlined in a separate page, but the scavenger hunt will take place all around the zoo as the culminating assessment for the week. Counselors should dedicate at least 10-15 minutes to fully explain the game and answer any questions the campers may have.</p>	<p>As touched on earlier, I want the scavenger hunt to be more than just a fun game, but also a culminating assessment to see how much the campers have learned throughout their week at camp. Not only is it fun and exciting to roam around the zoo without any other visitors in the way, but it's also good to do this disruptive activity after the zoo is closed so that visitors don't mess with the clues and activity props that are placed throughout the zoo.</p>
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	Counselors can also pay attention to which questions campers have a harder time with, to improve their teaching the following week.
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- S'mores

Campers will first be led through a quick safety demo, and then get to roast their own marshmallows over the fire (at the camp fire pit) to make s'mores. Regular & vegan marshmallows + chocolate + graham crackers will be provided, and popsicles will be available in the admin building freezer for those with dietary restrictions that prevent them from having s'mores.	This is an activity that we already do at Oregon Zoo camp and while it does not serve any educational purposes, it's a fun summer camp treat that helps the kids wind down after their scavenger hunt adventure.
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- Check Out - Will look the same each day.

Resource Page: Animal Videos

While the counselors are welcome to look for animal videos of their own, the following list includes animal videos relevant to the themes and/or the Oregon Zoo that can be shown during the week.

YouTube has a feature that does not allow users to create playlists using content created for children, but this link:

(<https://www.youtube.com/watch?v=2i910r-RF9g&list=PL18FQoRj2L4vN6vRlfAs-buxA-WTd9l-t>) is to a playlist, made up of the videos from the following list that do not fall into that category.

- National Geographic Kids, Amazing Animals Playlist
(https://www.youtube.com/watch?v=9vQnKO_2kKk&list=PLQlnTldJs0ZQNDwnQIISTnNF9LwoSAM7aF)
 - While the target audience of these videos might be a little younger than 5th grade, this playlist is full of short (two minutes long) engaging videos full of fun animal facts, and would make good use of any down time that may come up during the week
- Meet Tiny Western Pond Turtle Hatchlings
(<https://www.youtube.com/watch?v=2i910r-RF9g&t=396s>)
 - This 20 minute video is a Q&A style video that shows the WPT Hatchlings at the Oregon Zoo
- People for Wildlife Playlist
(https://www.youtube.com/watch?v=n3IX_PSeV4E&list=PLN6JcdQ1hOOiVX0Vxe7IPaJ7FfnInq602)

- This Oregon Zoo Youtube playlist is a compilation of videos related to local conservation and the conservation efforts the Oregon Zoo is involved in
- Tiny Goats Visits Playlist
(<https://www.youtube.com/watch?v=rfl70F68Hms&list=PLN6JcdQ1hOOhWAhXivtvmILdpj8pWAZqs>)
 - This playlist of ~5 minute videos is full of cute animal interactions between two of the Oregon Zoo's resident goats and other animals around the zoo. The videos don't get too informational, but are entertaining, and would be great for check in/check out.
- Second Chances Playlist
(<https://www.youtube.com/watch?v=2rRTkB9imBo&list=PLN6JcdQ1hOOiED03VK-ZUY0UPwUluZKIQ>)
 - The videos in this playlist are mostly about 5 minutes long, and each tell the story of individual animals that the Oregon Zoo have helped give a second chance at life.
- Conservation and Species Recovery Playlist
(<https://www.youtube.com/watch?v=MqZza-O-q8g&list=PL05A16F1DE2EEFE1E>)
 - This would be a perfect playlist to show when the counselors want videos highly relevant to the weekly and daily themes. These videos are short (the longest one is 3 minutes long) and directly address Oregon Zoo conservation projects like the turtles, butterflies, and condors.
- Saved! Prehistoric Bird Escapes Extinction!
(<https://www.youtube.com/watch?v=aXIaQcxsmtg>)

- This 12 minute video goes into detail about the catch and release condor program, and gives visuals for some of the things the campers will get to hear about at the Jonsson Center
- Oregon Silverspot Butterfly: A Habitat Threatened
(<https://www.youtube.com/watch?v=zSLgiCwM5ms>)
 - This 5 minute video clearly and concisely explains the situation Silverspot Butterflies are in, and shows us some cool dogs that have been trained to sniff for Silverspot Butterfly larvae (so they can bring them to us at the zoo)
- Crikey! It's the Irwins Playlist
(https://www.youtube.com/watch?v=O_TAis2JNMg&list=PLMilupvERrnAHjnxdahGt5BRDfNVt2ZJP)
 - The videos in this playlist range from 5-40 minutes long, and don't cover too many things that overlap with our theme, but they do feature an engaging look at another zoo and its animals with some of the most famous animal educators (the Irwins!)

