

Ages:

9 & up

Lizard Park

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Main idea: A game that demonstrates how changes in the environment can affect the lives of animals. Younger children can participate in this activity with mixed-age groups.

Objective: Students will have a better understanding of how changes in nature, including changes that we cause, can help some animals and hurt others.

Materials: Pencil and 1 sheet of notebook paper.

Motivator: A fun game students enjoy playing

Activity:

Students design their own a lizard by choosing where it lives (the habitat it needs to survive). They also choose other characteristics that help it adapt to its habitat, including what it eats and when it is active.

Finally they choose what animals prey on their lizard:

Make one choice from each category for your lizard:

1. Lives:

- in swamp
- in fields, open land
- in mature forest

2. Eats:

- earthworms
- insects
- small mammals
- fish

3. Active:

- at night (nocturnal)
- during the day (diurnal)
- at dawn and dusk (crepuscular)

4. Preyed upon by:

- q dogs and cats
- q hawks and owls

Next, students make up a name their animal (e.g. Rainbow Lizard, Long-legged Lizard, etc.). They write the name and the characteristics of their lizard on their game sheet. Students can work alone or in groups, but the game works best with at least five lizards playing.

The game is set in a large park surrounded by farms, homes, roads, and factories. The group leader assumes the role of “Mother Nature,” choosing “Environmental Factors” at random. (See list on following page. Copy, cut up and draw out of a hat.)

Mother Nature reads the factor and the students determine what effect it has on their lizard. Their lizard may be helped, harmed or unaffected. Each group records the change in points on their game sheet. Take time to discuss the effect before Mother Nature moves on to the next round.

Those teams helped by a given change will have their animal's population grow. Those harmed will lose individuals from their animal's population. The game can continue either to a prearranged number of “Environmental Factor” selections or until one lizard’s score drops to zero and becomes extinct.

Environmental Factors:

- q Factories not required to clean emissions from smokestacks and produce acid rain - water becomes more acidic and reduces fish population. - 10 points

- q Local council appointed to preserve Lizard Park. All lizards benefit +11 points

- q Unusually cold winter, all lizards adversely affected -5 points

- q Unusually dry summer and swamp dries up, swamp lizards affected, so are those that eat fish and earthworms -9 pts

- q Local scouting organization builds rock walls to provide places for lizards to hide and bask , all lizards benefit +15 pts.

- q New housing development built at headwaters of stream that feeds Lizard Park , swamp affected -10%

- q Nearby area is paved, allowing large quantities of water to flow into forested area at intervals. Forest habitat harmed - 6pts

- q Signs are put up in Lizard Park encouraging people to walk only on trails, all benefit +2 pts

- q All-terrain vehicles cause erosion of trails. Forest and swamp animals adversely affected - 8pts

- q Lightening strikes several large trees in forest of Lizard Park, reducing forest habitat -11pts

- q Weather conditions favor large numbers of insects in LP. +15pt

- q Hot and dry summer favors field lizards, not swamp and forest lizards +5pts

- q Cat and dog owners not allowed to bring pets to Lizard park +6pts.

- q Visitors playing hide and seek in the field during the summer, trample field plants -12pts

- q Fire started in forest and gets out of control 1/5 are killed

- q High school class does test of Lizard Park swamp and finds high levels of toxic chemicals - 10pts

- q High school class helps in cleanup of pollution in swamp +16pts

- q A good year for owls and hawks, many young -13pts

- q Earthworm population plummets due to strange chemical that runs into park from housing development nearby. -7pts

- q Strong rains flood most small animals in forest -10pts fills swamp with water +6pt

- q Conservation group takes over protection of LP , all benefit +12pts

- q Part of field catches fire when cigarette left unattended - 12 pts

- q Year of normal rain, all benefit + 2 points

- q Law requires dog and cat owners to have pets outside with leashes + 7points

- q Leash law changed so dogs and cats don't have to be on a leash while outside, all lizards affected - 7points

- q Group puts a baseball diamond in field habitat of LP -5pts

- q Sewage treatment plant built to reduce runoff from nearby housing area, all benefit +9pts

- q Fishing allowed in LP swamp, reducing fish population -5pts

- q Fishing no longer allowed in LP swamp, fish population rises +5pts

- q Local conservation club plants trees in LP to improve forest habitat +8pts

- q Conservation club has limited mowing to keep field treeless, +5 pts for field lizards, forest lizards - 1 pt

- q Poor seed crop in forest, small mammal numbers drop dramatically -8pts

- q Logging in forest reduces habitat significantly - 10pts

- q Introduced exotic lizards in Lizard Park bring disease to all native lizards - 10 pts

- q Pet trade trapping of lizards in Lizard park reduces all lizard numbers -8 pts

- q Fertilizer runoff from housing area kills fish in swamp/pond -10% of fisheaters

- q Factory dumps pollutants in stream feeding woods - 8 pts for all forest lizards

- q Local student put out alert on radio station to stop polluters of Lizard Park - all benefit 15 pts

- q Signage developed explaining need to keep park healthy. All benefit +2 pts

- q Global warming changes "typical" habitat in park -5 pts

q Late spring cold snap reduces food in field - 5 pts

q Local pet store collects lizards for sale in shop -10 pts