Tahoe Nature Activity Book

Nature Discovery Activities

TAHOE INSTITUTE FOR NATURAL SCIENCE

Welcome to the

Tahoe Nature Activity Book

Hey Kids!

Are you curious about nature in your own backyard?

In this book, you can learn more about the natural wonders of the Lake Tahoe area. You will find a variety of fun natural science challenges to help you discover and learn about the many animals and plants around Tahoe all year long.

Hey Parents & Teachers!

Activities in this book are designed to enhance Grades 3-5 curricula and align with Tahoe Institute for Natural Science (TINS) programming. TINS invites you check our calendar of events and join us for family nature outings around Lake Tahoe. We offer winter wildlife snowshoe treks, wildflower and birding outings, and more.

Become a TINS member to help support our in-school programs, special events, and hands-on science field trips. Members also receive discounts on summer camps.

The Tahoe Institute for Natural Science connects children and their families to nature to encourage greater appreciation, understanding, and stewardship of Tahoe's natural resources for generations to come.

Join TINS today: www.tinsweb.org

Will Richardson, Ph.D.
Executive Director

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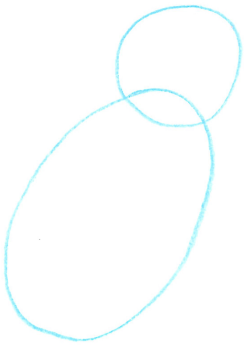
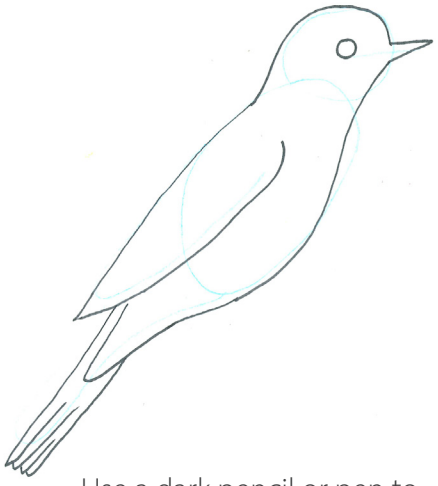
How to Draw a Western Tanager

Western Tanagers are one of the brightest and most beautiful birds that migrate to Tahoe. Use the step-by-step guide below to learn how to draw a Western Tanager.

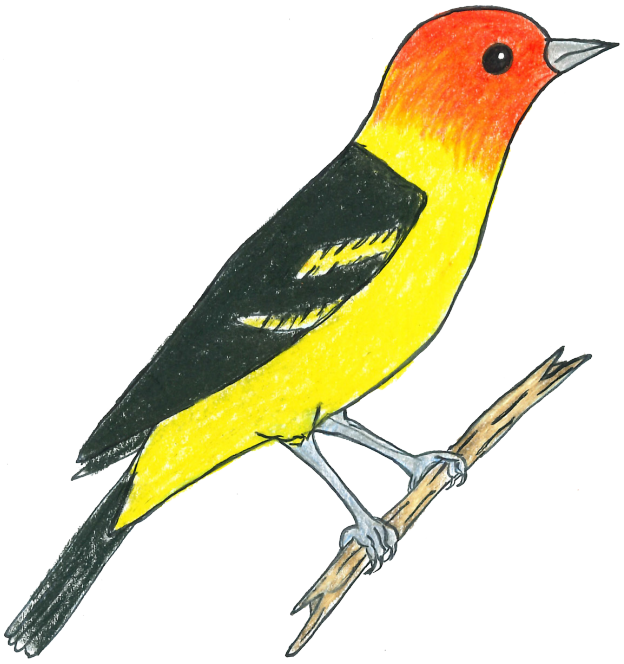


In light blue pencil, delicately draw two overlapping circles that represent the head and the body.

With your light blue pencil, add lines to represent the bill (straight line through head), wing, and tail feathers.



Use a dark pencil or pen to connect your guiding light blue lines to make an overall bird shape. Add an eye.