Resource Page: Animal Themed Games

A list of some game ideas for counselors to lead during game times and other moments throughout the week when the campers need to move around or pass the time -- counselors can lead other games they know as well, but the following list of games all relate to animals.

- Poison Dart Frog
 - The campers will sit in a circle, with one camper in the middle. The camper in the middle will be the “herpetologist” and has to find the poison dart frog. One of the campers in the circle will be the “poison dart frog.” Their job will be to stick their tongue out at other campers when the herpetologist isn’t looking. When they do so, the camper who they stick their tongue out at will “die” dramatically and lay down on the ground. The herpetologist has three tries to guess who the poison dart frog is.
- Stick Giraffe
 - Same rules as the game hangman, but instead of drawing the hangman, with each incorrect guess the leader draws part of a stick figure giraffe. To stay on animal theme, the word the kids are trying to guess should be an animal or animal related word.
- Bob the Weasel
 - In this game, the campers will form a circle, touching shoulder to shoulder with their hands behind their backs, with one camper in the middle. There will be an item (could be a rock, or really any small object) that gets discreetly passed around the circle behind the campers’ backs without letting the camper in the middle see. The object is Bob the weasel. The campers in the circle will bob up and

down and chant “Bob the weasel, keep it going keep it going” to make it a little harder for the camper in the middle to tell where the “weasel” is. The camper in the middle has three tries to point and guess where the “weasel” is located.

- Animal 20 Questions
 - The game of 20 questions, but the thing the kids are trying to guess should be an animal. They can ask questions about what the animal eats, where it lives in the world, what kind of habitat they live in, what sort of adaptations they have, etc. but not about the spelling of the species name.
- Animal Sounds
 - The group is split in half, and each camper is assigned an animal. The animal they are assigned matches another camper in the other half of campers. Next everyone closes their eyes, and starts making their animal’s sound. They will move slowly and gently around the area until they find their match.
- Sharks and Minnows
 - The classic tag game where there are a few “sharks” and the rest of the campers are “minnows” who are trying to cross the field/area without being tagged by a shark. If tagged, the minnows become “seaweed” who must stay planted where they are, but can tag other minnows trying to cross the playing area.
- Animal Tag
 - For this game, there will be a few animal groups -- could be anything, but in the example it will be chimps, elephants, and tigers. One third of the camp will be chimps, a third elephants, and a third tigers. Campers will be spread out and make animal sounds consistent with the group

they're in. When the game starts, everyone is "it" and tries to tag others that are not in their animal group. The goal is to have one animal group left standing.

Scavenger Hunt Activity

The scavenger hunt activity happens on Friday after the zoo has closed to act as the assessment for the week. At least one counselor will set out any necessary parts to the scavenger hunt around the zoo while the campers are eating dinner.

Things to know before the start:

- There will be 3 teams, one for each counselor. They should each pick an animal to be their team mascot.
- The teams will stagger when they start the scavenger hunt because they will all be following the same path (if they guess each clue correctly), so in order to keep campers from overhearing the other groups' answers, each group will leave with 5-10 minutes in between each other.
- The counselors will time how long it takes to complete the scavenger hunt on their phones or watches, so it doesn't matter which team leaves first. The winning team can go first at s'mores time (but everyone still gets to make a s'more)
- The campers have the zoo to themselves as far as guests go, but they are still visitors in the animals' homes so they should still be mindful about noise. They can also spread out from their counselors a little further than during the day, but should still remain in view of the counselors.
- When campers arrive at an exhibit that has a clue envelope, they will look for the envelope, and pick it up when they find it. However, they are not allowed to open them, because the cards inside may have answers and other props/clues/etc. that are for counselors' eyes only.
- If a group or groups don't finish in time, that's a-okay, and counselors will be able to communicate about time budgeting over their radios.

- To start the game, all three teams will go to the Nature Play Area, by the classrooms.

