This year’s Expedition Newsletter covers the rich and varied classroom expeditions investigated at Thornton Creek during the 2010–2011 school year. Following the Expeditionary Learning Outward Bound (ELOB) model, Thornton Creek teachers plan and implement year-long projects that support rigorous, interdisciplinary academic learning while encouraging the spirit of adventure, community service, character development and creativity. Our teachers and students devote boundless energy and time to pursue the intricacies of each expedition focus. Lastly, immeasurable assistance from parents and community members make all this amazing learning possible.

This year’s expeditions covered a multitude of fascinating and distinctive subjects, ranging from vast historical and natural macrocosms to microcosms found in environments near and far away. We plunged into our study of orcas in Puget Sound and wondered about salmon in the trees. We surveyed the rocks beneath our feet, and we traveled by foot, bus, monorail, car and ferry to destinations around our community. We researched the human body and concentrated on the intricacies of ant colonies. We journeyed the ancient Silk Road, and we marveled at the many faces of Africa. We learned new terminology and communicated by American Sign Language. We created toys and delighted in the joys of play. We made history and viewed the world around us with new awareness. It has been a bountiful year of discovery, wonder and learning.
The inspiration for this year’s expedition came a few years ago, when a colleague and I attended a “Way of the Whales” workshop on Whidbey Island. Through the series of talks and presentations we saw, I became fascinated by our local Southern Resident orca pods. Particularly, I was interested in the intricate family relationships that make up a pod and the complex vocalizations they use to communicate with each other. It became clear to me that this would be a rich topic for an expedition, as “family” and “communication” are excellent, developmentally appropriate topics for engaging kindergarteners.

Our year began with a study of the orca as a character in literature. We read a variety of fictional stories, picture books, and folktales about killer whales. I used this as a lens through which the class could learn about the different elements of a story. Each student produced their own fictional story about an orca character of their own creation. We did a lot of talking about different types of characters, and character traits, in the development of our orcas. Each story had a beginning, middle and end through which a problem, involving the main character, was solved. This dove-tailed nicely with the beginning of the school year’s focus on social-emotional development, through our First Six Weeks curriculum.

In the winter, we delved head first into the science of orca whales. Through books, the Internet, and videos, we studied about a number of topics, including: the cetacean family, the physiology of the whale, the orca’s use of echolocation, as well as the social dynamics of orca pods. We were also visited by Jeff Hogan, who runs the Killer Whale Tales program at the Seattle Aquarium. This was a particular highlight of our study. As we learned more and more about killer whales, the students developed their own questions about orcas, which further directed our study. By the end of the winter, Room 1 students had become serious orca experts!

In the spring, we invited several scientists into the classroom to teach us about the habitat of the Southern Resident orcas, specifically the Puget Sound, as well as the different ways killer whales can communicate. The students also engaged in two big projects, integrating science, literacy and art. One project was the creation of a mural, which depicted elements of the Puget Sound marine ecosystem along a wall of windows in the classroom. For this project, students made collaged recreations of orcas and other marine life that can be found in the Puget Sound. The second project was the creation and publication of a non-fiction book about orcas. This book was written and illustrated entirely by my students. Additionally, we utilized the process of multiple-drafts to develop each student’s illustrations. In fact, many students created as many as three or four drafts of their artwork. Proceeds from the sale of our orca book will be donated to orca conservation efforts in the Northwest. Finally, in June, the entire class went on a whale-watching trip in the San Juan Islands. It was the perfect way to finish our Year of the Orca.
This year our expedition was about the geology, culture and geography of Washington state. Our first investigation was a study of rocks and minerals, geologic time and how Washington state was formed. We used the district science program to understand how to identify rocks and minerals and learn how the three different types of rocks—igneous, metamorphic and sedimentary—are formed. In October, we went on an amber and fossil dig with geologist Bob Jackson, where we learned that Tiger Mountain was once a tropical shoreline. We learned about geologic time and how the state of Washington was formed over the past 500 million years through a series of tectonic plate action, the ice age, earthquakes and great floods.

Our study of geology inspired many students to share their collected rocks from our field study, the playground and their travels. In addition, we hosted several guest speakers who shared their rock collections and passion with us. Students wrote a story about finding a magic pebble, using Sylvester and the Magic Pebble as inspiration, and they also participated in a workshop at 826 Seattle in Greenwood. They also researched a geology topic and wrote a report. They performed a dance with Whistlestop, entitled “Rocks, Rocks, Rocks,” that put some of our learned concepts about geology into motion.

