

Grand Traverse Area Rock and Mineral Club's Pebble Pups Program 2024 - 2025



Pebble Pups and Earth Science Scholars meet the **third Thursday** of each month during the academic school year (September through May). Time: **5:30 p.m. to 6:15 p.m.**

**Place: Traverse City VFW Multipurpose Room.
3400 Veterans Dr, Traverse City, MI 49684**

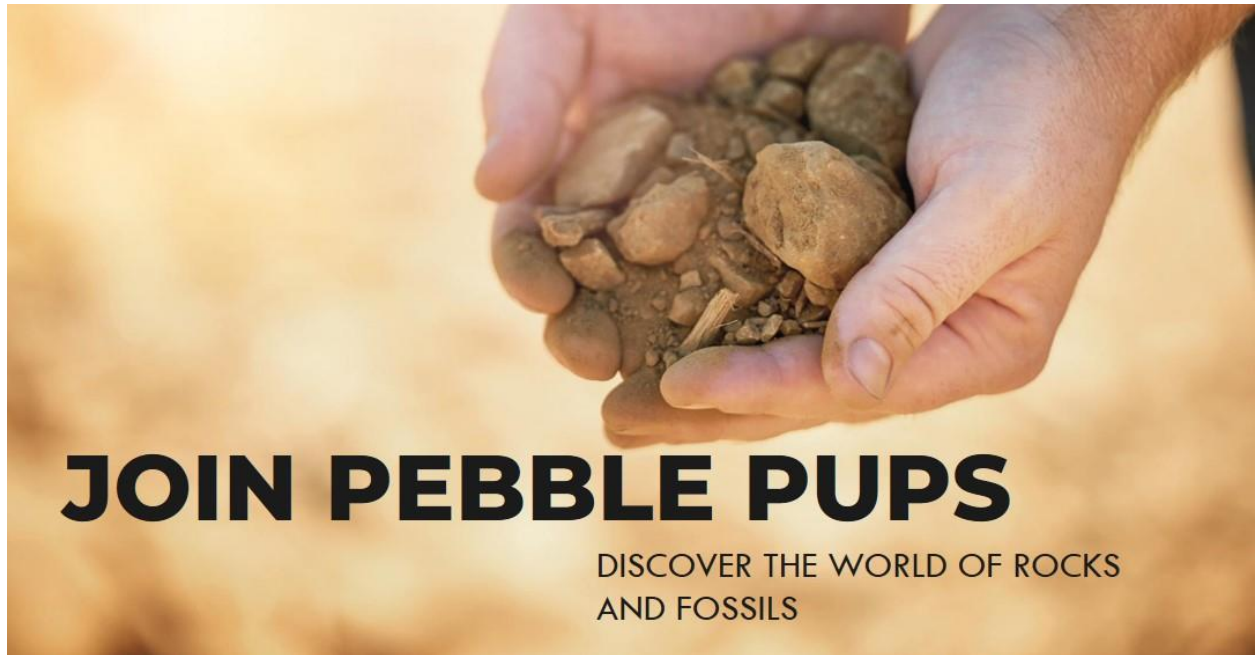
Date	Event	Details	Instructor
September 19th	Pebble Pup Meeting VFW	<p>(two programs): Brody Dymond presents: <i>Pachyteuthis densus</i>: A fossil belemnite from the Upper Sundance Formation, Buffalo, Wyoming Fossil Fish. Fossil fish (<i>Knightia eocaena</i>) from the Eocene-age Green River Formation in Wyoming will be examined. We will work with the fossil fish from Fossil Lake in Wyoming, how these fish fossils are collected, and how they are prepared. Pebble Pups will have the opportunity to do some hands-on-prep work and will get to take home their own fossil fish. Mineral of the month: beryl, variety emerald</p>	<p>Brody Dymond Jennifer Bowen Steven Veatch</p> 
September 28 th to 29th	Rock Club Show VFW	The Grand Traverse Area Rock and Mineral Club will have their annual show.	
October	National Fossil Day Art Contest (work on this at home)	<p>National Fossil Day is an annual celebration held to highlight the scientific and educational value of paleontology and the importance of preserving fossils for future generations. Pebble Pups will enter the art contest and participate in other activities. ART CONTEST INFORMATION https://www.nps.gov/subjects/fossilday/art-contest-2024.htm</p>	

