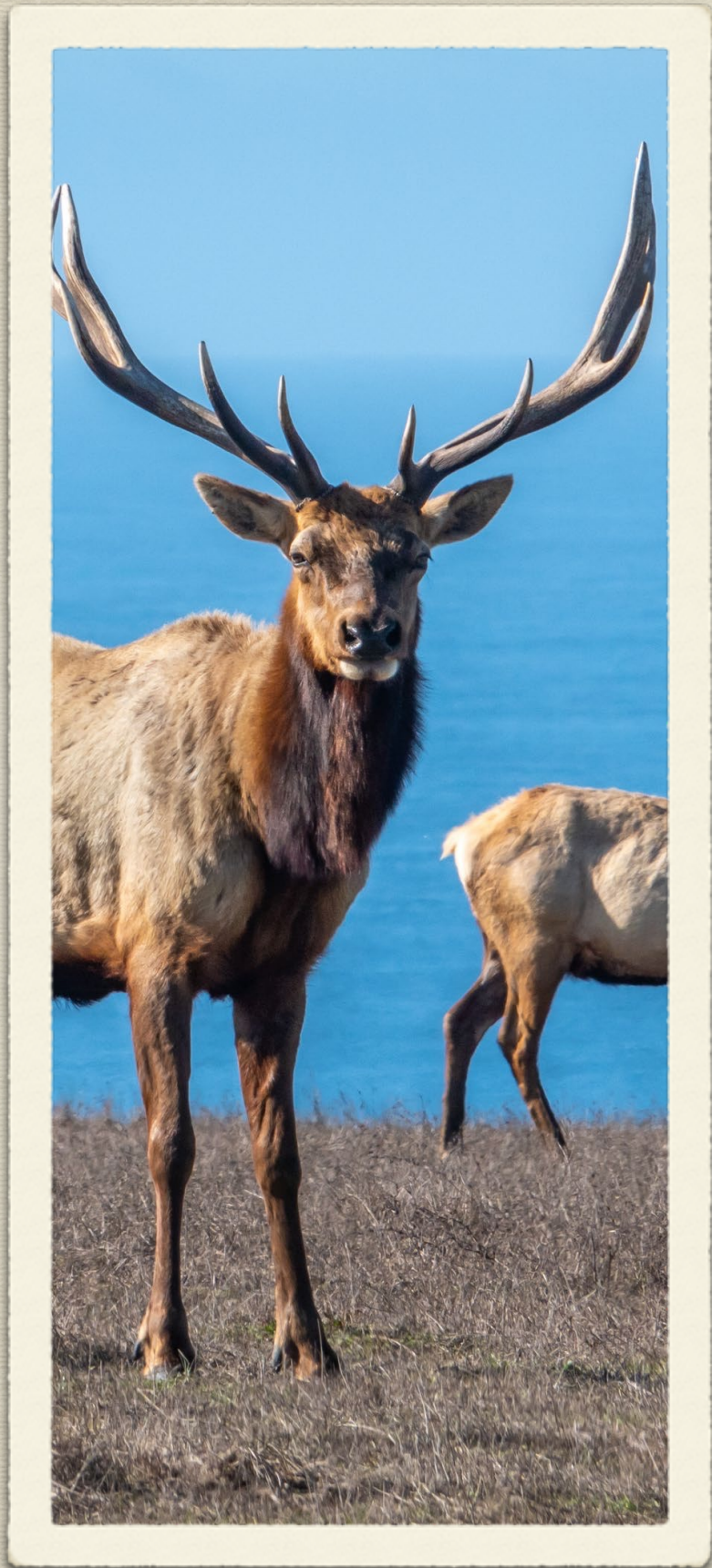


NATURE BOWL 2022

Coach Packet





Welcome Nature Bowl 2022 Coaches!

What is Nature Bowl?

Initiated in 1986, Nature Bowl is a free, fun, science-based team competition for students in third through sixth grade. Usually held in person in the springtime at a wide range of nature sites, student activities center on California ecology, natural history and conservation.

The program's purpose is to motivate students to integrate and appreciate science by connecting them firsthand to nature and conservation through a variety of activities.

Nature Bowl currently serves students and coaches in the Sacramento Valley, the Sacramento-San Joaquin Delta and the Sierra Nevada.

Nature Bowl 2022!

Due to the ongoing pandemic, Nature Bowl 2022 is a hybrid event with no semi-finals but with plenty of exciting activities for students—all with a large focus on teamwork and all reformatted for this hybrid version.

