Nature-Watch Activity Kit

Protecting Endangered Animals

(Nature Watch Kit #151)

Kit Contents

	Kit Size	
	25	**100**
Item:	Qty.	
Shrink plastic sheets	25	100
Key chains	25	100
Hole punch	1	2
Colored pencils	1	2
Instructor Manual	1	1

This page includes the Next Generation Science Standards (NGSS) mapping for this kit and Science, Technology, Engineering, and Math (STEM) extensions (on back) to use in adapting and extending this activity to other subject areas.

Next Generation Science Standards Alignment

K-ESS3-3. Communicate solutions that will reduce the impact of humans on land, water, air, and/or other living things in the local environment.

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

MS-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

See Back for STEM Extensions

This Nature Watch Activity Kit contains an Instructor Manual and materials to implement the curriculum. The kit was designed to be used with adult supervision only. Unsupervised use is not recommended.

Nature Watch 5312 Derry Ave. #R, Agoura Hills, CA 91301
800-228-5816 info@nature-watch.com www.nature-watch.com

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STEM Extensions

Science

Make a conservation calendar for yourself or your family. From the list of "You Can…" actions in the activity kit (or other ideas, too!), choose one action that you will commit to each month for the next year. Create a one-page calendar where you can write down each month's action and specific things you will do to accomplish it. Decorate your calendar with some of the species you will be helping through your actions.

There have been some recent successes in moving animals away from the brink of extinction ("downlisted" in the vocabulary of the endangered species list). Learn more about this good news by researching the stories of the Iberian Lynx, the Guadalupe Fur Seal, two frog species named Adinobates tolimensis and Adinobates dorisswansonae, and a fish in Nevada named Cui-ui. What did humans do to help these animals bounce back?

Polar bears were the first animals added to the endangered species list with global warming as the specific threat that affects them. Find out how global warming is threatening polar bear populations and what scientists are doing to address this issue. Create a model on paper or in 3-D that demonstrates what is happening.

Technology

Choose one animal listed on the endangered species list. Record a 60-second video from that animal's perspective, describing what threats have made it endangered and what specific actions by humans would help that animal bounce back. Share your video online to spread the message to others. (You may want to paint your face to look like the animal for your video, too.)

There are many ways technology is used to aid in the conservation of animal species. Choose one of the following to learn about and prepare a PowerPoint presentation that showcases the issues that threaten the species, how the technology is used, and the current status of the species. text messages to help elephants in Kenya; a passive integrated transponder for fish in the Colorado River; the Hubble Telescope to identify whale sharks; GPS tracking of the Cross River gorilla in Africa; sonar cameras for the Goliath grouper in Atlantic mangroves

Engineering

Choose one of the animal species from the activity kit and design a product that would help in the conservation efforts for that species. Draw a prototype and create an instruction manual to explain how it works.

Florida panthers are threatened by habitat fragmentation due to the urban development in Florida. Their forest habitats are split up by roads and other infrastructure and construction, and they fall victim to auto accidents. Biologists in Florida have introduced a solution: underpasses that allow the panthers to circumvent the roads. Look into this approach to learn more about it. How can this help other species, too? What would you do to encourage the animals to use these underpasses?

Math

One estimate says that habitat loss accounts for 75% of the species extinctions happening in modern day times. It is impossible to know for sure how many species become extinct, since scientists are not even aware of all the existing species on Earth. However, there are some guesses for how many extinctions occur. Based on the following guesses for total extinctions, how many extinctions can you estimate occur due to habitat loss? 27,000 per year; 150 per day; 3 per hour

Go to the IUCN Red List of Threatened Species online (www.iucnredlist.org). Choose one of the categories from Least Concern to Extinct, whichever you are most interested in, and click on it. Using the options to refine your search on the left menu, figure out what fraction of the total animals on that list consists of mammals; birds; arthropods; amphibians; and reptiles.