



SCOUT ISLAND

OUTDOOR EDUCATION CENTER



FRESNO COUNTY SUPERINTENDENT OF SCHOOLS

2026-2027 Learning Activities

All Learning Activities are phenomenon-based and **support NGSS** by offering local, environmentally based, real-life science and engineering opportunities.

Nearly all activities support the Environmental Principles and Concepts and partially provide the annual 40 hours of outdoor environmental education recommended by the California's **Blue Print for Environmental Literacy**, under Sections 71302 and 51227.3 of the Ed Code.

** (The Standards listed are not taught to mastery. General ideas, concepts, practices and principles are presented.)

Archery (4th – 12th grades) **Minimum age: 4th grade.**

Recommended companion activities: *Atlatl Challenge, C.I.T., Kayaking, Surviving Scout Island.*

Your students will be guided through the exciting discipline of Archery. Students will learn the basics of archery equipment, shooting technique, and terminology. Safety, trust, and leadership qualities are emphasized. This activity fosters a foundation of mindfulness, mental focus, fine motor control, patience, and process over result.

Disciplinary Core Ideas			Crosscutting Concepts	California State Standards	
4-5	6-8	9-12	- Cause and Effect - Patterns - Energy and Matter	Physical Education	9 th – 12 th Grades:
PS2.A	PS2.A	PS2.A		4 th Grade 3.2, 3.7, 4.15, 5.5, 5.6	Course 1: 1.1, 1.2, 1.12, 3.1, 3.9
PS2.B	PS2.B	PS2.B		5 th Grade: 3.7, 4.13	Course 2: 3.1, 3.8
PS3.B	PS3.B	PS3.B		6 th Grade 1.4, 2.3, 2.8, 5.2,	Course 3A: 1.1, 1.2, 1.4, 1.5, 2.1, 3.4, 3.7
PS3.C	PS3.C	PS3.C		7 th Grade 1.6, 5.1, 5.2, 5.4, 5.5	Course 3C: 1.1, 1.2, 1.4, 1.5, 3.6, 3.9
				8 th Grade 2.1, 2.4, 3.4, 5.2	Course 4C: 1.1, 1.4, 3.3

Atlatl Challenge: Ancient Spear Throwing (3rd – 8th grades) **Minimum age: 3rd grade.**

Recommended companion activities: *Archery, Making Cordage, Surviving Scout Island, Yokuts and Beyond.*

The atlatl (at-lat-uhl) is a prehistoric weapon or “spear thrower” used by Indigenous cultures world-wide. Its development used leverage to increase weapon velocity and raise hunting proficiency. Evidence of atlatl use dates back at least 21,000 years. In this hands-on lesson, students learn how the atlatl is designed, its purpose, and the physics (forces, motion, and energy) behind its function. Students will have an opportunity to practice spear-throwing with an atlatl; to discover the mechanical advantage it provided indigenous hunters.

Disciplinary Core Ideas		Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts	California State Standards
3-5 ESSA.3 PS2.A PS2.B PS3.B PS3.C	6-8 PS2.A PS3.A PS3.B PS3.C	• Cause and Effect • Structure and Function • Energy and Matter	• Asking Questions and Defining Problems • Developing and Using Models • Planning and Carrying Out Investigations	Principle 1-A	History-Social Science 3.2.2 4.1.1 5.1.1 6.1.1

Bird Beaks & Feet (K – 8th grades)

Recommended companion activities: *Birds of Prey, Fur, Feathers, and Scales, Pacific Flyway Adventure.*

The unique adaptations that provide birds with the ability to fly and to occupy many diverse niches are illustrated through the hands-on manipulation of tools representing beaks. Structure-function relationships are highlighted with regards to local food webs and feeding styles. Subject focus is on local bird species. Feet are introduced, as time permits.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.A,C LS4.C,D	3-5 LS1.A,C LS2.A LS4.C,D	6-8 LS1.A LS2.A LS4.C	• Patterns • Stability and Change • Structure and Function	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions	Principle 1 - A, B Principle 2 - C, D Principle 4 - B, C Principle 5 - B

Birds of Prey (K – 12th grades)

Recommended companion activities: *Bird Beaks & Feet, Fur, Feathers, and Scales, Pacific Flyway Adventure.*

