we are...
KEEN
KIDS!
Let's find adventure!

Who is KEEN?

KEEN'S Mission

Our mission is to cultivate an active awareness and understanding of how our changing climate is impacting our lives and the endangered shrub-steppe by providing nature-based education for all ages and strengthening our commitment to environmental protection and restoration.

Our Program Philosophy

* Place-Based: A place-based program promotes healthy development in a stimulating learning environment. Earth Explorers highlights outdoor learning and has access to a portable indoor area for inclement weather.
* Learner-led: Allowing children to take the lead fosters their fascination of the world around them and free play opportunities inspire their creativity.
* Risk-taking: Encouraging children to take appropriate risks provides real world examples to learn risk assessment and self-regulation.
* Social Interaction: Developing healthy social skills and peer-group relations encourages improved communication and problem-solving skills.
* Environmental Responsibility: Nurturing a connection to the natural world enhances an understanding of our children's role as environmental stewards in their local community and their greater natural areas.

What is KEEN KIDS?

KEEN KIDS! is a new quarterly newsletter for kids K-5. Every quarterly publication will be filled with facts, games, activities, and stories! So join KEEN on a journey of exploration and adventure!

KITTITAS ENVIRONMENTAL EDUCATION NETWORK
KEEN
WWW.YCIC.ORG

MOUNTAINEERS KEEN

KEENS NATURE SCHOOL
WWW.YCIC.ORG

Pond to Pines
est. 2015

Upcoming KEEN KIDS Events

Snow Camp is an opportunity for K-5 children to explore the best of the Kittitas Valley's festive season. Every day from 9-3 is filled with games, crafts, science, and free play for all, complete with campfires and warm snacks.

Located at the Yakima Canyon Interpretive Center just five miles south of Ellensburg on Canyon Road. Join us for five days of winter fun from December 19-23 (Mon-Fri). Every day's session will run from 9am - 3pm, with a lunch break (snacks are included, but lunch is not included). Register TODAY at ycic.org/snowcamp

---

WINTER QUARTER BEGINS ON JANUARY 4, 2023!

***Snow Camp participants get a discount!

Earth Explorers envisions a generation of bold explorers with meaningful connections to self, community, and the natural world. With the increasingly electronic influences on our children's lives, KEEN's Earth Explorers believes in letting kids be kids, outdoors.

Earth Explorers is an afterschool program located at Mt Stuart Elementary School on Wednesday Early-Release days from 1:30-5:30pm. Earth Explorers is open to any student grade K-5.

WINTER FAIR

KEEN's Annual Winter Fair is BACK! Hosted on January 21, 2023 at the Hal Holmes Center, Winter Fair's participants showcase FREE, fun, environmentally themed educational activities for the whole family.

Winter Fair's mission is to feature local organizations, companies, agencies and individuals that support and enhance our community's educational, economic, and environmental sustainability.

EARTH NEWS

What's Going on in the World?

THE CASE OF THE MISSING ALASKAN SNOW CRABS

Every winter, Alaskan fishers head out to the Bering Sea to harvest snow crabs. However, on October 10, 2022, officials announced that the 2022/2023 snow crab season had been canceled due to a sharp decline in their population. Ocean surveys indicate that the number of snow crabs has shrunk from an estimated 11.9 billion in 2018 to about 1.9 billion in 2022.

"Snow crab is by far the most abundant of all the Bering Sea crab species that is caught commercially," said Benjamin Daly, a researcher with the Alaska Department of Fish and Game. "So the shock and awe of many billions missing from the population is worth noting – and that includes all the females and babies."

Researchers are not sure why the crabs have vanished. But they suspect climate change may have played a big role. Young snow crabs thrive in the cold water pools formed on the ocean floor by the melting sea ice. However, in 2018 and 2019, the Bering Sea water temperatures were much warmer than usual. This reduced the available cold water pools.

Scientists speculate the young crabs may have been forced to live in smaller areas. The limited food supply may have caused them to die of starvation. The cramped conditions could also have led to the spread of deadly diseases. Another theory is that the warmer waters made the young crabs vulnerable to predators like the Pacific cod. These fish typically avoid the chilly temperatures of the cold pools.

Solving the mystery of the missing snow crabs will take time. Meanwhile, the unexpected ban has left Alaskan crab fishers scrambling to find other sources of income. Hopefully, the snow crab population will be revived before next year's fishing season.

Wander Your Washington

Winter has arrived, and with it a whole new wonderland to explore!

Wander nearby trails, or your own neighborhood, to see what kinds of treasures you can discover.