The following questions/puzzles/activities will be in envelopes, throughout the zoo in their according locations:

1. (Clue is read to the campers by their counselor just outside the Nature Play Area): Welcome to your final Zoo Camp Adventure! In this activity we will be testing your scientific skills and naturalist abilities -- how much animal knowledge did you retain from the week? Your first clue will be hidden by the viewing area of an animal we met who is facing issues with competition -- and not the fun kind like this scavenger hunt. This animal would not like to live down by the banks of the Hankity Panks, because that's where their predators jump from bank to bank. What animal is your first clue hidden by? (Answer: Western Pond Turtle Lab)
2. Your next clue will be hidden by the exhibit of an animal who once lived near where we live, but due to excessive hunting can only be found in more Southern areas, like California. While you have an average of around 100,000 hairs on your whole head, this animal has 1 million on just one square inch of its body. Where is your next clue? (Answer: Sea Otters)
3. (Read by counselor) Before I give you your clue, can someone tell me what rule was created to protect animals like Sea Otters from becoming extinct? (Answer: Endangered Species Act). The clue at this exhibit will be a puzzle for the kids to solve. There will be a bag of popsicle sticks, and they will have to arrange them on the ground as if it were a jigsaw puzzle, and it will reveal a picture of powerlines, litter, and something depicting lead poisoning, like maybe a skull and crossbones with the word *lead* next to it. What animal is faced with these threats? (Answer: California Condors)

4. Like you recalled from the puzzle that led you here, a leading threat to condors is lead poisoning from eating the carcasses left behind by hunters. Speaking of poison, your next clue will be hidden near the exhibit of an animal that appears to be adorable and harmless, but if we tried to eat one, we would certainly die. Where will you go next? (Answer: Rough Skinned Newt)
5. (Read by counselor) Before I read your next clue, tell me what PNW animal would be completely fine if they ate a Rough Skinned Newt? (Answer: Garter Snakes) Bullfrogs are not the only predator to our dear Western Pond Turtle friends -- what other Oregon Zoo resident would find these reptiles scrumptious? (Answer: Bull Trout)
6. Before I read your next clue, what is one way that you can help local endangered species when you go hiking with your family? (Answer: anything along the lines of recording sightings of that animal or the phrase "citizen science") Clue: We don't have this type of animal at our zoo because they would not make very good ambassadors for their species at a zoo, but you could run into one while on a hike. They require very specific temperature ranges, and are almost always hidden from view. This animal prefers to live amongst talus slopes -- can you think of an animal we have here at the zoo who would live in a similar habitat? (Mystery animal: Pika, Answer to clue: Mountain Goat Exhibit)
7. To receive your next clue, as a group please show me your best impression of a Pika call. (Eep! Eeep!) While lions are known as the King of the Jungle, they don't actually live in jungles and aren't even the largest species of big cat. What two lovely ladies that live here at the zoo fit that description a little better? (Answer: Amur Tigers)
8. Before I read your next clue, who can tell me two threats to Amur Tigers? (Answers can include: poaching, using their body parts for medicinal purposes)

- in Asian countries, habitat loss) Your next clue will be hidden in an area that's dark, but the animals that live there won't be in a deep sleep -- they'll be getting ready to wake up soon! Scientists once thought that these animals couldn't see at all during the day, but we know that when scientists learn more information, it can change what they know and how they understand animals' experiences, and we now know that these animals can actually see well during the day and at night. Where to next? (Answer: Fruit Bats)
9. Before I read your next clue, does anyone remember our science word for bat poop, and why it's so important? (Answers: Guano, fruit bat guano spreads the seeds of the fruits they eat, helping plant life) Your next clue will be hidden near one of the most feared predators here at the zoo. If you hear her roar, you may think there's a T-Rex behind you -- she not only sounds like a dinosaur, but her species once lived alongside dinosaurs! Crikey! Where are we going now? (Answer: Crocodile)
 10. Before I give you your next clue, who remembers at least one way you can tell Morgan (the crocodile) is a crocodile, and not an alligator? (Answer they provide will most likely be either: her narrow V-shaped snout, or the way all her teeth show when she closes her mouth) The next animal is one that we had the chance to meet up close and learn a lot about, including the important role it plays in its ecosystem. Who might be the most unlikely pollinators in our zoo? (Answer: Giraffes)
 11. To receive your next clue, I'd like to see you safely act out the following: How male giraffes fight each other, how giraffes drink from a stream, and how giraffes eat leaves off of a high Acacia branch (*Giraffe impressions*) Your next clue will be hidden near the exhibit of a whole colony of animals. Their zoo home is made of a special type of rock, because their jaws are so strong

that they could chew through concrete. Where is your next clue hidden?