A local Master Falconer presents live birds of prey, highlighting adaptations for flight, predation, camouflage, behavior, and survival. Food webs that include these local predators are the focus. This presentation allows your students to explore the world of these raptors in an up-close and non-threatening environment.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.A, C,D LS2.A LS4.D ESS3.C	3-5 LS1.A, C,D LS2.A LS4.C LS4.D ESS3.C	6-8 LS1.A, C,D LS2.A LS4.C	9-12 LS1.A, LS2.A	• Scale, Proportion and Quantity • Energy and Matter • Flows, Cycles and Conservation • Structure and Function Patterns	• Asking Questions and Defining Problems • Planning and Carrying Out Investigations	Principle 1 - A, B Principle 2 - C, D Principle 4 - B Principle 5 - A, B

Confidence, Initiative, and Teamwork (CIT) (2nd – 8th grades)

Recommended companion activities: *Archery, Kayaking, Surviving Scout Island.*

This activity is adapted from the "Pursue Victory with Honor" program associated with the acclaimed "Character Counts". C.I.T. traits are accomplished through teacher-led discussions and hands-on activities that provide teachable moments. Qualities of self-confidence, initiative, teamwork, and leadership are emphasized. The activities included are tailored to meet the needs of your student's grade level.

California State Standards	
Physical Education (2-8)	5 th Grade: 5.3-5.7
2 nd Grade: 5.1 -5.7	6 th Grade: 5.1, 5.2, 5.4
3 rd Grade: 5.3-5.6	7 th Grade: 5.1-5.5
4 th Grade: 5.3-5.6	8 th Grade: 5.1, 5.2, 5.4, 5.5, 5.6, 5.7

Decomposition Mission (K – 5th grades)

Recommended companion activities: The Living Pizza Garden, Web of Life.

Adapted from Lawrence Hall of Science, students will study the process of decomposition through exploration and discussion. Students will learn the difference between chemical and physical decomposition and search for evidence of decomposers. Skills are developed in classifying the various types of decomposers observed and identifying the role that decomposers play in the cycling of matter within ecosystems.

Disciplinary Core Ideas		Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.C LS2.A	3-5 LS1.A LS3.B LS4.B, D	• Cause and Effect • Stability and Change • System and System Models	• Asking Questions and Defining Problems • Developing and Using Models	Principle 1 - B, C Principle 3 - A, B, C

Draw the River (K – 5th grades)

Recommended companion activities: Salmon Art, The Incredible Water Journey.

Using colored pencils students create an environmental art piece. Students are exposed to basic art vocabulary and techniques, learning a new way to “see” the natural environment. The components of a natural habitat (food, water, shelter) are discussed. Focus is on local plant and animal species.

Disciplinary Core Ideas		Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts	California Art Standards
K-2 LS1.A LS3.B LS4.D	3-5 LS1.A LS3.B LS4.B, D	• Structure and Function	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions	Principle 1	2 nd Grade: 1.3, 2.3 3 rd Grade: 1.3, 1.5, 2.3 4 th Grade: 1.5 5 th Grade: 2.1 6 th Grade: 2.1, 2.3, 2.4 7 th Grade: 2.1 9 th - 12 th Grades: 2.1, 2.4, advanced: 2.1

Fur, Feathers, and Scales (K – 6th grades)

Recommended companion activities: Bird Beaks & Feet, Paws & Jaws, Predator Pursuit.

In this activity, students investigate fur, scales, and feathers through hands-on exploration of pelt samples, reptile skins, and real feather samples to learn about thermoregulation adaptations. Students will engage in activities that may include using field guides to answer questions, write and draw “field notes”, and/or document characteristics identified in these local animals.

Disciplinary Core Ideas		Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.A LS4.D	3-5 LS1.A LS4.C LS4.D	• Cause and Effect • Patterns • Systems and System Models	• Asking Questions and Defining Problems	Principle 1 - A, B Principle 2 - C

Gold Rush (3rd – 12th grades)

Recommended companion activities: Atlatl Challenge, Pony Express, Yokuts and Beyond.

Discover California's rich past by learning about the California Gold Rush. Learn the importance of the gold rush in bringing thousands of immigrants to California and it's role in California's admission as the 31st state in the union. Learn how and when gold was discovered, and the different gold mining practices. Learn about supply and demand of goods and services during the early days of the gold rush.

