

For Creative Minds

This For Creative Minds educational section contains activities to engage children in learning while making it fun at the same time. The activities build on the underlying subjects introduced in the story. While older children may be able to do these activities on their own, we encourage adults to work with the young children in their lives. Even if the adults have long forgotten or never learned this information, they can still work through the activities and be experts in their children's eyes! Exposure to these concepts at a young age helps to build a strong foundation for easier comprehension later in life. This section may be photocopied or printed from our website by the owner of this book for educational, non-commercial uses. Cross-curricular teaching activities for use at home or in the classroom, interactive quizzes, and more are available online. Go to www.ArbordalePublishing.com and click on the book's cover to explore all the links.

Wildlife Rescue Sequencing

Put the wildlife rescue events in order to spell the scrambled word.

L

Once the animals have seen a veterinarian, they need a safe, quiet space to rest and recover. Places like zoos and rehabilitation centers care for the animals. Keepers and rehabilitators nurse the animals and provide for their basic needs until they are better.



F

After the animals are fully recovered, they need a place to live. Many are released back into the wild. Some animals have become reliant on humans, never learned how to live in the wild, or need lifelong care. These animals find a permanent home in a zoo, wildlife sanctuary, or education center.



O

After sick or injured animals are brought in from the wild, the first focus is helping them feel better. A veterinarian will treat them, just like a doctor treats human patients. The animals might need medicine or even surgery.



W

Even wild animals can be injured, sick, or orphaned. If you ever find any injured wild animals, do not approach them. They don't know that you want to help and may try to defend themselves. Sometimes the parents are out finding food and will come right back. Call a wildlife professional, who can take these animals to a place they can get help if they need it.



Growing Bodies

All animals change as they grow. Some newborn animals, like wolves, have a different eye color than they will have as adults. A newborn's soft fur or hair changes color or texture. As animals get older, their bodies change shape. They get taller. They gain weight. Some animals are born with large heads or paws. As they grow, these body parts shrink in proportion to the rest of their bodies. How else can bodies change as animals grow?

Look at the pictures below. How does Gannett's body change as she grows from a newborn into an adult? What traits stay the same? How can you tell this is the same wolf?



How has your body changed since you were little? If you look at pictures of yourself from when you were younger, what has stayed the same? What is different? If you could see a picture of yourself ten years in the future, do you think you would recognize yourself?

Keystone Species: Wolves



A keystone is the big, important stone at the top of an arch. It holds all of the other stones in place. The keystone anchors the structure so that it does not collapse.

Keystone species are animals that help all of the other animals in an ecosystem stay in place. An ecosystem is made of all the living things (like plants and animals) and non-living things (like water and earth) in an area. All of the parts of an ecosystem are connected to each other. If something happens to a plant or animal in that ecosystem, the whole system could be affected. If something happens to a keystone species, the whole system could even collapse.

The gray wolf is a keystone species. Gray wolves may be small in number but they play a large role from the top of the food chain all the way to the bottom. They help keep the balance between predator and prey.

Scientific Observation: Gray Wolves in Yellowstone National Park

When a keystone species is harmed, the entire ecosystem suffers. Scientists were able to observe this effect when the gray wolves disappeared from Yellowstone National Park. In the 19th century, people did not know that wolves were a keystone species. People hunted gray wolves until there were none left in Yellowstone. Without any wolves, the elk population boomed. All of those elk needed to eat. They ate so many plants that there wasn't enough food for all of them. The elk became sick and they starved. Because the elk ate so much, many trees could not grow. Without big trees, beavers were affected and there was less shade over the river. Many fish left the area. The absence of the wolves affected not just the elk, but also the plants, the beavers, the river, the fish—the entire ecosystem.

In 1995, scientists reintroduced gray wolves to Yellowstone. With plenty of elk to eat, the wolves flourished and so did the rest of the ecosystem. Coyotes, eagles, and other wildlife scavenged the remains of the elk killed by the wolves. Trees and shrubs could grow since the elk had not eaten all of them. Bears ate the berries that grew on shrubs. Trees grew taller and gave shade to the river. Beavers thrived and fish returned.

The return of the gray wolf to Yellowstone National Park helped bring balance back to the animals and plants of the park.



Wildfire

Some wildfires start naturally, usually after a lightning strike. But the majority of wildfires are caused by people. The wildfire in this story was started by humans in 2014. It burned along the Funny River in Kenai National Wildlife Refuge in Alaska. The Funny River Fire burned 105 square miles (272 square kilometers) of forest and left a litter of young wolves without an adult pack to care for them.



You can help prevent unwanted wildfires. Pay attention to fire warnings. Never leave a burning campfire unattended and make sure to completely put out your campfire before you leave. It can quickly catch and spread out of control. Don't litter. Some types of litter (like matches or cigarettes) can start fires and other litter can provide fuel for a growing wildfire.

Once a wildfire starts, firefighters have to decide if they need to put it out, contain it, or let it burn. This is not always an easy decision.

Wildfires can help the forest. Wildfires burn away dead trees, dry leaves, and other plant matter. This helps clear out old plants to make room for new growth. Some plants, like lodgepole pines, need wildfires in order for their cones to open and grow new trees.

But wildfires can also hurt the forest. They drive animals (including humans) out of their homes. Animals can be killed, injured, or orphaned by a wildfire. When wildfires grow too hot, they can consume healthy plants. Instead of just clearing out old plant matter, strong wildfires can burn entire forests to the ground.



Fire needs fuel to burn. A **firebreak** is a place where there are no plants or other material for the fire to burn. Roads make good firebreaks. Sometimes a very strong wind can blow the flames and ash across the firebreak. But usually when a wildfire reaches the firebreak, it cannot cross over to the other side.

