

Arizona Wildlife Podcast Comprehension Activity

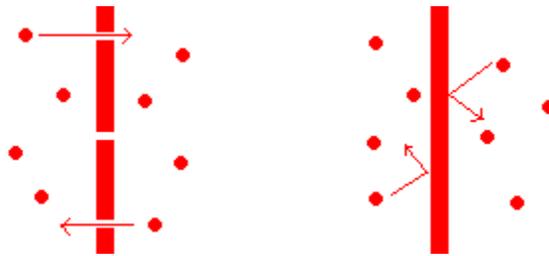
Episode 5: Monitoring Wildlife Populations

Part A: Draw a picture to visually depict the following concepts.

1. Habitat fragmentation



2. Permeable vs. impermeable



Part B: Answer each question below in complete sentences. The answers are not necessarily included in the content. They may require some critical thinking.

1. What is the primary difference between the older, more traditional radio collars and the newer GPS collars?

The traditional radio collars do not actually record a location or store data. They simply emit a beep that can be tracked to find the location. GPS collars will get a location using satellites, and sometimes can store that it. Data can also be collected more often.

2. Outside Payson, biologists have determined that the underpasses can successfully lower the elk-vehicle collisions in those specific locations. However, a new impact, called the end-of-fence effect was being discovered. What do you think the end-of-fence effect is and what solution is the Arizona Game and Fish Department researching?

The end-of-fence effect is the fact that we saw an increase in elk-vehicle collisions in areas where the fencing along the highways ended. To address this, the Department is experimenting with elk crosswalks that can visually detect the presence of an elk and warn motorists.

3. How has technology improved wildlife tracking and monitoring?

Technology, particularly GPS collars, has allowed us to collect more and better data. We can now get more complete and regular information about where animals are spending their time.

4. Pretend you are a biologist and you are interested in monitoring populations of different animals. Unfortunately, radio collars are not always the solution. Briefly explain a technique you might use for each of the following:

- a. Elk – a radio collar would work
- b. Desert tortoise – we don't need to use a collar but we can use the same technology. Typically, it would be glued to the shell.

- c. **Butterfly** – we have not developed an electronic tracking device small enough for insects. The best method would probably be to capture a number of butterflies, mark them with some kind of paint, and release them. Then, we could recapture them later.
- d. **Fish** – Collars also will not work for fish. However, we can place an electronic tracking device inside the fish that works in the same method. A mark-recapture method (as described above) may also work.