Disciplinary Core Ideas				Crosscutting Concepts	Environmental Principles and Concepts	California State Standards
K-2 ESS3.C	3-5 ESS3.A ESS3.C	6-8 ESS3.A ESS3.C	9-12 ESS3.A ESS3.C	• Cause and Effect • Patterns	Principle 2 - B, C, D Principle 4 - A, C	History-Social Science 4 th Grade: 4.1.5, 4.3.2, 4.3.3, 4.4.2

I Spy (K – 2nd grades) Maximum age: 2nd grade.**Recommended companion activities: A great addition to any grouping.**

Using the five senses, primary aged students locate and collect small items that represent the plants and animals of the San Joaquin River community. Students will work in small groups. Throughout the activity, students will learn about different types of plants and animals in riparian habitats. This activity is a primary-age substitute for Scavenger Hunt.

Disciplinary Core Ideas		Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.D LS4.D	3-5 LS1.D LS4.C, D	- Patterns - Structure and Function - System and System Models	- Asking Questions and Defining Problems - Constructing Explanations and Designing Solutions - Planning and Carrying Out Investigations	Principle 1 - A Principle 2 - C

Kayaking (4th – 12th grades) Minimum age: 4th grade.**Recommended companion activities: Archery, C.I.T., Surviving Scout Island.**

Participants are instructed in basic kayaking skills, water safety, teamwork, and communication. After kayaking and safety orientation, participants will practice paddling skills and techniques on the river. Participation in the kayak program can foster water safety knowledge, land stewardship practices, and an appreciation of nature.

Disciplinary Core Ideas			Crosscutting Concepts	California State Standards	
4-5 ESS2.C ESS3.A ESS3.C LS4.D	6-8 ESS2.C ESS3.A ESS3.C LS4.D	9-12 ESS2.C ESS3.A ESS3.C LS4.D	- Cause and Effect - Patterns	Physical Education 4 th Grade 3.1, 3.2, 3.6, 3.7, 5.6 5 th Grade: 3.1, 3.7, 5.5 6 th Grade 5.1, 5.3, 5.4 7 th Grade 1.3, 1.4, 1.6, 5.1, 5.4, 5.5 8 th Grade 3.6, 5.2, 5.5, 5.6	9 th -12 th Grades Course 1: 1.1.,1.7, 1.10, 3.1, 3.9 Course 2: 3.1, 3.8 Course 3A: 1.1, 1.2, 1.4, 1.5, 2.1, 3.4, 3.7 Course 3B: 3.10, 3.11 Course 3C: 3.6, 3.9 Course 3E: 1.1-1.7, 3.7, 3.8, 3.10 Course 4A: 1.4, 3.3

Macroinvertebrates (4th – 12th grades)

Recommended companion activities: *Draw the River, Water Quality, Watershed Models.*

Using macroinvertebrates as biological indicators, students determine the health and water quality of the San Joaquin River. Picture keys assist students in identifying and classifying local macroinvertebrates collected from the river. Analysis involves collecting class data and sorting samples to determine levels of pollution tolerance.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS2.C ESS3.C LS1.A, C, D LS2.A LS4.D	3-5 ESS2.C ESS3.C LS1.A, C, D LS2.A, C LS4.C, D	6-8 ESS3.C LS1.A, C, D LS2.A, C LS4.C, D	9-12 LS2.C ESS3.C	• Patterns • Stability and Change • Structure and Function • Systems and System Models	• Asking Questions and Defining Problems • Engaging in Argument from Evidence • Obtaining, Evaluating, and Communicating Information • Planning and Carrying Out Investigations • Using Mathematics and Computational Thinking	Principle 2 - A, B, C Principle 3 – C Principle 4 - B

Making Cordage (K – 5th grades)

Recommended companion activities: *Atlatl Challenge, Surviving Scout Island, Yokuts and Beyond.*

In their study of experimental archaeology, students will make cordage and explore a skill used by prehistoric people in everyday life. Students will discover the time and materials resources needed in making cordage. Students are introduced to “How the Mono Tied their World Together”, briefly discussing the importance of natural resources to the Mono and their prehistoric ancestors. Students will make a cordage bracelet to take home.