Erase your light blue guidelines.

Add color and as many details to the Western Tanager as you like such as feet, legs, wing bars, and even a habitat.

Your drawing here

Build a Bird

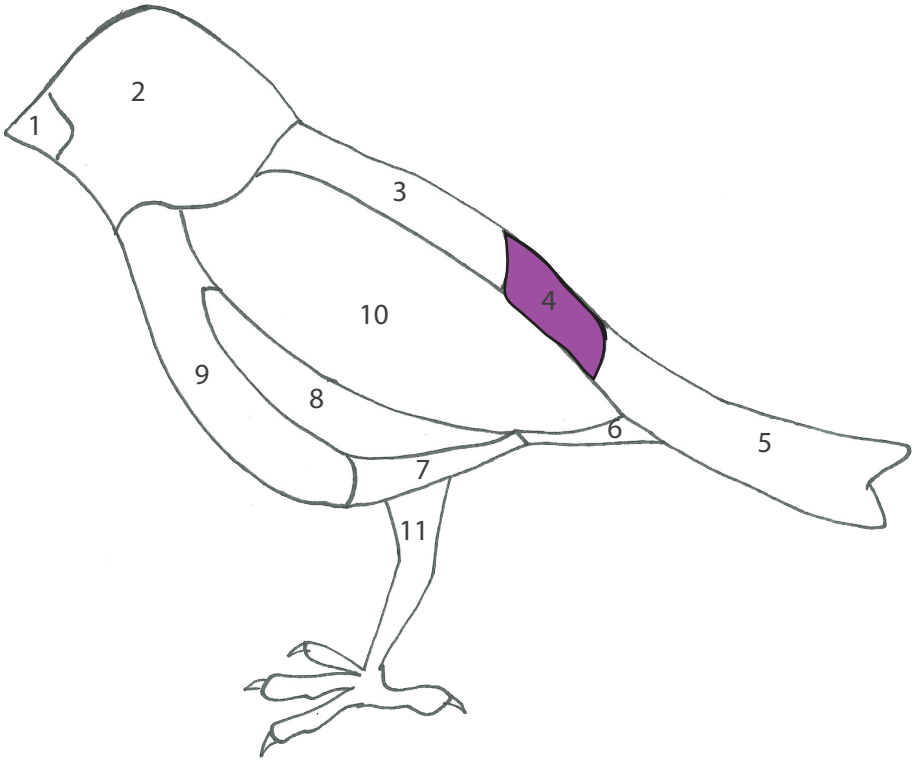
Knowing the parts of a bird helps birdwatchers like you identify different species based on their physical traits.

Bring your Bird to Life

First, fill in each body part with a different color.

Next, select body part names from the word bank below to match with each numbered part.

Then, fill in lines 1-11, labelling each body part - make your answers more colorful by matching the color crayon or pencil to write the name of each body part.



1. _____
2. _____
3. _____
4. Rump
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____

Word Bank

- Back
- Undertail
- Leg
- Bill
- Head
- Vent
- Flank
- Wing
- Tail
- Breast
- ~~Rump~~

Let's Go Birdwatching!

Go birdwatching near your home and write down what you see, hear, and observe:

What's the Difference?

Female and male birds of the same species can appear identical, slightly different, or unalike. Male birds tend to display brighter feathers to attract a mate.

Male Evening Grosbeak

This male Evening Grosbeak has a yellow belly, flank, breast, and eyebrow that contrasts with its black head, wing, rump, and tail. These colors are used to claim territory and attract a mate.

Female Evening Grosbeak

Although beautiful, female birds tend to have duller colors to camouflage while sitting on their nest. Both male and female grosbeaks have similar body shapes, are the same size , and have large bills to crush seeds.

Male _____

Female _____

It's your turn to invent your own bird pair. Use what you have learned to draw a male and a female bird. How will your birds be the same? How will they differ? Be sure to name your invented species.

Tahoe During the Day

Diurnal animals are active during the daytime and tend to go to sleep once the sun sets.