(Answer: Naked Mole Rats)

12. Naked mole rats live in dark tunnels and can't see very well. However, they have a keen sense of smell. Can you use your sense of smell and some alliteration to guess what animal exhibit we are going to next? (They'll smell a little wool ball or item that is lemon scented, and potentially guess **lions**. If they need some help, provide hints related to lion facts we learned on tour).
13. Lions have binocular vision because they are predators, can you show me the rhyme we use to remember where the eyes of predators and prey animals are located on their heads? (Eyes on the side - ready to hide, eyes in the front - ready to hunt). Lions live in a group called a pride, and your next clue will be hidden near the exhibit of an animal who lives in a group called a troop. This animal species is endangered for a number of reasons, including habitat loss, the illegal pet trade, and hunting for their meat. They can only be found on one small island in Africa -- do you know what animal is next? (Answer: Lemurs).
14. The next clue in our scavenger hunt adventure will be hidden by the viewing area of an animal that was once on the brink of extinction. Due to excessive hunting, at one point there were only 17 individuals of this entire species! Luckily, a fence and their lack of jumping ability helped save them -- what animal exhibit are we going to next? (Answer: Bontebok)
15. Bonteboks are no longer as endangered as they once were, they are a great example of a conservation success story! Tell me about another conservation success story we heard this week. (Answer could include: Oregon Chub*, Sea Otters, Bald Eagles*, or Condors -- * = delisted species) To figure out where your next clue is hidden, you'll need to unscramble the following words (which will be written on cards for them):

hSnei (Shine)

eoRs (Rose)

mSanos (Samson)

ramSaud (Samudra)

Cadrneh (Chendra)

(Answer: These are the names of our elephants)

16. When you think about the animals at the zoo, you're probably going to picture the animal ambassadors who live in our enclosures. However, the zoo is an outdoor place, so sometimes we have wild animal neighbors that visit, and even live here on grounds too. Your next clue will be hidden in a special home for an endangered wild animal, that you could even recreate to have in your backyard. Where will we find your next clue? (Answer: the bee house in the pollinator garden)
17. Before you receive your next clue, tell me what a niche is, and one thing that would happen if we didn't have pollinators anymore. (Answer: Something along the lines of "an animal's role in their ecosystem," and responses could include: we wouldn't have the ability to eat almost any of the fruits and vegetables we currently can, a huge number of plant species would eventually go extinct, or we'd have to manually pollinate for crops and produce would go way up in price). Your next clue will be hidden near the exhibit of an animal who loves to eat snacks like grapes and bamboo, and is really good at doing so because of their special bonus thumb, which is actually part of their wrist. They may be smaller and lesser known than their name twin, but they were actually named about 50 years before the other kind! What animal exhibit are we going to? (Answer: Red Panda)
18. You made it around the entire zoo using your animal knowledge gained throughout the week! Your final task is for each of you to tell me one specific

way that you have decided you want to help local wildlife. (*they do that*)

Now let's go to the classroom and see what our time was!

The following chart will be found in the counselors' binder, and will allow them to write down some brief notes on their group's scavenger hunt experience. These questions will act as a guide to make sure that counselors will be able to remember what their campers struggled with and succeeded with to inform how they teach the following week.

Which questions did your campers struggle with the most? When in next week's curriculum will you make sure to clarify/reiterate/etc. the information your campers will need to better succeed at those questions?

Were any questions too easy? How might you adjust the challenge level for next week?

Are there any more notes you would like to remember for next week's scavenger hunt?

Bonus Activity: Sign Scavenger Hunt

The following activity could be done by anyone who visits the zoo on their own time, and does not require special access to education areas, pandemic related off limits areas (due to their small and/or high-touch nature), or the setting out of any props/clues/etc. While I do not have the means or skills to design my own app or functional mobile website, my vision for this activity would be to have it available for users to access either via the Oregon Zoo website on their smartphone, or a free smartphone app. The questions below will guide the participants through the zoo and encourage them to read the signs and experience the zoo in a different and potentially more educational way than they normally would. Since the current COVID-19 pandemic prevents visitors from signing up for organized education programs like Zoo Camp, this activity could be a way for people to still make deeper connections with our resident animals and learn more about wildlife conservation during their visit to the zoo, even during a pandemic.