Disciplinary Core Ideas		Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts	California State Standards
K-2 ESS3.A	3-5 ESS3.A	• Scale • Proportion and Quantity	• Asking Questions • Constructing Explanations	Principle 1 - A, B Principle 2 – B, C Principle 3 – A, B Principle 4 – A, B	<i>History-Social Science</i> 2.4.1, 3.1.2, 3.2.2, 4.2.1 <i>Math</i> K-5 th Grade Reason Abstractly and Quantitatively 4 th Grade 4.MD 5 th Grade 5.MD

Marvelous Minerals (K – 5th grades)

Recommended companion activities: *Gold Rush, Rock On!, The Living Pizza Garden.*

Students explore the marvelous world of minerals through a series of hands-on activities. Using an array of mineral samples, students work in teams and rotate through investigations of minerals' physical properties, including color, crystal shape, hardness (Mohs scale), magnetism, density, heft, luster, streak, taste and odor.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
3-5 ESS2.C ESS3.A, C LS4.D	6-8 ESS2.C ESS3.A, C LS4.D	9-12 ESS2.C ESS3.A, C LS4.D	• Patterns • Structure and Function • Energy and Matter • Stability and Change • Systems and System Models	• Asking Questions • Constructing Explanations	Principle 1 - A, B Principle 2 - B, C Principle 4 - A Principle 5 - A

Minerals, Rocks & Fossils (3rd – 12th grades)

Recommended companion activities: *Gold Rush, Rock On!.*

Students pretend they have just returned from a geological expedition. Their job is to identify and describe the samples they have collected. Working in small groups, they will move through several activities where they will investigate the characteristics of various minerals, rocks and fossil samples. They will co-operatively arrive at their results and record their findings in a Geologic Lab Journal.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
3-5 ESS2.C ESS3.A, C LS4.D	6-8 ESS2.C ESS3.A, C LS4.D	9-12 ESS2.C ESS3.A, C LS4.D	• Energy and Matter • Patterns • Stability and Change • Systems and System Models	• Asking Questions and Defining Problems • Analyzing and Interpreting Data	Principle 1 - A Principle 4 - A Principle 5 - A

Nature Walk (K – 12th grades)

Recommended companion activities: *A great addition to any grouping.*

Students will stroll along the San Joaquin River discovering local riparian plants and animals. Identification of wildlife and native plants using the students' five senses is introduced. Invasive plant species and adaptations specific to survival, including the Native American uses of locally found plants and animals, are the focus of this guided walk. This activity is for all ages.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS2.C, E ESS3.A, C LS1.A, C	3-5 ESS2.A, B ESS3.A, C LS1.A LS2.C	6-8 ESS2.C, E ESS3.A, C LS1.A, C LS2.C	9-12 ESS2.C ESS3.A, C LS2.C	• Patterns • Stability and Change • Structure and Function • Systems and System Models	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions	Principle 1 - A, B, C Principle 2 - C, D Principle 5 - A, B

Pacific Flyway Adventure (K – 8th grades)

Recommended companion activities: *Birds of Prey, Bird Beaks & Feet, Fur, Feathers, and Scales.*

This activity is a fun-filled field game, adapted from *Project Wild*. Students simulate “migrating birds” traveling between nesting and wintering habitats. Along their journeys they experience some of the threats that may affect the species' survival. Migratory flyways and local bird migrations are highlighted with emphasis on the birds in our Pacific Flyway and our local wetland areas. Students may graph the results to discover fluctuations in population and the correlation to wildlife threats.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS3.C LS4.D	3-5 ESS3.C LS2.C LS4.C, D	6-8 ESS3.C LS2.C LS4.B, C, D	• Cause and Effect • Stability and Change	• Developing and Using Models • Using Mathematics and Computational Thinking	Principle 2 - A, B, C

Paws and Jaws (K – 8th grades)

Recommended companion activities: Bird Beaks & Feet, Fur, Feathers, and Scales, Predator Pursuit, Web of Life.

The adaptations that allow mammals to be successful on land and water are explained through the hands-on exploration of replica skulls, teeth, and feet. Adaptations are modeled in ways that highlight predator-prey relationships, food web placement, and feeding types (carnivore, herbivore and omnivore). Local animal specimens are the focus of this activity.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.A LS1.D LS4.D	3-5 LS1.A LS1.D LS4.C	6-8 LS1.D	• Cause and Effect • Patterns • Structure and Function	• Asking Questions and Defining • Engaging in Argument from Evidence • Obtaining, Evaluating, and Communicating Information • Planning and Carrying Out Investigations	Principle 2 - C

Pony Express (3rd – 5th grades)

Recommended companion activities: Atlatl Challenge, Gold Rush, Yokuts and Beyond.