<p>October 14th</p>	<p>Special Event: October 14th Meeting at the Boardman River Nature Center on Cass Road 5:30 pm</p>	<p>Earth Science Week The theme of Earth Science Week 2024 will be "Earth Science Everywhere." The event, to be held October 13-19, 2024, will explore the many ways that earth science is conducted — by various types of people and professions in interconnected disciplines — to help solve problems for communities and the planet.</p> 	
<p>October 16th</p>	<p>Special Event: October 16th National Fossil Day. We will celebrate this on the 17th.</p>	<p>Celebrating National Fossil Day This year it is on Wednesday, October 14, 2024. The day is celebrated annually to highlight the importance of preserving fossils for future generations and to recognize the scientific and educational value of paleontology.</p>	
<p>October 17th</p>	<p>Pebble Pup Meeting VFW</p>	<p>Class: Dinosaurs: Sixty-five million years ago, dinosaurs ruled the Earth. One day in June, 64.5 million years ago, an asteroid crashed into the Yucatán Peninsula. A few years later they were all gone, setting the stage for the rise of mammals. Lab: Fossils Mineral of the month: peridot</p>	
<p>November 21st</p>	<p>Pebble Pup Meeting VFW</p>	<p>Class: Using rock tumblers. Rock tumblers are important lapidary and jewelry-making tools. These machines use a rotating drum filled with abrasives to grind and polish rocks over several stages. We will learn how to use them. Mineral of the month: quartz</p>	<p>Bob White</p> 
<p>December</p>	<p>No meeting</p>	<p>No meeting in December</p>	
<p>January 16th</p>	<p>Pebble Pup Meeting VFW</p>	<p>Class: Michigan Fossils will be examined. Mineral of the month: calcite</p>	<p>Eric Hallman</p>

February 20th	Pebble Pup Meeting VFW	Class: Into the Desert This is the story of a teenage adventurer who wandered through deserts and disappeared. We will enjoy sedimentary rocks while we talk about being safe in the field. Lab: Field collecting Mineral of the month: pyrite	
March 20th	Pebble Pup Meeting VFW	Class: Earth Science Poetry. We will work on poems based on rocks, minerals, and fossils. Pebble Pups will compete with other students by entering poetry based on any Earth science topics. Mineral of the month: garnet	
April 17th	Pebble Pup Meeting VFW	National Poetry Month each April is the largest literary celebration in the world. Mineral of the month: feldspar Class: The Gilman Story. We will look at Colorado's famous mine and company town. Mineral of the month: feldspar	
May 15th	Pebble Pup Meeting VFW	Class: The Greater Alama Mining District This class will review the Greater Alama Mining District's importance to Colorado history. Rhodochrosite will be featured. Lab: Farewell Party Mineral of the month: barite	

Schedule subject to change





JOIN PEBBLE PUPS

DISCOVER THE WORLD OF ROCKS
AND FOSSILS

Field Trips



(You must have a current membership with paid dues to participate in the field trips. You must register for each field trip in advance. Dates and times subject to change)

Ancient Echoes Expedition: Journey into the World of Fossils*

Location: **Sabin Loop- Fossil Beach**

Theme: Fossil Discovery Hike

Date: **TBD**

Time: 10 am to 12 pm

Joint trip with the Boardman River Nature Center

Description: Embark on an extraordinary adventure with the "Ancient Echoes Expedition: Journey into the World of Fossils," a thrilling hike that invites you to step back in time and explore the geological wonders of our planet. This immersive program guides hikers through a captivating landscape rich in ancient echoes, where fossilized remnants tell the tales of prehistoric life. Led by seasoned experts in paleontology, the expedition combines the excitement of a scenic hike with hands-on fossil



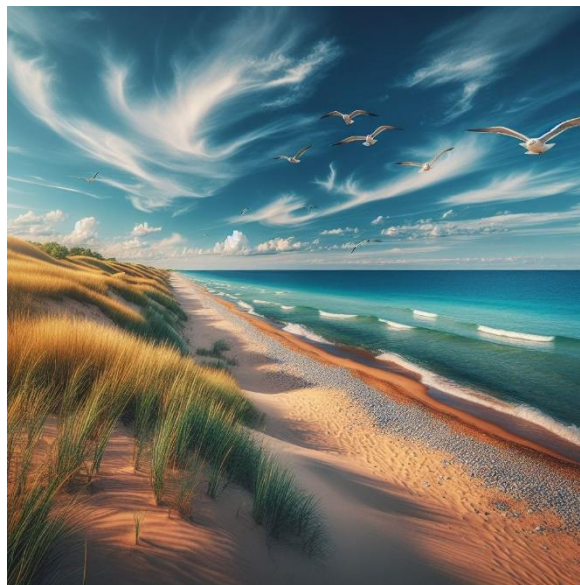
discovery, offering participants the chance to learn about ancient creatures. As the trail winds through breathtaking vistas, participants gain a deep appreciation for the geological history that shaped the world we know today. This hike is not just a physical journey but a profound exploration into the mysteries of Earth's past, fostering a connection between pebble pups and the awe-inspiring narratives concealed within the rocks and fossils of the terrain.