Welcome to the Oregon Zoo, and to your pandemic friendly animal puzzle scavenger hunt! Before we begin, here is your friendly reminder to keep 6 feet in between your party and others', and to not touch windows or signs for your safety! This activity will guide you through the zoo in an alternative one-way path, so don't forget to enjoy the other exhibits you pass through as you make your way from one mystery animal to the next. Once you complete the entire scavenger hunt, show the completion badge on your smartphone to the employee sitting at reception for your real life completion badge! (A sticker that looks like a little badge signifying they successfully completed the scavenger hunt)

(The following are the puzzles which will reveal one by one as the visitor solves each one)

1. Your first mystery animal can be found right here in the Great Northwest! While it is not common to run into one of these on a hike, if you look carefully, you will be able to find the signs that this animal has been around! This animal loves to eat *cambium*, the part of a tree right beneath the bark. What animal are you looking for? (Answer: Black Bear)
 - a. (When they correctly guess, this message pops up:) Nice work! Here at the Oregon Zoo we have four resident black bears. Takoda, Cubby and Tuff are our males, and Dale is our female. See if you can spot all four!
2. Your next mystery animal is another local, and is struggling due to threats that they face at each stage of their lives. As you walk through the Great Northwest, keep your eye out for an animal facing the following threats: water quality issues, climate change, and habitat loss. What animal is it? (Answer: Pacific Lamprey)
 - a. (When they correctly guess, this message pops up:) Great job! Did you know that Lamprey have been around since way before the dinosaurs roamed the earth?
3. Your next mystery animal is very special to the Oregon Zoo, because we are heavily involved in the conservation of this endangered local species. Keep a close eye on the signs that may tell you what Oregonian animal is facing threats such as declining wetlands and introduced predators such as bullfrogs. What animal looks like a tasty snack to a bullfrog when they are newly hatched? (Answer: Western Pond Turtles)
 - a. (When they correctly guess, this message pops up:) Awesome job! We have a lot of Western Pond Turtles babies that live in our turtle lab that we release back into the wild every year to help give them a head start.

If you ever have a pet turtle, make sure you never release it into the wild though -- Red eared sliders, a popular pet turtle, are a large problem for Western Pond Turtles, and it's because people let their pet turtles go out in the wild.

4. The next mystery animal in your expedition through the zoo is another recovering species. Facing threats like micro-trash (tiny pieces of litter), there were once 0 individuals of this species in the wild with only 27 total individuals in captivity. This species is still making a slow comeback -- think about ways that you might be able to help this species out yourself! What animal is it? (Answer: California Condor)
 - a. Nice work! The condors here at the zoo don't really have names, and that's because they've retired from our breeding program. Outside of zoo grounds we have a lot of condors that we take care of and then release into the wild to help their populations grow. Can you think of why we might not give names to condors that could be released into the wild?
5. You may have a few nicknames yourself, but the next mystery animal has more official names than any other mammal! See if you can find the sign that lists off several of the names of this animal, and what we call them here at the zoo. What animal is it? (Answer: Cougar)
 - a. Grrreat work! The two cougars that live here at the zoo are a female and male named Chinook and Paiute. While cougars are a large cat, they aren't technically categorized as a "Big Cat." One of the differences between smaller cats and Big Cats is that smaller ones like cougars share more similarities to your cat at home -- they can't roar, and when they feel relaxed they purr!

6. Your next stop is the exhibit of not just one mystery animal, but a whole ecosystem! Animals in an ecosystem all play different roles to keep their habitat in balance. Where in the zoo will you be able to find an exhibit that features many different plants and animals living together as an ecosystem?
(Answer: Tide Pool)
 - a. Nice job! The next time you go to the coast, try to see if you can find any mini ecosystems when the tide is low. Just remember to not poke and prod the animals living in the tide pools, but you can definitely get an up close look at them.
7. Your next mystery animal is not one you could find here in the Pacific Northwest, but one that lives in Asia. Despite their large size, they only have a few teeth in their mouth. While you only have two sets of teeth (your baby teeth & adult teeth), this animal will go through six sets of teeth in their lifetime. Unfortunately, one threat this animal faces is poaching (illegal hunting) because of their teeth -- which are beautiful, but do not belong to humans. What is your next mystery animal? (Answer: Asian Elephant)
 - a. Good work! Here at the zoo we have five resident elephants: Rose-Tu, Samudra, Samson, Chendra, and Shine. See if you can find them all!
8. Some animals have their eyes on the sides of their head, and this is called monocular vision. Monocular vision is helpful for animals who need to keep a lookout for their predators who may want to hunt and eat them. Your next mystery animal has binocular vision, meaning that their eyes are on the front of their head, which is helpful for judging distance when hunting for prey. What is this mystery animal? (Answer: Lions)
 - a. Great job! Here at the zoo we have quite the pride living here. Zawadi-Mungu is our large male lion you'll often see laying on one of