Ride along the Pony Express! Did you know the Pony Express lasted only eighteen months from April 1860 until October 1861? And the distance traveled by the Pony Express spanned more than two thousand miles from St. Joseph, Missouri to Sacramento, California. Students will explore the history of the Pony Express route and its important role played in mail delivery to and from the west, before the establishment of the railroads. Students will race to simulate strategies used along the Pony Express route.

California State Standards
History-Social Science 3.1.2, 3.2.2, 4.2.1

Predator Pursuit (3rd – 8th grades)

Recommended companion activities: *Birds of Prey, Paws & Jaws, Web of Life.*

Students will play an active game of freeze tag while learning about predator and prey relationships. Our instructors will explain the importance of the relationship between predators and prey and the environment they live in. Students will discover how the interdependence of predators and prey can limit wildlife populations. (Adapted from Project Wild)

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
3-5 ESS2.C ESS3.A, C LS2.C, D	6-8 ESS2.C ESS3.A, C LS2.C	9-12 LS2.D LS4.C, D	• Cause and Effect • Patterns • Stability and Change • System and System Models	• Asking Questions and Defining • Developing and Using Models	Principle 3 - A, C Principle 4 - A, B, C

Reading by the River (K – 8th grades)

Recommended companion activities: *Draw the River, Macroinvertebrates, Pacific Flyway Adventure, Salmon Art.*

Your students are guided through a selection of environmental-based literature to generate a discussion of stewardship and personal responsibility to their local habitats. The selections focus on aspects of river plants and animals. This activity is intended to increase reading skills and build awareness of our common waterways and local lands.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS2.A ESS3.A	3-5 ESS2.A ESS3.A	6-8 ESS1.C ESS2.A ESS3.A	• Patterns • Structure and Function	• Asking Questions and Defining • Constructing Explanations and Designing Solutions	Principle 1 - A, B

Rock-On! (3rd – 12th grades)

Recommended companion activities: Gold Rush, Minerals, Rocks, and Fossils.

Learn about rock cycles! Students examine different types of rocks and Coast Range fossils, explore global and local plate tectonics, and study the processes of erosion. This activity emphasizes California's diverse geology, mountain building, volcanic activity, and glaciations. Students will explore the San Joaquin riverbed to examine rocks for their origins and types.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
3-5 ESS2.C ESS3.A, C LS4.D	6-8 ESS2.C ESS3.A, C LS4.D	9-12 ESS2.C ESS3.A, C LS4.D	• Cause and Effect • Patterns • Stability and Change	• Asking Questions and Defining	Principle 1 - A Principle 4 - A Principle 5 - A

Salmon Art (K – 8th grades)

Recommended companion activities: Draw the River, Macroinvertebrates, Wild River Dash, Water Quality.

Take a hands-on approach to learning about our native salmon species and the ancient Japanese art of Gyotaku! The life cycle, historic importance, and the current relevance of the Pacific Salmon to the San Joaquin River are explained. Students enrich their knowledge base by using Salmonid models to create colorful artistic fish prints in the style of Japanese Gyotaku images. Students will take home their artwork to share with friends and family.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts	California State Standards
K-2 ESS3.C LS1.A, B	3-5 ESS3.C LS1.A, B	6-8 ESS3.C, D LS1.D	• Structure • Function	• Developing and Using Models	Principle 1 - A, B, C Principle 2 - A, B, C	History-Social Science 3.1.2, 3.2.2, 4.2.1

Scavenger Hunt (3rd – 5th grades)

Recommended companion activities: A great addition to any grouping.

Students work in groups to locate and identify various plants and animals at Scout Island. Using a multi-sensory approach to identify clues and evidence in the environment, students gain a broader concept of riparian habitats while exploring their environment, both living and non-living. This activity is an intermediate-age substitute for I Spy.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS4.D	3-5 ESS2.C ESS3.A, C LS4.D	6-8 ESS2.C ESS3.A, C LS4.D	9-12 LS4.D	• Patterns • Structure and Function • Systems and System Models	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions • Planning and Carrying Out Investigations	Principle 1 - A

Suitcase for Survival: Illegal Wildlife Trade and Endangered Species (4th – 12th grades)

Recommended companion activities: Fur, Feathers, and Scales, Pacific Flyway Adventure, Wild River Dash.