Vans Beach: A Collection Trip

Location: Van's Beach, Leland

Date: **May (date TBD)**

Description: This trip to Leland, Michigan, offers Pebble Pups a unique opportunity to explore the geological wonders of this stunning shoreline. Pebble Pups, armed with a passion for rocks and fossils, will embark on a journey along Vans Beach to discover the diverse array of geological specimens that wash ashore. From ancient fossils embedded in the sedimentary rocks to beautifully weathered pebbles and stones, the pups will add a number of specimens to their collections. The program not only fosters a deeper understanding of the region's geological history but also promotes a sense of wonder among the pups who share a common fascination with Earth's ancient past.



Ice Age Odyssey: Hiking through the Legacy of the Ice Age

Location: **Brown Bridge Quiet Area***

Theme: Exploring the Ice Age

Date: **TBD**

Time: 10 am to 12 pm

Joint trip with the Boardman River Nature Center

Description: Embark on a transformative journey with the "Ice Age Odyssey: Hiking through the Legacy of the Ice Age," a trailblazing expedition that unveils the remnants of a glacial epoch etched into the landscape. This immersive hiking program offers hikers the unique opportunity to traverse breathtaking terrains shaped by the colossal forces of the Ice Age. Led by knowledgeable guides well-versed in geological history, hikers will meander through stunning vistas adorned with ancient moraines, glacial valleys, and picturesque remnants of ice-carved landscapes. Along the way, adventurers will gain profound insights into the ecological and geological legacies left by the retreating ice, fostering a deep connection to the Earth's dynamic past. This hike promises not only a physical exploration but also a captivating narrative that



unfolds with every step, leaving participants with a newfound appreciation for the enduring imprints of our planet's icy heritage.

Note: Field trips marked with an asterisk (*) are family trips in cooperation with the Boardman River Nature Center and the Grand Travers County Conservation District. Other field trips are for pebble pups only.

The **Future Rockhounds of America Program**, sponsored by the American Federation of Mineralogical Societies, is an important part of the Grand Traverse Area Rock and Mineral Club's Pebble Pup program. All pebble pups are urged to participate in the program and earn merit badges. Here is the link:

<https://www.juniors.amfed.org/about-fra>

Earth Science Literacy Big Ideas	
1	Earth scientists use repeatable observations and testable ideas to understand and explain our planet.
2	Earth is 4.6 billion years old.
3	Earth is a complex system of interacting rock, water, air, and life.
4	Earth is continuously changing.
5	Earth is the water planet.
6	Life evolves on a dynamic Earth and continuously modifies Earth.
7	Humans depend on Earth for resources.
8	Natural hazards pose risks to humans.
9	Humans significantly alter the Earth.

The pebble pup program provides students with an overview of the origin and evolution of the Earth. Informed by the Next Generation Science Standards, this program examines geological time scales, radiometric dating, and how scientists “read the rocks.” Students explore dramatic changes in the Earth over the last 4 billion years, including how life on Earth has changed. In addition to looking at geology on a global scale, students will take to their own backyards to explore and share their local geologic history. Students will bring their understanding of the dynamic Earth, along with materials presented, discussion questions, and assignments into their own powerful understanding.

Pebble pups that have an interest in a deeper dive in earth science projects are urged to work with Steven Veatch, who can supply individual projects to pebble

pups where they will learn basic research, science writing, and experience the excitement of having their research published.

Pebble Pup Instructors:

STEVEN VEATCH lives near Interlochen and is from the Pikes Peak region of Colorado. Steve has an MS in Earth science from Emporia State University. Steve has contributed chapters to 3 books: *Field Trips in the Southern Rocky Mountains, USA*, *Field Guide 5*, *The Paleontology of the Upper Eocene Florissant Formation, Colorado*, and *The World's Greatest Gold Camp: An Introduction to the History of the Cripple Creek & Victor Mining District*. Steve has also written numerous articles, essays, reviews, and monographs on climate change, paleoecology, dinosaurs, trace fossils, mammoths, and the Ice Age. His poems, science articles, and nonfiction work appear in newspapers and magazines. Steve writes a popular blog called Colorado Earth Science. He is active in the Kansas Academy of Science, the Colorado Scientific Society, and the Geological Society of America. He was inducted into the Rockhound Hall of Fame in 2015.



MICHELLE PETERS has lived in Northern Michigan for 8 years but has been collecting fossils and rocks her entire life! She has one son who has spent countless hours rock hounding with her over the years and they have piles and piles of fossils and rocks all over the house.



NATE PETERS is a Senior at Kingsley High School where he serves as Secretary for the Student Council and is an active member of the Students Against Negative Decisions (STAND) Club. Nathan is also enrolled in the Engineering Academy at Career Tech and plans to pursue a degree in Aerospace Engineering at Michigan Tech. He plays Varsity Soccer and is on the Cross Country Team, Track and Field Team and Per Lifting Team. Nate has always been intrigued with the history of the natural world and enjoys teaching younger children and encouraging their natural curiosity.

ERIC HALLMAN is the president of the Grand Traverse Area Rock and Mineral Club. Eric has an extensive background in the hobby.



Contact information: Steven Veatch at 719-213-1475 or steven.veatch@gmail.com