



### 3<sup>rd</sup> Grade – Science/ELA/Art

**Standard (subject, number, text):**

3-LS3.1 - HEREDITY: INHERITANCE AND VARIATION OF TRAITS

Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

LS3.B.VARIATION OF TRAITS

Different organisms vary in how they look and function because they have different inherited information.

LS4-2.BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY

Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

CCSS.ELA-LITERACY.W.3.3

Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

CCSS.ELA-LITERACY.W.3.3.A

Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.

CCSS.ELA-LITERACY.W.3.3.B

Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.

CCSS.ELA-LITERACY.W.3.3.C

Use temporal words and phrases to signal event order.

CCSS.ELA-LITERACY.W.3.3.D

Provide a sense of closure.

VPA.ARTISTIC PERCEPTION.1.0

Identify and describe how foreground, middleground, and background are used to create the illusion of space.

Identify and describe elements of art in works of art, emphasizing line, color, shape/form, texture, space, and value.

**Objective(s):**

Students will observe and record a small part of local biodiversity and develop the basic skills to distinguish between species of various plants. As students hike the trail, they will create a nature treasure map of their observations. Then they will write a narrative using the treasure map as a guide for their storyline.

\* Interpretive panels discussing four types of native oak trees, the purpose of mustard and roses in the vineyards, and Eucalyptus trees are available on the trail.

**6Cs:**



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- **Communication** - Students will share their collective stories with another group of students/class.
- **Critical Thinking** - Students will ask questions about what they observe to demonstrate higher order thinking.
- **Collaboration** - Students will collaborate with a partner to deepen their observations, and share their questions.
- **Creativity** - Students will use creativity when creating a narrative to accompany their treasure maps.
- **Character** - Students will treat each other with respect during partner work.
- **Global Citizenship** - Students will participate in the Vine Trail using the features of AgRespect which encourage participants to “Respect the farmers. Protect our heritage and future. Love the land!”

#### Materials:

- Sketchbook or science notebook for each student.
- Pencil for each student.
- See also the [Vine Trail Teacher Info Sheet](#) for more recommendations of what to bring.

#### Prerequisite Knowledge (Vocabulary, part of trail, technology, etc):

Teachers may need to research the best area of the trail with the most oak trees closest to their school site.

- Valley Oak
- Coast Live Oak
- Blue Oak
- Interior Live Oak
- Mustard
- Rose bushes
- Eucalyptus
- Any other native plants that may be observed on the trail.

#### Lesson Summary (5-7 sentences): (list time of year if necessary)

- Before the trip, class discussion and lessons could include why and how variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- Students could study the shapes of various leaves to learn how to recognize an Oak tree, and could study the other plants they may encounter on the trail.
- Before the trip, review and discuss the “[Sketch Like a Scientist](#)” slides from the Academy of Sciences.



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COMMUNITY PROGRAMS

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- During the hike, the teacher will guide students to create their own [Nature's Treasure Map](#), lesson plan (P. 34) from the California Native Plant Society curriculum.
- At 5-7 points during the hike/walk, students will be asked to stop and "Sketch Like a Scientist" for one minute.
- Students should sketch various things they observe which could include natural features, plants, fungi, lichen, animals, insects, or waterways. As an extension, man made features like bridges, dams, or tracks could be added.
- Each drawing should be connected by creating a path (like a treasure map).
- The sketches should include labels of important parts to show detail and demonstrate observable features like color, or size. Students should also include questions they may have about the tree parts they are drawing for discussion later.
- After each drawing, students will pair up with another student and share one piece of observable data and one question they had about this specific drawing.
- Back at the classroom, students will use their treasure maps to write a short story. Use the [Writing Short Stories](#) (P. 35) lesson plan from the California Native Plant Society curriculum.
- Completed individual stories can be bound into a classroom book about the Napa Vine Trail.

**Map of Trail (state if zone specific):** All zones.

**Additional Resources:** The California Native Plant Society's [Opening the World Through Journaling](#). Academy of Sciences, "[Sketch Like a Scientist](#)" online slides.