Using wildlife artifacts, products and parts confiscated by the U.S. Fish and Wildlife Agency, this national program raises awareness about wildlife trade and the loss of biodiversity. This presentation addresses the practices causing many species to become endangered and/or threatened and focuses specifically on the uncontrolled illegal trade of wild plants and animals. Students will gain an understanding of why biodiversity is important and how their actions can contribute to biodiversity conservation. Participants may handle elephant tusks, sea turtle items, python skins, leopard pelts, and more.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
4-5 ESS3.C LS2.C	6-8 ESS3.C LS2.C	9-12 ESS3.C LS2.C	• Cause and Effect • Patterns • Systems and System Models	• Asking Questions and Defining	Principle 1 - C Principle 2 - A, B, C Principle 3 - C Principle 4 - A, B, C Principle 5 - A, B

Surviving Scout Island (3rd – 12th grades)

Recommended companion activities: *Archery, Atlatl Challenge, C.I.T., Kayaking.*

For students to survive, they must work together to move through a series of challenges. Every decision they make matters—because out here, survival depends on your team. Your students will embark upon an adventure where they will learn to demonstrate teamwork, collaboration, communication, trust-building, and critical thinking as they navigate through physical and mental challenges to “Survive Scout Island”!

Disciplinary Core Ideas			Cross Cutting Concept	Science and Engineering Practices	Environmental Principles and Concepts
3-5 LS2.D LS4.C ESS2.C ETS1.B ETS1.C PS3.B	6-8 LS2.D ESS2.C ESS3.B ETS1.B ETS1.C PS3.B	9-12 LS2.D ESS2.C ETS1.C PS3.B	• Systems and System Models • Patterns • Cause and Effect • Energy and Matter	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions • Obtaining, Evaluating, and Communicating Information	Principle 1 - C Principle 2 - A, B, C Principle 3 – B, C Principle 4 - A, B, C Principle 5 - A

The Incredible Water Journey (K – 8th grades)

Recommended companion activities: *Draw the River, Water Quality, Watershed Models.*

Students simulate the movement of water by rolling giant dice to demonstrate the variable paths, direction, and states of matter. A detailed discussion of the water cycle precedes the activity and includes the topic of local water resources. Review involves an activity that outlines their specific water journey and the processes involved. Students will take home a beaded bracelet made along their “Incredible Journey” through the water cycle. (Adapted from *Project Wet*)

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS2.C ESS3.C ESS3.A PS1.A	3-5 ESS2.C ESS3.C ESS3.A LS2.B PS1.A	6-8 ESS2.C ESS3.C ESS3.A PS1.A	• Stability and Change • System and System Models	• Developing and Using Models	Principle 1 - A, B Principle 3 - A, B, C

The Living Pizza Garden (K – 12th grades)

Recommended companion activities *Decomposition Mission, Marvelous Minerals, The Incredible Water Journey, Watershed Models.*

Explore the science of growing and get your hands dirty in a real garden! Discover how plants grow and how sustainable growing practices are shaping the way we grow food. We will discuss the importance of responsible growing habits and the effects that growing food has on our environment. Discussions will include how decomposition, micro-climates, and sustainability are shaping modern growing practices. Your students will have an opportunity to pot their very own plant to take home!

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.A LS1.B LS1.C LS2.A LS4.D ESS3.A	3-5 LS1.A LS1.C LS2.A LS2.B LS2.C LS4.D ESS3.C	6-8 LS1.B LS1.C LS2.A LS2.B LS2.C ESS3.C	9-12 LS1.C LS2.A LS2.B LS2.C ESS3.A ESS3.C	• Cause and Effect • Patterns • Stability and Change	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions	Principle 1 - A, B, C Principle 2 - A, B, C, D Principle 3 - A Principle 4 - B, C Principle 5 - A, B

Water Quality (4th – 12th grades)

Recommended companion activities: *Macroinvertebrates, The Incredible Water Journey, Watershed Models.*