Find and circle all of the hidden diurnal animal names in the word search puzzle.

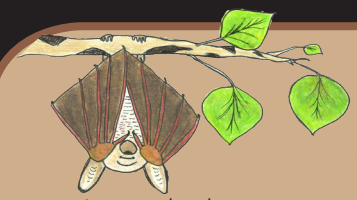
G	R	O	U	N	D	S	Q	U	I	R	R	E	L
B	Y	M	A	R	R	B	I	Y	E	N	M	K	C
H	U	M	A	N	A	T	N	L	E	U	R	A	L
O	U	L	G	B	G	E	C	F	R	Q	P	A	F
R	Y	C	R	L	O	E	D	R	A	L	L	A	M
G	E	H	A	U	N	B	B	E	V	G	S	K	G
P	C	I	S	E	F	E	E	T	E	P	D	R	E
O	H	C	S	B	L	L	L	T	N	M	L	Y	A
D	I	K	H	I	Y	B	G	U	R	I	L	T	B
U	P	A	O	R	E	M	A	B	M	I	O	R	S
A	M	D	P	D	I	U	E	L	Z	M	H	M	A
K	U	E	P	M	U	B	R	A	R	U	B	U	B
I	N	E	E	I	S	P	R	A	M	M	I	E	L
P	K	E	R	E	B	D	M	E	U	L	P	L	L

Diurnal Animal List

Dragonfly
Ground Squirrel
Lizard
Bumblebee
Chipmunk
Marmot
Eagle
Grasshopper
Raven
Mallard
Butterfly
Bluebird
Chickadee
Human
Pika

What diurnal animals can you spot outside today?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____



Tahoe At Night

Animals that are active during the night are **nocturnal**. They have behaviors or traits called adaptations that make them better suited to a nighttime environment.

Unscramble the words in the word bank to learn these Tahoe animal's unique nighttime adaptation.

"My _ _ _ _ _ _ _ _ _ _ allows me to see prey at night. My eyes are similar to binoculars; they are designed to see rodents from far away."

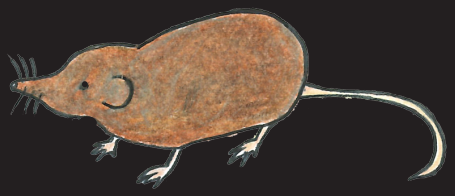
- *Long-Eared Owl*

"I use my sense of _ _ _ _ _ _ to help me locate sweet flower nectar at night. My fuzzy body makes it hard for predators to hear me as I fly."

- *Ceanothus Silk Moth*

"I hide under leaves and snow to protect myself from predators. I use my sense of _ _ _ _ _ _ and my large snout to feel around dark spaces."

- *Dusky Shrew*



"When I hunt for insects at night I use my super sense of _ _ _ _ _ _ _ _ _ _ to locate quiet insects flying around."

- *Townsend's Big-eared Bat*

I have seen or heard these nocturnal animals in Tahoe:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