Pay close attention to everything around you and use all your senses to see how many items from this list you can identify.

To Look For:	Pinecone	Berries on a branch
	Seed pod	Animal tracks
	Frozen puddle	Bird nest
	Your breath	Birds flying
	Tree that lost its leaves	Evergreen tree
To Smell:	Tree bark	
	Snow	
	Pine tree	
	Fresh air (What makes it smell fresh?)	
To Listen For:	Bird songs	
	Wind	
	Water dripping	
	Crunching snow or leaves under foot	
	A frozen tree crackling	
To Feel:	Chilly cheeks	
	Tree bark	
	Ice	
	Snowflakes on your face	
	Last year's leaves	

Best Winter Hikes near YOU!

Irene Rinehart Riverfront Park – This is a wonderful place to find over-wintering waterfowl.

Umtanum Creek Falls – Watch for birds and maybe bighorn sheep as you hike down to the waterfall cascading over basalt walls.

Toppenish National Wildlife Refuge – A variety of habitats support an abundance of wildlife that seek refuge here year-round.

East Rim Waterworks Canyon – Hike alongside a creek surrounded by towering canyon walls.

Yakima Area Arboretum and Botanical Gardens – See how hundreds of different plant species adapt to winter in the gardens, along the river and ponds and in the wetlands.

The Yakama Greenway – Access parks, lakes and nature trails along the Yakima and Naches rivers from this 10-mile paved trail.

Cowiche Conservancy's Snow Mountain Ranch – Wander one of the many trails through shrub-steppe habitat in search of signs of spring.

Tieton River Nature Trail – Try snowshoeing your way through the Tieton River Canyon.

Where is our WILDLIFE?

Winter has come to Kittitas County!

Let's see how our local wildlife are preparing for the cold, snowy months ahead!

Winter Water Fowl

Waterfowl, such as ducks, snow geese, and tundra swans, are making their way South from their summer nesting grounds up North. Many will pass through Kittitas County on their quest for warmer weather, and some will even spend their winters here! Look for these winter residents on open bodies of water such as lakes and ponds.

Grazing Elk

Hundreds of elk come down from the mountains in winter. Many will head to the L.T. Murray Wildlife Area, where Fish and Wildlife officials provide them with plenty of alfalfa to eat! Providing winter food for elk will keep them from helping themselves to the crops and hay produced by our local farmers.

Who's Hibernating?

Many animals hibernate or enter a state of limited activity during the winter! Have you noticed that there have been less snakes around lately? Rattlesnakes stay in their dens and conserve their energy during the colder months before emerging in the spring with warmer weather! Yellow-bellied marmots, which are large rodents, are also hibernating in their burrows for the winter. Can you think of another animal found in Kittitas County that hibernates?

Winter Salmon Update

After making the long hard journey back to freshwater from the ocean, adult Chinook, Coho and Sockeye Salmon will have completed their life cycle and spawned (laid their eggs) in our local rivers by early winter! These eggs will continue to develop before hatching in a few months and emerging as young fish called fry.

Let's Get Artsy!

WINTER TREE

ART PROJECT

Supplies:

* Light blue construction paper
* Twigs, different sizes
* Glue
* Q-tip or paint brush
* White paint
* Colored pencils or crayons (optional)

Directions:

1. Find twigs of different sizes; arrange them on light blue construction paper and glue them down to make a tree. Remember the branches get smaller as you go up the tree.

2. Use a Q-tip (or paint brush) to dab white paint on the construction paper to make snow.

3. Older artists: You may want to use colored pencils or crayons to draw things such as animals, mountains, or a sunset before positioning and gluing the 'twig tree' on the paper.

Be an EARTH WARRIOR!

LEAVE NO TRACE

WHAT'S THIS?

The 7 Leave No Trace principles were created to teach everyone ways to reduce our impact as humans on our natural spaces. Whether you're out in the backcountry, at a campground, a local park, or your own backyard, Leave No trace can be practiced anywhere!

LNT Principle #1

"Know Before You Go"

Good trip planning and preparation helps adventurers accomplish trip goals safely and enjoyably, while also minimizing damage to the land. Here are some things to consider when planning for a trip:

-What is the ability level of the adventurers? Will every participant be successful and safe?

-What is the weather expected to be and what should you pack to prepare for it?

-Study the area for water sources, wildlife concerns, fire restrictions, land boundaries, and area closures.

Hands-on SCIENCE

Let's do an experiment!