Students perform water quality (physical-chemical) index tests to measure the water quality of the San Joaquin River at Scout Island. Tests include pH, total dissolved solids, turbidity, temperature, and dissolved oxygen. Results assess Scout Island's river health relative to salmon survival and restoration goals.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS3.A, B	3-5 ESS3.A, B LS2.C LS4.C, D PS1.A	6-8 ESS3.A, B LS2.C LS4.C, D PS1.A	9-12 ESS3.A, B LS2.C LS4.C, D	• Patterns • Stability and Change • Systems and System Models	• Analyzing and Interpreting Data • Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions • Engaging in Argument from Evidence • Planning and Carrying Out Investigations • Using Mathematics and Computational Thinking	Principle 1 - A, B, C Principle 2 - A, B, C, D Principle 3 - C Principle 4 - B, D Principle 5 - B

Watershed Models (3rd – 12th grades)

Recommended companion activities: *Draw the River, Water Quality, The Incredible Water Journey.*

Students build a 3D model to simulate a watershed, learning how everyone on Earth relies on a shared water system. By investigating local drainage patterns and the water cycle, students discover the origin of their community's water supply. Along the way, they will see how the simple process of water running downhill serves as the primary force shaping California's diverse landscapes.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS2.C ESS3.A, C	3-5 LS2.C ESS2.C ESS3.A, C	6-8 LS2.C ESS2.C ESS3.A, C	9-12 LS2.C ESS2.C ESS3.C	• Cause and Effect • Energy and Matter • Patterns • Stability and Change • Systems and System Models	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions • Developing and Using Models • Planning and Carrying Out Investigations	Principle 1 - B, C Principle 2 - A, B, C Principle 3 - A, B, C Principle 4 - A, B, C Principle 5 - A, B

Web of Life (K – 8th grades)

Recommended companion activities: *Birds of Prey, Bird Beaks & Feet, Paws & Jaws, Predator Pursuit.*

Students explore the ecological foundation of food chains and webs, breaking down feeding levels, energy needs, and diet types. Using local plants and animals, they will explore different types of food webs to see how energy flows through the ecosystem. Through these hands-on activities, students discover how species interact and how environmental shifts directly impact the competition for resources.

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 ESS3.A LS1.C LS2.A	3-5 ESS3.A LS1.C LS2.A, B	6-8 ESS3.A LS1.C LS2.A, B	• Energy and Matter • Patterns • Stability and Change • System and System Models	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions • Developing and Using Models • Planning and Carrying Out Investigations	Principle 2 - C Principle 3 - C Principle 4 - C

Wild River Dash: The Salmon Journey (K – 8th grades)

Recommended companion activities: *Draw the River, Macroinvertebrates, Salmon Art, Water Quality.*

Students will study the physical life cycle of the Pacific Salmon and simulate the hazardous migration of Pacific Salmon. This active simulation allows students to act as smolts, migrating from fresh water to the ocean, then back to freshwater creeks to spawn. Natural Pacific Salmon predators, man-made obstacles, and salmon population restoration along the San Joaquin River are discussed. (Adapted from *Project Wild*)

Disciplinary Core Ideas			Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts
K-2 LS1.B LS3.A ESS3.C	3-5 LS1.B LS2.C LS2.D ESS3.C	6-8 LS1.B LS2.C ESS3.C	• Cause and Effect • Patterns • Stability and Change • System and System Models	• Constructing Explanations and Designing Solutions • Using Mathematics and Computational Thinking	Principle 2 - C Principle 3 - A, B, C Principle 4 - C Principle 5 - A, B

Yokuts and Beyond: Exploring California's Native Cultures (K – 12th grades)

Recommended companion activities: *Atlatl Challenge, Gold Rush, Making Cordage, Pony Express.*

This discovery walk guides students along the river corridor and to the Native American site at Scout Island. Native plants, their historic usages and cultural implications are emphasized. The activity focuses on how Indigenous peoples interacted with and depended on their natural surroundings. Stories from local tribes, their basketry and use of grinding stones are shared.

Disciplinary Core Ideas				Crosscutting Concepts	Science and Engineering Practices	Environmental Principles and Concepts	California State Standards
K-2 ESS3.C	3-5 ESS3.C	6-8 ESS3.C	9-12 ESS3.C	• Energy and Matter • Patterns • Stability and Change	• Asking Questions and Defining Problems • Constructing Explanations and Designing Solutions	Principle 1 - A, B Principle 3 - C Principle 5 - A, B	History-Social Science 3.1.2, 3.2.2, 4.2.1