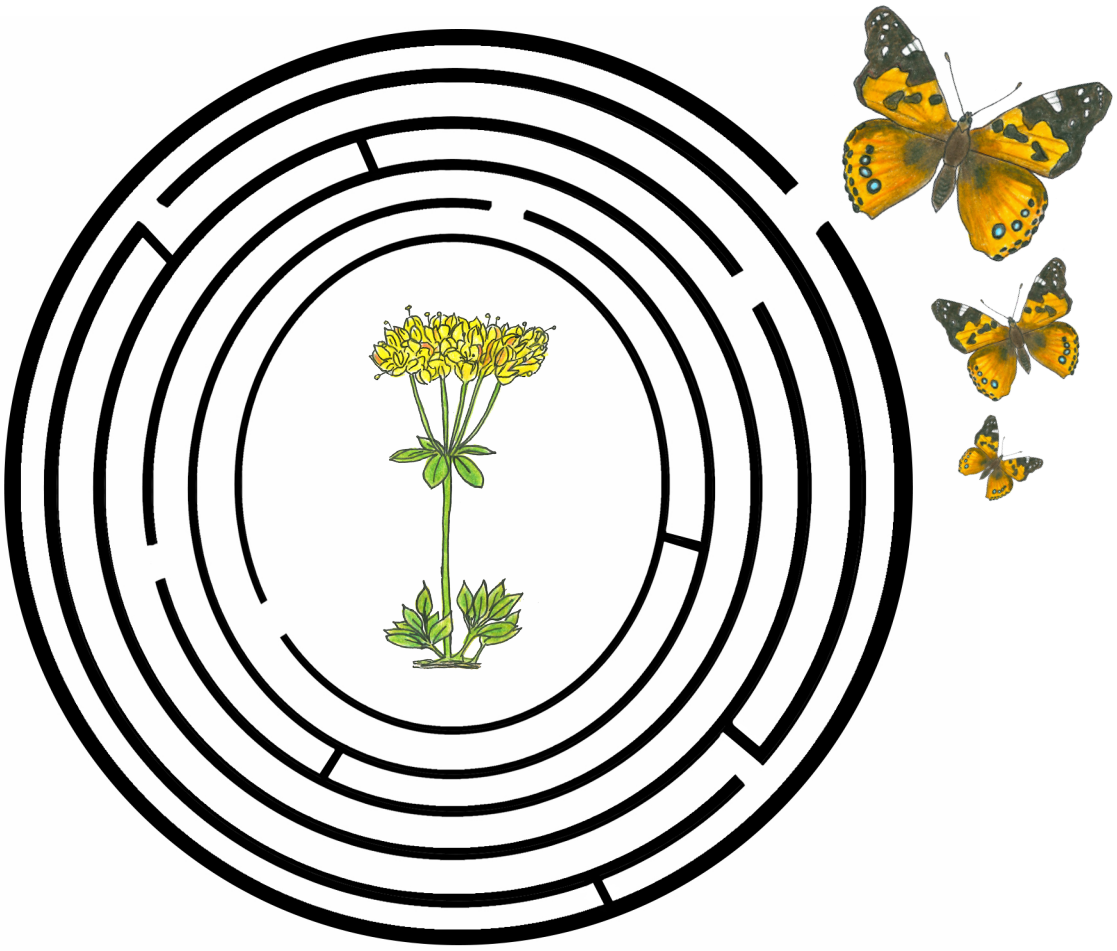
Word Bank

y e s h g e t i
e l m l s
c o t h u
n e g a i r h

The Big Move

Migration is when an animal moves from one place to another in search of resources. Resources include food, water, shelter, space, and a place to have their young.

Painted Lady Butterflies travel to and through Tahoe. They need energy from nectar to migrate. Help these migrating Painted Lady Butterflies through the maze to find some tasty Sulphur Buckwheat.



Try these ideas to help migrating animals around your home:

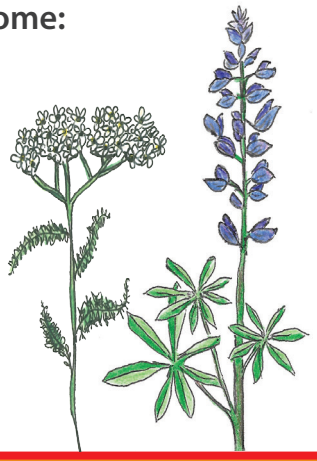
Turn off your outdoor lights

Don't let pets chase wild animals

Put up a bird feeder

Plant a pollinator garden

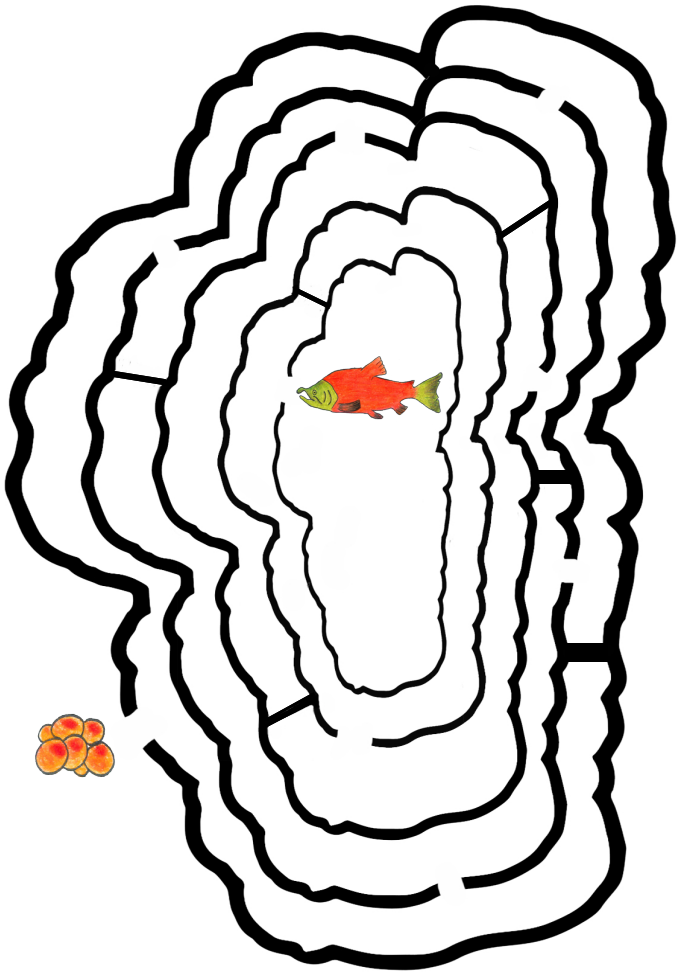
Make your windows visible to birds



Finding A Way

During migration, different animals may use the stars, the sun, the shape of the land and the Earth's magnetic fields to find their way. This is called navigation.

Some animals use unique methods to navigate. Help this breeding Kokanee Salmon use his sense of smell to navigate through the maze to the creek where he hatched.

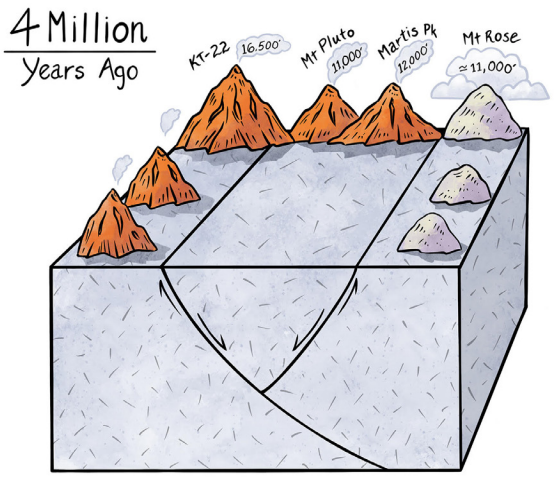


Using Landmarks

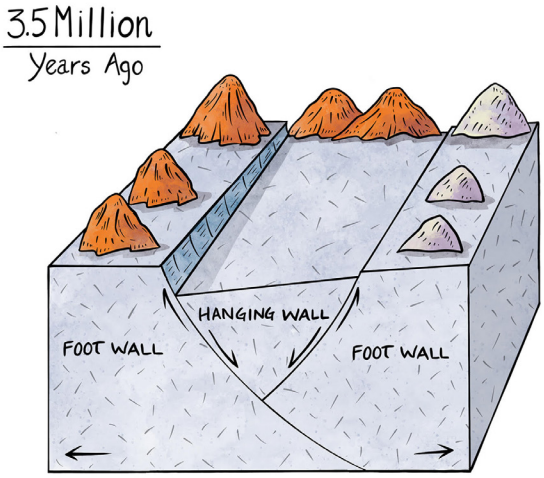
Many animals, including humans, birds, and bees use landmarks to help navigate during migration and around their habitats. Think about a landmark around your home that stands out and helps you know where you are. On a separate piece of paper, draw and label this landmark from memory.