The five activities, each worth 20 points, are:

1. Environmercial
2. Team Problem Solving
3. Bell Ringers
4. Nature Relay
5. Nature Investigations

Environmercial

As a team:

- 1) Choose a topic from the "Issues" list provided below.
- 2) Narrow your topic. Focus on a local angle and research.
- 3) Brainstorm ideas for your advertisement.
- 4) Write a script.
- 5) Film one 60 second commercial.
- 6) Submit your team's Environmercial link to the Nature Bowl contest.

What should be clearly included in your advertisement:

- ◆ The issue--its causes and effects. Be specific. Be local.
- ◆ How is your community dealing with this issue?
- ◆ What practical solutions to this issue would you suggest? This could be a concrete solution invented by students and/or information on current efforts underway.

Issues List:

Air quality
Water quality
Habitat loss
Population growth
Recycling
Pollution
Endangered species
Consumer choices
Urban wildlife
Sustainability
Pollinators
Non-native species

Environmercial Judging Criteria:

Choice of Topic: Is it relevant? Is it regional or local? Is it important? Why did students choose it?

Thoroughness: Covers problem, impacts, solutions, depth of research, comprehension of materials.

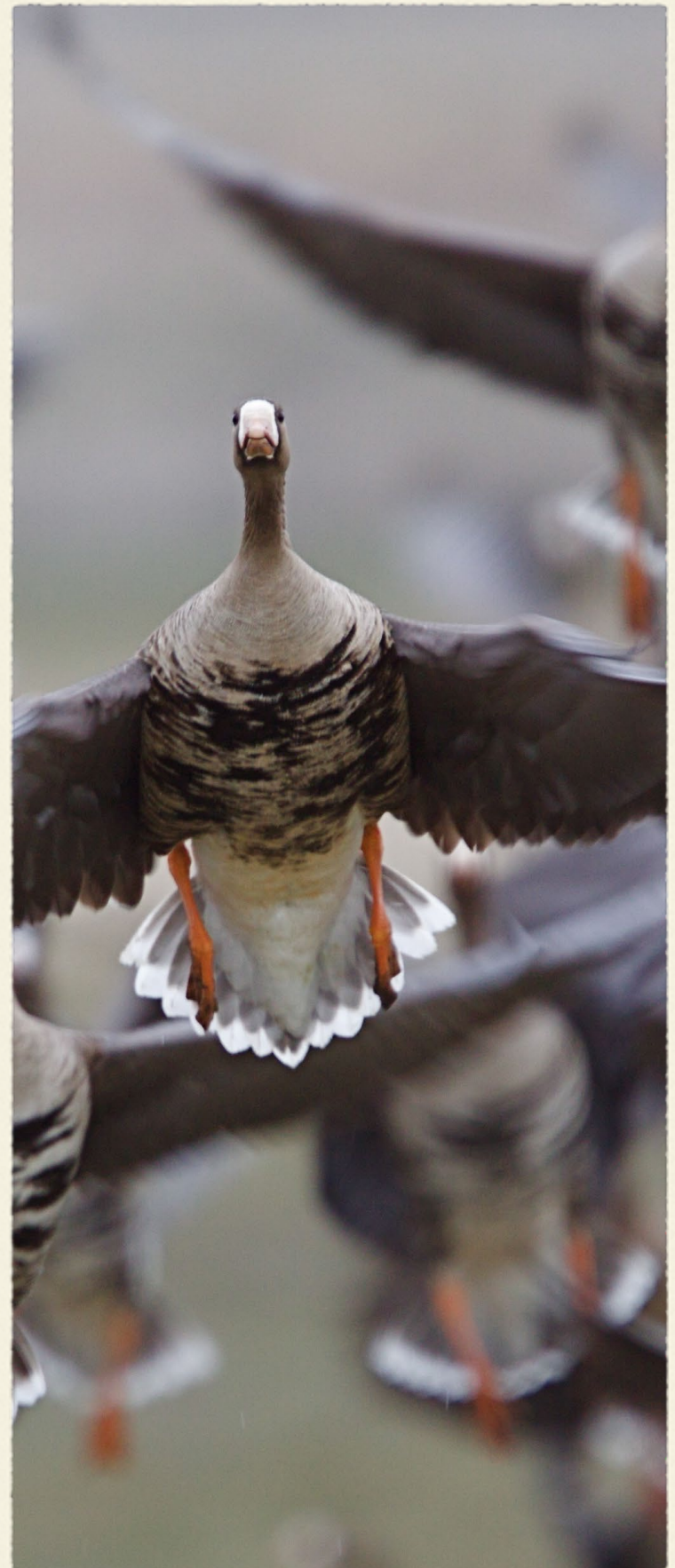
Creativity: Artistry, creative angle or approach, work was completed by students with minimal adult help.