DIY Bath Bombs

Recommended Ages: 4-12

Bath bombs come in all shapes, colors, and sizes, depending on their ingredients and molds, which make them great for trying at home. Ingredients can range from bath salts, fragrances, colors, glitter, and more!

Materials:

- Bowl
- Spoon
- Silicon Mold
- Water
- 1 Teaspoon
- 1 Tablespoon
- 1 Tbsp Citric Acid
- 2 Tbsp Cornstarch
- 1 Tbsp Epsom Salt
- 1 Tbsp Baking Soda

Optional Materials

- Food Coloring
- Essential Oil/Scent
- Oil (olive, vegetable, coconut, etc.)

Procedure:

1. Mix all of the dry ingredients into the bowl with the spoon.

2. If using any other liquid ingredients such as oil, essential oils, or food coloring, mix them with the water now.

3. Using your teaspoon, measure 1 teaspoon of water. Pour all of the water from your teaspoon onto one spot of your dry mixture. What is happening?

4. After observing, quickly use your spoon to press down on the wet spot in your dry mixture to stop the reaction. *Do not mix the wet spot with the rest of your ingredients until after the reaction is complete! You'll know the reaction has finished when the bubbling stops.*

5. Use your hands to make sure everything's combined. The mix should still feel pretty powdery, but hold together a little bit when you squeeze or pinch it.

Children's Science Center Confidential and Proprietary Information

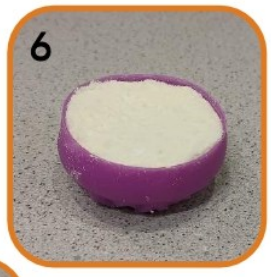
children's science center LAB

LOOKS LIKE AN AMAZING IDEA FOR A HOLIDAY GIFT!

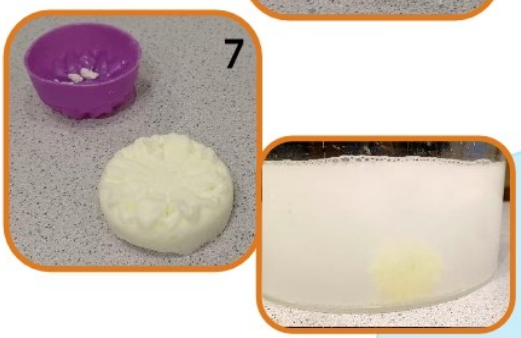
DIY Bath Bombs

Recommended Ages: 4-12

6. Fill your silicon mold with your bath bomb mixture and pack it in tightly. Leave this to dry overnight, or until hardened (you can also place it in the fridge to harden faster).



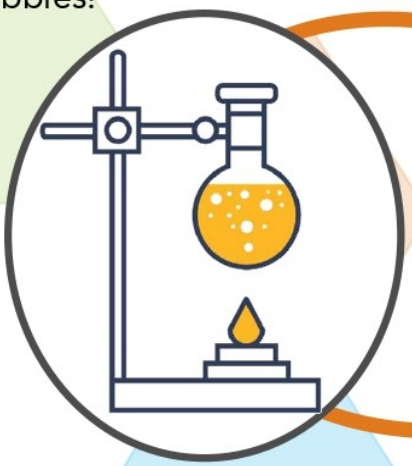
7. Test it out! Carefully pop your bath bomb out of the silicon mold. See if you can get your bath bomb out in one piece. If not, that's okay! Use all of the pieces in your bath to see how it fizzes and bubbles.



What happened when you added the bath bomb to water? Baking soda and citric acid are responsible for the fun fizzing in your bath, as a result of the **chemical reaction** that happens. A chemical reaction is a process in which one or more substances are converted into a different substance.

Citric Acid $C_6H_8O_7$ + Sodium Bicarbonate $NaHCO_3$ → Carbon Dioxide CO_2 + Water H_2O + Sodium Citrate $Na_3C_6H_5O_7$

This is an **acid-base reaction**. You may have tried mixing together baking soda and vinegar, to explosive results! When a weak base, in this case baking soda (sodium bicarbonate ($NaHCO_3$)) meets a weak acid, a gas is produced to make bubbles! For bath bombs, instead of using vinegar as the weak acid – because no one wants their bath to smell like vinegar – we use citric acid ($C_6H_8O_7$). The gas that is produced is carbon dioxide, the same gas you exhale when you breathe out. When that gas is released in the bath, it pushes up through the water to create fizzing bubbles!



DID YOU KNOW?

A **chemist** is someone who studies everything about the different chemicals that exist in our world, like acids and bases! If you liked exploring this activity, maybe chemistry is for you!

Children's Science Center Confidential and Proprietary Information