Lesson: Animal Eyes

Purpose:

The way human eyesight works and how we observe our surroundings is different than many animal species; there are numerous adaptations that help animals to detect movement, recognize predator or prey, see and process light, and even distinguish different colours. Animal adaptations are amazing!

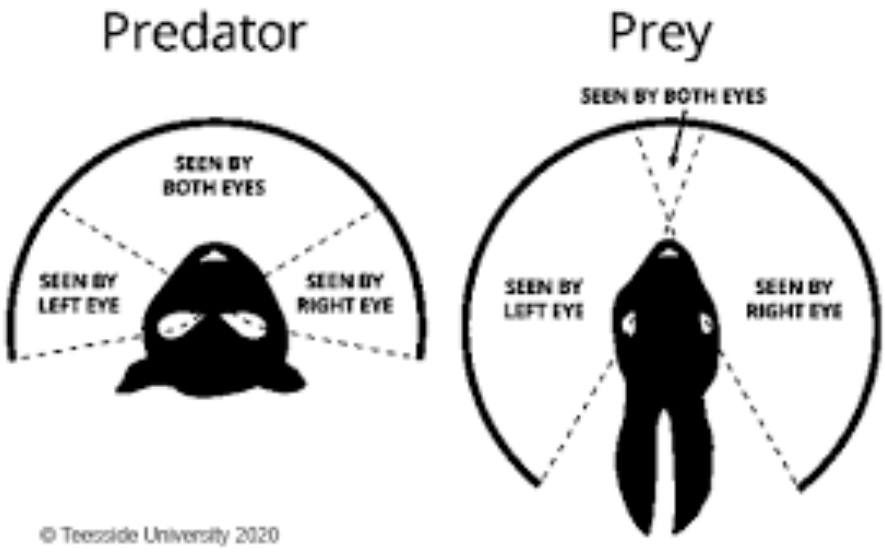
Competencies Covered

- Demonstrate an understanding of animal eyesight adaptations and how they benefit them
- Compare and contrast the similarities and differences of a human's eyesight and an animals
- Display critical thinking skills and understanding through activities and discussion

Eye Location:

The clue to determining whether an animal is a predator or prey lies in the adaptation of where their eyes are located. Eye placement determines how much an animal can see around them, resulting in different limits to their field of view (**peripheral vision**) and varying areas where they cannot see (**blind spots**)

As seen in the image below, predators often have eyes located in the front of their skulls. This helps with depth perception and binocular vision, which assists in tracking and focusing in on their prey.
For prey animals, their eye position is typically on the sides of their skull. This increases their peripheral vision without sacrificing important seconds it would take them to turn their heads, allowing them to notice another animal sneaking up behind them.



Activity: Test Your Vision

In this activity we will be exploring our own field of vision and determining if humans are more like predators, or prey.

Based on what was discussed earlier on, where are a humans eyes located on their skull? From this observation, do you think that humans are more like predators or prey? Please discuss.

Now to better understand the benefits of having eyes on the sides of the skull, like many prey animals, we are going to do an activity that looks at our own peripheral vision.

- Placing both arms outstretched in front of you
- Without moving your head, focus on both of your hands
- Slowly, begin to move your arms apart from one another
- Pay attention to where you begin to lose focus on your hands
- Eventually, you will not be able to see either hand, where you lose visual is the edge of your peripheral vision

To see past the edge of our peripheral vision we would need to turn our heads, or in some cases move our entire body to extend our field of vision. It is important for prey animals to have this extended peripheral vision so that they can see more of their own surroundings without the need to move at all. This can sometimes be the few seconds they may need to escape. For some animals, such as rabbits that stand perfectly still when they perceive danger, this extended field of vision helps them decide when and where to flee.