Resources: Diverse, credible, mostly local or regionalized, includes different perspectives. Minimum of 3 resources for 3/4 grades, and minimum of 5 resources for 5/6 grades.

Overall Impact: Communication, grasp of subject, persuasiveness, energy/enthusiasm, took appropriate action to reduce problem (direct or indirect).

Sample Environmercial:

<https://www.youtube.com/watch?v=djnFZ7di7iA>



Team Problem Solving

As a team, students embark on a STEM design challenge to invent any *original* device, prototype or proactive solution to any negative impact of climate change. Your innovation will help humans reverse or slow the impacts of climate change, locally and /or globally.

Examine adaptations in wildlife and plants and/or in processes of nature to create a nature-inspired design. Use biomimicry and the STEM engineering design method to *create your innovation*. (See attached Biomimicry sheet for samples.)

Submit one-page summary of your work, research and innovation.

Team Problem Solving Judging Criteria:

Resources/learning:

Students sampled through nature to find adaptations. Students researched a variety of negative impacts of climate change as well any current methods or innovations of curving or solving those impacts.

Choice of innovation:

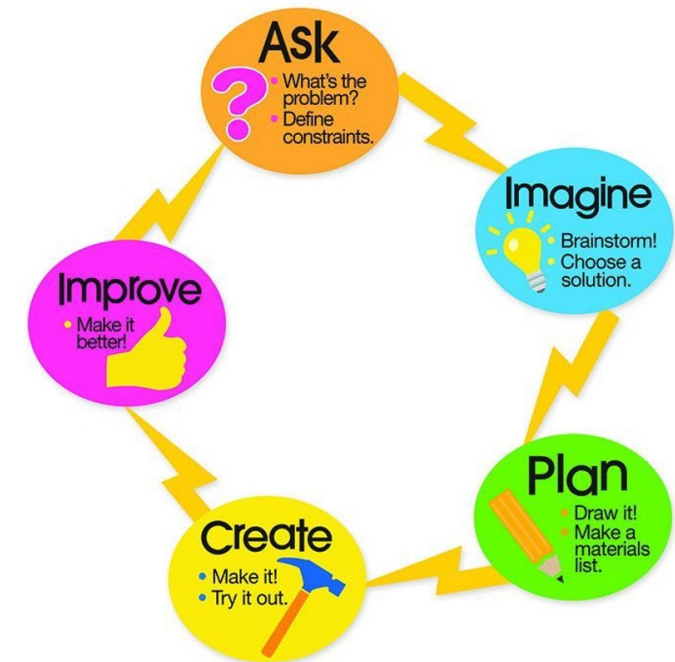
Your innovation is original and nature inspired. It is a *viable* solution to lessen any of the negative effects of climate change, locally and/or globally.

Design of innovation:

Students used Biomimicry and STEM engineering design method to approach and create innovation.

Teamwork:

Students worked as a team to create the innovation. Teams will identify who had which role(s) in the project.



Bell Ringers

In teams of 2-3, play a virtual game to test students' knowledge of nature words and concepts. There will be multiple versions of the game. Most of the answers are in the Nature Bowl 2022 Vocabulary, attached.

Sample questions for third/fourth grade:

1. Name one reason animals migrate. (climate, food, to live)
2. Name one animal species that migrates on the Pacific Flyway. (Tundra swan)
3. Wildlife needs four basic things to survive. Humans need these things too! What are they? (food, water, shelter, space)
4. Name two of the mountain ranges that border the Great Central Valley. (Sierra Nevada, Coast Range)
5. Name two natural resources and the reasons why we should conserve them.
6. Name a grassland mammal and one of its adaptations.
7. Name the California state tree, fish, flower, bird, etc.

Sample questions for fifth/sixth grade:

1. What is a biologist?
2. Name two renewable energy sources. (solar, wind, geothermal, hydro)
3. What is a major cause of air pollution in California? (automobile, wildfires)
4. Name two benefits and two problems of dams. (recreation, power, irrigation, flood protection; disrupts natural migrations, prevents sediment distribution, alters and constricts wild river)
5. Name an endangered or threatened species our region. Name two reasons it is at-risk.
6. What are two functions of feathers? (flight, warmth, camouflage)
7. Habitat loss is the most serious threat to our native plants and animals. Identify two other current threats to our native plants and animals. (pollution, poaching, invasive species, competition, human disturbance)

Bell Ringer Judging Criteria:

All team members played.