the highest warm rocks, plus we have Neka, Kya, Mashavu (Kya's daughter), and Niara (Kya's daughter).

9. Your next mystery animal can be found in the African Savanna, where they eat lots of leaves with their long purple tongue. Animals that eat plants are called herbivores, and while herbivores never need to have body parts that would help them hunt, they do need body parts that would help defend themselves against animals that eat meat, or carnivores. One way this animal defends itself from predators is its long, strong legs. What animal is this? (Answer: Giraffe)
 - a. Awesome work! Here at the zoo we have three giraffes, Desi the reticulated giraffe, and Buttercup and Kiden the Masai giraffes. Desi and Buttercup, our two males, have lived at the zoo for a while now, but Kiden is brand new to the zoo, and she's only two years old right now!
10. The final mystery animal in your animal scavenger hunt is one that is a recovering threatened species, but thanks to the Endangered Species Act, they are doing better. While humans hunting for this species is no longer a threat, humans eating seafood is one of their biggest threats, due to the fishing nets and pollution left behind. Making responsible choices in the foods you eat will be a big help to these fluffy creatures -- what animal is this? (Answer: Sea Otters)
 - a. Good job! The sea otters that live here at the zoo are named Juno, Lincoln, and Uni Sushi, and they all arrived to our zoo as orphans. To help out their wild friends, visit <https://www.seafoodwatch.org> to learn more about your seafood choices!

Conclusion

My original overarching goal for my camp curriculum project was to encourage and motivate children to care about conservation, building upon their natural care for animals that are widely accepted as cute, leading them to care about other animals that are generally harder to empathize. Additionally, I aimed to encourage campers to think about what issues these animals they now care about face, and what they can do to help. I think that the curriculum I designed will have the potential to meet these aims if taught to actual children. One way that I made sure I would build up empathy skills with the campers throughout the week is by starting off with cute animals that are easy to care about, such as Western Pond Turtles. As they learn more about local species in trouble and spend more time with the Oregon Zoo's resident animals, they are prompted to learn more about and share concern for animals that might be harder to empathize with, such as Pacific Lamprey. Additionally, the main purpose of focusing on local species was to help the children care more about conservation, because the animals they learn about live right here in the Pacific Northwest too. Activities such as the Pledges and Post Cards activity were designed to help meet the goal of encouraging campers to think about what they can do to help the animals they have been learning about.

While I think that my project has met the aims that I set out for myself, there are still limitations that could be further improved upon. For example, my final

assessment for the week of camp is a fun activity that is integrated into the curriculum that can definitely assess whether or not the campers retained the information they learned during the week, but it might not give us a look into how their behavior might change post-camp. Potentially, this could be assessed through a longitudinal study, which surveyed the campers a few weeks later via email. While it is likely that not every camper will respond, I am not sure of a way to better assess this element based off of the research I conducted. This aspect could be improved upon in the future, perhaps after trying the assessment out with actual children and going from there.

My completed activities will fit into the bigger picture of environmental education as a tool for educators to help encourage kids to care about the environment on their own, and to make decisions based on how it might affect the environment, which is the main goal of environmental education in the first place. Some of the activities from this curriculum could be transferable to schools too, such as the Critter Chats and the Pledges and Post Cards activity. It would be even easier to make slight adjustments to the curriculum making it be transferable to other zoos and facilities with live animals. You could change what local species are covered depending on the region you are in, and adjust what resident animals the children get to interact with.

Overall, my hope is that more facilities that implement environmental education programs will base their activities and curriculums on effective ways to change behavior for the environment, and elicit empathy in their visitors, because these are the ways that we can actually work towards the more generic goal of “saving the world.”

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