Tahoe's Rockin' Geology

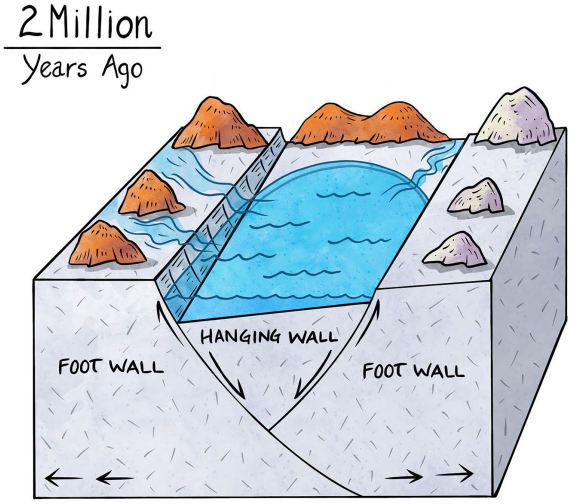
Have you ever thought about how Lake Tahoe came to be?
Well kids, that's why it's important to learn your **geology**!



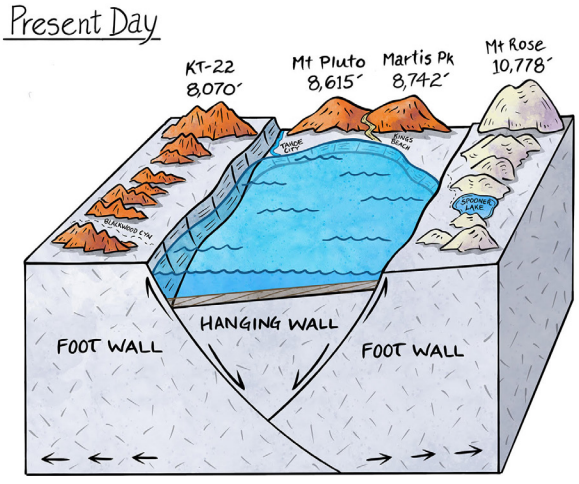
Long ago, the Tahoe **Basin** was flat and surrounded by active volcanoes and granite **mountains**. However, volcanoes did not form the lake. Instead, Lake Tahoe was formed by the movement of the Earth's crust known as **faulting**.



In Tahoe, normal faulting occurs as the **hanging wall** sinks and the surrounding **foot walls** rise. This process results from released tension of the Earth's crust. This movement creates tall mountains and valleys.



Over time, the sunken hanging wall filled with **runoff** from snow melt, rain, and glaciers to form **Lake Tahoe**. Today, Lake Tahoe is one of the world's deepest alpine lakes.