Average of students' scores for 4 games.



Nature Relay

As a team, venture into the wild to enjoy a self-directed field study at a Nature Bowl Partner site (see partners listed in Resources), or at any local nature area, by completing a scavenger hunt.

Students find, observe and record specific and general nature items in their field notes.

Students identify concepts of nature, such as a food web, while in the field. (See sample Scavenger Hunt, attached.)

Nature Relay Judging Criteria:

Students gathered nature information through direct observation in an outdoor field study.

Students fully completed nature data collection through a scavenger hunt.



Nature Investigations

As a team, compile your team's scavenger hunt findings. Use your field notes to draw conclusions, analyze, categorize and theorize about nature. Find any patterns and/or abnormalities.

Then, using the scientific method, propose any nature hypothesis that can be supported with your collected data. See attached Scientific Method sample.

Determine and define one additional scientific study you could implement to further support your hypothesis.

Nature Investigations Judging Criteria:

Students' data analyses and conclusions are concrete.

Students' hypothesis is realistic and supported by student data.

Student data is expanded by naming specifics.

Students propose an additional scientific study to prove their hypothesis.





General Information and Rules:

Coaches are requested to attend (or later view) the Coaches Workshop.

Each team is limited to no less than three students and no more than ten students.

Due to the virtual nature of this year's event, coaches are entrusted with proper and truthful administration of the activities.

Team competition starts March 1 and ends April 8.

All teams compete against each other, with no semi-finals occurring.

Nature Bowl Finals are scheduled for April 30, 2022 at Camp Pollock (if approved).

In each grade category, these teams will progress to the finals:

- 5 Top scoring teams
- 5 Best of each activity
- 5 Wildcards

Attachments:

- * Biomimicry
- * Wildlife Viewing Tips
- * Sample scavenger hunt
- * Sample for nature investigation and scientific method
- * Resources
- * Nature Bowl 2022 Vocabulary



What is Biomimicry?

Biomimicry means “imitation of the living.”

Plants and animals have had millions of years to develop innovative, efficient solutions--or adaptations--to the challenges of the living in the wild.

The biomimicry design approach takes inspiration from these natural selection solutions and translates them to human engineering to solve our own problems.

Examples of Biomimicry:

- * Velcro is inspired from plant seed burrs that stuck to an engineer’s pant leg and dog after taking a walk.
- * Down feather stuffed in winter coats and bed comforters keep humans insulated and warm, just as they do birds.
- * Whole house cooling fans are inspired by termite mounds, where these tiny insects drill holes near the top for ventilation to cool them down during the hot summer.
- * Wind turbine blades are fashioned after humpback whales’ pectoral fins. The ridges on the fins create an aerodynamic flow in water, and subsequently in air.
- * Non-shattering car windshields are a spider’s doing. Spider webs are one of the strongest designs in nature. The automotive industries copied their webbing pattern to create windshields that crack but do not shatter.

Wildlife Viewing Tips:

- Keep your pets at or inside home
- Sit down somewhere comfortable
- Avoid making too much noise
- Try to blend into your surroundings
- Be patient and respectful
- Use all your senses to listen and look for wildlife
- Stay a safe distance from and do not approach wildlife
- Avoid sensitive habitats, such as nests and dens
- Use binoculars and field guides
- Wildlife is most active at dawn and dusk
- Find edges of different habitats, or ecotones, where wildlife is most plentiful
- Don't forget to notice the micro-world of insects
- Enjoy yourself and be happy!



Scavenger Hunt sample

Find the following words and concepts in nature!

Find five of your own items.

Use detail when recording your findings.

Observer:

Date:

Place:

Weather:

Habitat type:

	WHAT	WHERE	WHY	FIELD NOTES
	Carnivore			
	Herbivore			
	Omnivore			
	Fauna			
	Flora			
	Food web			
	Diurnal			
	Nocturnal			
	Predator			
	Prey			
	Vertebrate			
	Invertebrate			
	Hazard			
	Territory			
	1.			
	2.			
	3.			
	4.			
	5.			

Nature Investigations and the Scientific Method:

Once your team completes the Nature Relay/Scavenger Hunt, gather and categorize everyone's nature findings. From those findings, brainstorm all possible hypotheses, then pick one.

Hypothesis sample: Songbirds prefer scrub habitat.

Supporting data: 9 of 10 songbirds observed during our nature investigations were in the thick medium-sized bushes, or scrub habitat.