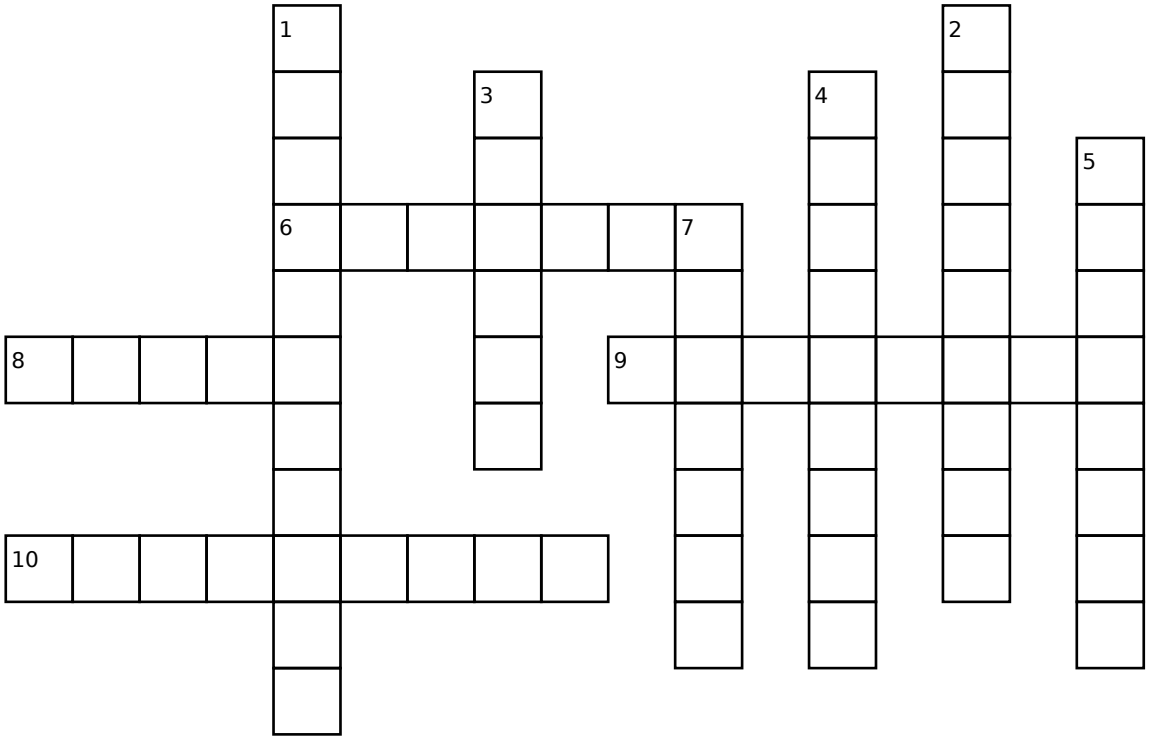


Erosion also shaped Tahoe's landscapes. The ancient **volcanoes** became extinct and weathered to their current height, exposing the most common rock type of the Sierra Nevada, **granite**.

Geology Illustrations by Annaliese Miller

Geology Crossword

Use the geology terms that are bolded on the previous page and the clues below to complete the crossword puzzle.

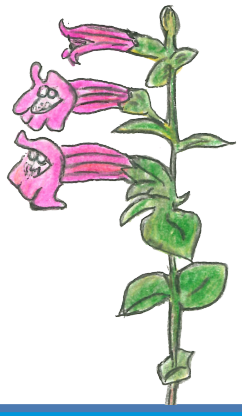


DOWN

1 the sinking section of land during normal faulting
2 large steep hills
3 the downhill movement of water
4 Sierra Nevada's deepest Lake... and its crystal clear!
5 breaking of the Earth's crust due to movement
7 when the soil is worn away and transported by natural forces

ACROSS

6 an igneous rock formed from magma, common in the Sierra Nevada
8 a large, low-lying depression in the landscape
9 the blocks of land that rise during normal faulting
10 Mt. Pluto and Mt. Rose are examples of these extinct formations



Trees of Tahoe

Most of Tahoe's trees are evergreen, meaning they stay green and keep their leaves year round. Sketch these native Tahoe trees!

Lodgepole Pine

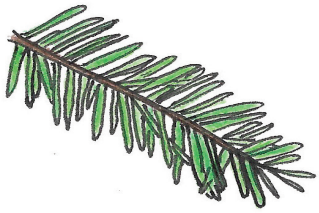
Pinus contorta

Lodgepole Pines are the only pine tree in Tahoe with two short needles held together in a bundle. Their bark may remind you of cornflakes. Lodgepoles can be found in a variety of Tahoe's natural spaces.

Jeffrey Pine

Pinus jeffreyi

Jeffrey Pines have three needles in their bundles. They have large cones that aren't prickly when you pick them up giving them the nickname "Gentle Jeffrey". Take a whiff of their sweetly scented puzzle piece bark.



White Fir

Abies concolor

White Firs are shaped like a Christmas tree. Unlike pine trees, fir needles aren't bundled together. Instead, they attach directly to the branch. Look for short, flat needles with two white stripes on the underside. They emit a cirtus smell.