Elaborate: Expand your inquiry by naming species, exact locations and any other specific details of your collected data, such as behavior, that supports your hypothesis.

Examples:

"House finch was singing happily in the willow."

"The birds picked ripe berries, then flew to scrub to eat."

"When a hawk neared, the birds dove to the bushes."

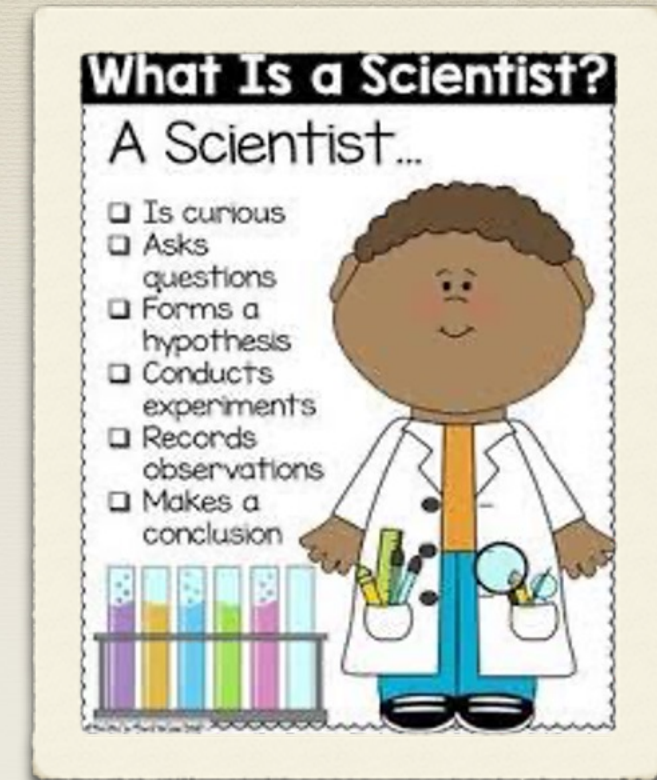
"We saw five different species of songbird in the scrub."

Develop: An additional study that would help you to prove your hypothesis.

Additional study sample: We hope to prove our hypothesis by setting up two wildlife viewing blinds, as not to disrupt normal bird behavior. One blind will be in the scrub habitat. The other on the grassland habitat.

In teams of two, we will be staking out these habitats to observe songbird use. We will record all species of songbird we see as well as what they are doing. We will observe the birds at different hours of the day, during different months of the year and during different types of weather.

After gathering all our data, we will be able to determine if indeed our hypothesis is true or false.



Scientific Method in Action

We use the scientific method in everyday life

Example:

You got in your car to drive up here and turned the key but the car wouldn't start (observation)

Hypothesis: There is something wrong with the car

Predictions: battery dead, ignition problem, out of gas

Test predictions: turn on headlights, check spark plug wires, dip stick in gas tank.

Analyze results: headlights work, strong ignition spark, no gas on dip stick-gas gauge reads half full

Draw conclusion: gauge inaccurate, out of gas

Resources

Nature Bowl partners:

American River Conservancy www.arconservancy.org

California Department of Fish and Wildlife www.wildlife.ca.gov

New Melones Lake www.usbr.gov/mp/ccao/newmelones/

Placer Nature Center placernaturecenter.org

Stone Lakes National Wildlife Refuge www.fws.gov/refuge/stone_lakes/

Sutter County Resource Conservation District
www.sutterrcd.specialdistrict.org

Yolo Basin Foundation yolobasin.org

Nature websites:

Biomimicry Institute <https://biomimicry.org/>

Ask Nature <http://asknature.org/>

California Academy of Sciences <https://www.calacademy.org>

Project Wild <https://www.projectwild.org>

Nature Bowl coordinator:

genelle.treaster@wildlife.ca.gov



Nature Bowl 2022

Vocabulary

Abiotic: Not alive, or not derived from living organisms.

Adaptation: Living organisms change over time to become best suited, or adapted, to their environment. These adaptations can be **structural**, **behavioral** or **physiological**.

Agriculture: Human practices of raising crops and/or livestock mainly for consumption by people or livestock. Many types of agricultural practices also provide habitat for wildlife, especially in areas where native habitats are missing.

Amphibian: Cold-blooded vertebrates. Adults breathe air with lungs and through moist skin and live on land and in water. Eggs laid in water, hatching into a gill breathing larval stage which develops into an adult.

Anadromous: Certain aquatic species, such as salmon and steelhead trout, that live in, and breathe, both freshwater and saltwater.

Aquatic: Growing, living in and/or associated with water.

Biodegradable: Materials that can decompose, or decay.

Biodiversity: The variety and abundance of different species of plants and animals. (Biological diversity)

Biology: The scientific study of life.

Biotic: Of, relating to life and/or by living organisms

Biotic Zone: Specific location of a specific community, or ecosystem, of inter-related life forms. Also called **Floralistic Province**. California has the most of any state.

Camouflage: An adaptation that enhances chances of survival for both predators and prey. Allows wildlife and plants to blend stealthy in their environment.

Carnivore: A meat eating life form.

Carrion: The body and flesh of a dead animal.

Carrying capacity: The maximum number of plants and animals that can be supported by a habitat or environment. The healthier the habitat, the higher number of species it can support. Healthy habitats occur when native plants and animals have all the food, water, shelter and space they need to survive.

Central Valley: Also called the Great Central Valley, it is the second largest valley on earth! Its low elevation between mountain ranges serves as the major drainage for most of California's rivers. This landscape includes a mosaic of native habitats as well as agriculture.

Chaparral: An unusual foothill habitat, or biotic zone, of the Sierra Nevada and Coastal Range. Mostly covered by scrub of entangled, evergreen bushes and few trees. With long dry summers and wet winters, plants here are adapted to fire and drought.

Climate Change: Refers to any significant change or pattern of change in the measures of Earth's climate. Climate includes temperature, precipitation, wind patterns, among others. The leading cause of climate change is the increased release of greenhouse gases, or **carbon dioxide**, in the Earth's atmosphere by burning fossil fuels.

Nature Bowl 2022

Vocabulary

Colony: Individual organisms of the same species living or breeding closely together, usually for the benefit of all, such as for a stronger defense.

Competition: The struggle between two or more plant or wildlife species for a specific common resource. Plants compete for sunlight, while animals compete for food.

Coniferous: Evergreen trees bearing cones full of seeds to reproduce.

Conservation: The responsible stewardship of environmental lands to protect, preserve and enhance natural ecosystems--while at the same time considering human needs and impacts. Land can be conserved while still allowing a careful amount of harvesting, including hunting and fishing, hiking and/or livestock grazing.

Consumers: Organisms that eat other organisms to get their energy. There are three types: Primary (herbivores), Secondary (omnivores) and Tertiary (carnivores).

Consumption: The using up of a resource, or the amount of resource used up.

Deciduous: Plants that shed their leaves and go dormant to survive extreme weather conditions.

Decomposition: The breaking down of dead organisms, so they can be used by plants. **Decomposers** are those invertebrates that help with this process.

Delta: An area where rivers meet and join. In California, the Sacramento-San Joaquin Delta is where the Sacramento and San Joaquin Rivers meet and drain into the Pacific Ocean through the San

Francisco Bay. This region hosts a mix of permanent habitats—riparian, marsh, river, grassland, agriculture and estuary, as well as several towns.

Desert: A geographical area of land with low precipitation, poor soil and adapted flora and fauna. In California, we have three types: High desert, Sonora and Mohave.

Development: When wild land is permanently converted to urban and agricultural land uses.

Diurnal: A life form active during the day.

Domestic: Wild animals (and plants) tamed and bred over time for human use. They are now dependent on humans for survival.

Ecosystem: A biological community of interacting, interdependent organisms and their physical environment.

Ecotone: The edge, or transitional zone, between two habitat types and frequented often by wildlife.

Endangered: A species of plant or animal in immediate danger of extinction throughout all, or a significant portion of, its current range. Other at-risk classifications are **Threatened** and **Species of Concern**.

Endemic: A life form occurring naturally, only in a certain geographic area on Earth.

Energy: The matter that drives all life processes, and the capacity of all life forms. Animals make energy from food and water. Plants use photosynthesis and root systems.

Nature Bowl 2022

Energy in the form of heat and electricity is created from power sources like solar, wind, biomass, hydro, geothermal and by burning fossil fuels, like coal. Energy sources are either renewable or nonrenewable.

Environment: The air, water, minerals, organisms and all other external factors surrounding and affecting a given organism at any time.

Erosion: The wearing away of soil or rock by water, wind or other natural and unnatural forces or processes.

Estuary: The calm, marshy bays where rivers flow into the sea. An important and rich habitat for fish and wildlife. Here, there is a mixing of saltwater and freshwater, called **brackish**.

Evergreen: Plants that do not lose their leaves annually.

Exoskeleton: Any hard, external supporting body structure of an invertebrate.