Quaking Aspen

Poplar tremuloides

Quaking Aspens are a deciduous tree, meaning unlike evergreens, they lose their leaves in the fall. They change colors and drop their heart-shaped leaves to prepare for cold winter months. Look for their white bark!

I ♥ Tahoe's Nature

Write or draw what you love about nature and describe how you pledge to take care of it.

I _____ pledge to take care of Tahoe's nature!
your name

Mail in this page with the membership form filled out to become part of the TINS community.

Membership Form

Do you want you and your guardians to become a member of TINS?
You can do so by filling out your information via tinsweb.org or by filling out the sheet below, and sending it to: TINS, 948 Incline Way, Incline Village, NV 89451.

o **YES, I want to help support the Tahoe Institute for Natural Science by becoming a member!!**

Please select a membership & rate: o New Membership o Renewal *(only fill out for changed info)*

o Student $20 o Regular $35 o Family $60 o Supporting $100
o Sustaining $250 o Patron $500 o Benefactor $1000+

o Click here if you do not wish to receive the free shopping tote.
o Click here if you prefer to receive our newsletter, Tanager, as a hard copy instead of an emailed PDF

Amount Enclosed: $_____ *(make check payable to "Tahoe Institute for Natural Science")*

Name(s):_____

Address:_____

City:_____ State:_____ Zip:_____

Phone: ( )_____ Email:_____

(Our email list is used for announcements of upcoming walks, talks, and other events)

Would you like to join using your credit card? Please provide the following information.

Card Type: o Visa o Mastercard o American Express o Discover

Card Number: _____ Expiration Date: _____ CVC: _____

TAHOE INSTITUTE FOR NATURAL SCIENCE

Our Deep Blue Tahoe Sky

The night sky is full of wonder. Humans and animals have watched the moon and stars for millions of years. Channel your ancestors and watch the night sky this month.

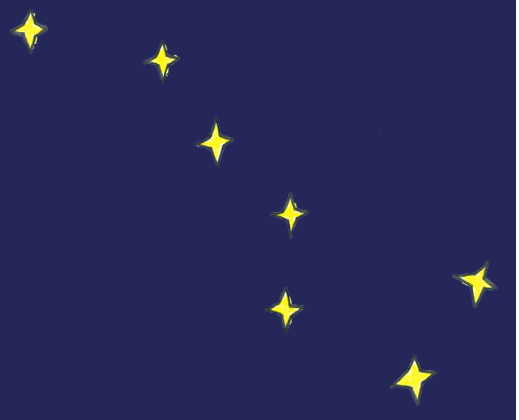
Phases of the Moon

Week 1 Week 2 Week 3 Week 4

Draw the moon once a week, four weeks in a row to observe the changes!

Mad Lib Constellation Story

Long ago there were two animals, a _____ (noun:animal) and a _____ (noun:animal). They were looking for a _____ (adjective) _____ (noun:food) to eat. Suddenly, they stopped because they detected a _____(noun:predator). They were able to detect the predator because they both had such great _____ (noun:sense). But the predator also had sharp senses! The first animal left by _____-ing_ (verb) and the predator let it go because it was too _____ (adjective). The second animal escaped by staying right where it was, avoiding detection because it could _____ (verb) very well. Their adaptations helped them escape, and constellations were named in honor of their bravery.



The Big Dipper

Draw your Mad Lib Constellations:

Explore Tahoe with TINS

We invite you and your family to join us as we explore the many different habitats and ecosystems around Lake Tahoe throughout the seasons.

Join us for family outings, help support our mission to encourage greater appreciation, understanding, and stewardship for Tahoe's natural resources, and receive special member benefits.

Check out our calendar and become a member today:

www.tinsweb.org

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Mountain Hardware & Sports

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for underwriting education programming at the Tahoe Institute for Natural Science and the production of this nature activity book.
Since 2010, TINS has served over 56,500 students.