Extinction: The condition of having been removed from existence. An animal or plant is extinct, when it has vanished from Earth.

Fauna: Animal life.

Feral: Refers to a domesticated animal or plant that escapes, or is released, into the wild. These domesticated animals try to survive, but usually they don't survive long.

Fertilizer: A chemical or natural substance added to soil to improve its quality for plants' growth and yield. Natural fertilizers are made from composted manures and plants, from dying animals like salmon and/or extracted from minerals in the earth.

Vocabulary

Flora: Plant life.

Food Web: The transfer of food energy among plants and animals in an interconnected web-like manner.

Foothills: The lower hills of a mountain range, usually under 2000' elevation. Habitats include oak and pine woodland, grassland, savannah, riparian and chaparral.

Fossil Fuel: Fuel such as coal, oil or natural gas formed in the earth millions of years ago from plant and animal remains. Non-renewable energy resource.

Fungus: A plant-like organism, such as a mushroom, that gets energy and matter primarily from other dead organisms.

Game species: The legal designation for animals managed and hunted under the regulation of a government agency.

Geography: The study of the physical features of earth and its atmosphere, and of human activity there on.

Geology: The study of earth's physical structure and substance, its history and processes.

Grassland: A large open habitat covered with grasses and forbs. No trees. Can be flat or rolling.

Groundwater: Freshwater held underground in the soil, or in pores and crevices of rock. Humans pump it out by wells to supply water. Natural springs bring up and hold freshwater on the surface. Geological formations called **aquifers** also hold and contain groundwater.

Nature Bowl 2022

Vocabulary

Habitat: A defined place, or type of place, where an organism lives. Meets plants and wildlife essential needs by providing suitable **food, water, shelter and space.**

Harvest: The process of catching and killing fish and wildlife for human food.

Hatchery: A facility that raises fish, usually from eggs.

Hazardous Waste: A waste product that's potentially dangerous or harmful to human health, wildlife and/or the environment. **Toxic wastes** are harmful or fatal when ingested or absorbed.

Hazard (Wildlife)—Any item or obstacle that can injure or kill wildlife through physical contact, or through absorption and ingestion. An example is power lines.

Herbicide: A chemical substance used to kill plants. Toxic.

Herbivore: A plant-eating wild animal.

Hibernation: The act of passing the winter (or a portion of it) in a deep sleep or resting state. A physiological adaptation for survival.

Hydroelectric (Hydro): Electric power converted from water flows. Dams generate hydroelectric power.

Inorganic: Not composed of organic, or living, matter.

Invasive species: an introduced, non-native plant or animal whose population growth threatens to wipe out native plant and animal populations.

Invertebrate: Animal with no true backbone.

Lichen: A simple, slow growing plant-like organism made up of an alga and a fungus that grow in **sympiotic** association on a solid surface.

Lifecycle: A series of growth stages in the lifespan of every living organism.

Mammal: A warm-blooded vertebrate animal with hair or fur, live birth and milk for young.

Marine: Of, or relating to, the sea or ocean.

Marsh: A permanent freshwater wetland with few trees and many aquatic plants, like tule.

Metamorphosis: A series of changes in shape and function that certain wildlife go through: egg, larva, pupa, adult. Caterpillars become butterflies, and tadpoles become frogs.

Microhabitat: A smaller habitat within a larger one, in which environmental conditions differ from those in the larger one.

Microorganism: A very small life form that can be seen by humans only with the aid of a microscope.

Migration: The seasonal journey of groups of wildlife from one region to another--for food, water, shelter, space, or for breeding. Most of California's migrating birds travel up and down the **Pacific Flyway**, a continental highway in the sky for birds. Other species seasonally travel up and down the mountains to different elevations, called **altitudinal migration**. Fish travel back to their native rivers and streams to **spawn**, or breed.

Nature Bowl 2022

Vocabulary

Native: Refers to wildlife and plants that naturally occur in an area. Native species are fully adapted to the environment.

Natural Resource: An area appreciated for its beauty and recreational value, like a river, lake or mountain. Also used to describe materials, such as water, gold, energy, wildlife and topsoil--that humans use from natural systems.

Niche: The exact ecological role of an organism within a community of organisms.

Nocturnal: Active during the night.

Organic: Composed of matter from plants and/or animals.

Omnivore: An animal with a varied diet of both plants and animals.

Organism: A living thing, such as a plant, animal or other life form that can grow and reproduce.

Parasite: An organism which feeds upon the tissues or fluids of another animal, or host. It is harmful to the host, but generally does not kill host, as that would destroy its food supply.

Pesticide: A chemical agent used to kill any organism people do not want around—insects and rodents, for example. Toxic to pests and the environment.

Photosynthesis: The amazing process by which green plants make simple sugars, or food, in the presence of sunlight, water and carbon dioxide. Plants are the only organisms directly utilizing the energy of the sun to make their own food.

Poaching: The act of unlawfully and recklessly killing wildlife and/or destroying nature. **Poacher** is the person breaking the law by not being in compliance with state hunting, fishing and/or ecological regulations.

Pollination: The transfer of pollen within a flower, or between flowers. This fertilizes the flower, necessary to make a seed. Pollen is carried by wind, water, insects, hummingbirds and bats.

Pollution: Harmful substances deposited on the landscape, leading to a state of dirtiness, impurity, unhealthiness, hazards and/or toxins.

Population Density: The actual, or estimated, number of a particular type of organism living in a defined area.

Predator: An animal that seeks, kills and eats other animals. The act of seeking and killing live prey is **predation**.

Prey: Animals killed and eaten by other animals.

Preservation: When nature is protected and maintained in its original natural form. Its natural resources and processes are not interrupted. Any public use is passive.

Producers: Green plants that make their own food using the sun's energy and photosynthesis.

Product: Something made from natural resources. Can be renewable or nonrenewable.

Nature Bowl 2022

Raptor: A bird of prey. Carnivorous birds with sharp bills and talons. Adapted for hunting and/or scavenging prey animals.

Recycle: The process of transforming waste materials back to products suitable for reuse.

Refuge: An area of land, or of land and water, set aside to preserve and protect native plant and wildlife species, both common and rare.

Reptile: A cold-blooded, air-breathing vertebrate. Scales or bony plates cover the skin. True claws, if there are legs, occur on the toes, and reproducing is in soft-shelled, leathery eggs.

Renewable Resource: A plant, animal, or substance that can renew and sustain itself over time, like trees and soil.

Reproduction: The process by which plants or animals create offspring, or new organisms of themselves.

Restoration: The process of returning an area to its historic natural condition, using native plants and habitats to attract native wildlife.

Riparian: Of, pertaining to, along, or associated with freshwater rivers and streams.

Runoff: Water flow, from rain or snow, that is draining on the surface of the land.

Savanna: A habitat with widely spaced mature trees, usually adjacent to grassland. Prized by nesting raptors and all sorts of wildlife.

Vocabulary

Scat: Scientific word for feces, or poop.

Scavenger: An animal that sustains itself by eating dead organisms. Most carnivores and omnivores are opportunist scavengers, while turkey vultures are full-time scavengers.

Scrub: Midsized bushes and trees. Also, the middle layer of riparian habitat. Highly valuable to birds and wildlife.

Science: The fact-based approach to discovering, and figuring out, what things are--on earth and in the universe--and how they work.

Scientific Method: The systematic procedure by which scientists observe, measure, experiment, formulate, test, modify and validate their discoveries.

Sierra Nevada Mountains: The big granite mountain range in northern and central California. The range boasts many habitat types, changing as elevation and precipitation rises.

Silt: The dirty sediment that suspends in stagnant water, and/or is carried in moving water. Too much is harmful to aquatic life.

Solar: Of, or related to, the sun.

Stewardship: The job of taking care of a place, responsibly.

Terrestrial: Of, or referring to, living or growing on dry land.

Nature Bowl 2022

Vocabulary

Territory: The certain geographical area belonging to, and defended by, an animal or a group of animals against others of the same sex or species.

Vernal Pool: A rare seasonal wetland habitat occurring on grassland, where an impenetrable layer of soil ponds rainwater in winter and spring. Highly adapted plant and animal species.

Vertebrate: An animal with a backbone.

Water cycle: Earth's continuous circulation of water from oceans to air to land and back to oceans. The cycle involves **condensation, evaporation, run-off, precipitation** and **transpiration**.

Waterbirds: Bird species that frequent lakes, rivers, oceans and other wetlands to feed, roost and breed.

Weathering: The process by which weather breaks down rocks into smaller and smaller pieces that stay in the same location.

Wetland: Areas that are flooded or saturated by surface water for a sufficient time. Supports vegetation adapted for life in wet soil conditions. Wetlands generally include marshes, vernal pools, rivers, streams and similar areas.

Wildlife: Animals and other life forms that are not tamed or domesticated by humans. Adapted for life in the wild.

Woodland: A multi-layered habitat of closed canopy trees, shrub, vines and grasses. Supports a complex community of plants and animals. Also called **forest**.