In the winter, our next investigation led us to learning about the native people of the Pacific Northwest Coast. Students read from our anchor text, The Eye of the Changer, about a sight-impaired boy on a quest to find the Changer and regain his sight. As we read the text, students worked on parallel assignments such as making longhouse models, weaving with cedar bark, crafting a classroom mural depicting the northwest coastal environment and making Haida button blankets. They learned about the different tribes in the Pacific Northwest and how each tribe has its own distinct culture. We closely examined authentic artifacts from the Burke Museum’s traveling exhibit and identified each item’s form and function. Students also went to the Wooden Boat Center, lending a hand in finishing a large canoe and creating a story pole. Students wrote a narrative story about a character who lived in the Pacific Northwest prior to contact with European American settlers.

Students created a pictorial map to learn more about the current landmarks, waterways and topography of Washington state. We read two stories: It Happened in Washington and A Horse’s Tale. The first book is a collection of historical accounts set in various locations in Washington state, such as Captain Cook’s explorations and the Lewis and Clark expedition of the Columbia River. The latter is a story about a toy horse that changes hands and locations over 100 years.

Finally, we continued to rock and roll, playing the ukulele for the second year with our friend, John Leder, all the way to the Folklife Festival!
Instead of a formal expedition in rooms 3 and 6, we explored monthly themes throughout the year. We were able to learn about many different topics. We always read books, sang songs, and created art projects and other hands-on activities related to the monthly theme. Themes we explored this year included: apples, spiders, transportation, music, color, ocean, garden, sports, frogs, and outer space. In addition to our monthly field trip to the Seattle Gymnastics Academy, we also went to Jump Planet, the Seattle Aquarium, the Woodland Park Zoo, a pumpkin patch, and the Seattle Center Train Exhibit/Monorail/Holiday Carousel. It was a full year of exploration!
This year Room 4 studied insects with a sense of wonder, exploration and scientific fact. Looking intently at these interesting, varied, and easily accessible critters, we learned about the bigger concepts of anatomy, habitat, life cycle, food, camouflage and defenses. Through direct contact with insects brought into the classroom (walking sticks, mealworms, ants, butterflies and even head lice), and those we found in their natural habitats, we practiced the skills of observing, questioning, predicting, and comparing and contrasting. Non-fiction texts, movies, poetry, dramatization and artistic work added to our understanding.

A centerpiece of the expedition was getting to know one environment over the course of the year and watching the growth and changes to the insect populations as the seasons changed. We chose a special property on Whidbey Island, called ArtsPace, and visited it five times. Combining scientific and artistic skills, we got to know the forest, pond and garden environments. We slowed ourselves down to focus on one square foot of land, we walked the trails looking for signs of insects, and we dipped our nets into the ponds to find out what was living there. Clay, collage and constructions were other means to think specifically about the insects and their habitats.

Back in the classroom, we studied insect anatomy and how that plays a role in what insects eat and where they live. We experimented with different insect anatomical features, such as their mouthparts, which dictate how the insects eat and live. We read about complete and incomplete metamorphosis, but it wasn't until we raised mealworms that we truly understood the four stages of an insect's metamorphosis.

In the spring, we focused in on one common insect, the ant, and studied ants through hands-on activities, non-fiction reading and research, and direct observations of our own ant colony. In addition, children individually conducted research (with adult help) on specific types of ants and presented their information in a Question and Answer format, a type of writing that had previously been studied in Writer's Workshop. The culminating activity was a cooperative, small-group project creating a colony of ants (out of Styrofoam) and then collaboratively building the colony's nest, complete with tunnels and various rooms (made of cardboard and construction paper), for their ants to live.

While some children started off a bit squeamish about insects, in the end everyone developed a respect and appreciation for insects and a passion to explore and learn about all the bugs crawling and flying around us.
This year our expedition, “Bikes, Trikes, and Automobiles”, focused on our community of Seattle and how people get around in our city. At the Center for Wooden Boats, we paddled umiaks. We took school buses to plays. We took a Metro city bus to the downtown bus tunnel, hopped on the monorail to the Seattle Center, and then rode the elevator up to the top of “The Needle”. We biked in PE. A parent came in and helped us take apart and re-assemble a bike. We roller skated in PE. And we walked! We walked for the Walk-a-thon. We walked around our field. We walked to View Ridge playfield (about ½ mile). And we walked to Magnuson Park for a Wetlands class (1-1/2 miles)—all with an eye toward pedestrian safety.

We studied about the foot. This included a visit by an orthopedic surgeon who de-mystified bones, muscles, tendons, and ligaments, and then answered a zillion questions. We choreographed and performed “These Feet Are Made for Walking” with Whistlestop. We clipped on pedometers and measured distances around school in steps. We found out we walk thousands and thousands of steps during each and every school day. We walked in our neighborhoods with our families. We walked around the block of our school noticing things around us. Each of us picked one thing and wrote and illustrated a page for a class book called Room 5 Went Walking (based on the children’s book I Went Walking).

For homework, families were asked to keep a weekend log of where their Room 5 child went and how they got there (mostly by car). Later they were asked to try an alternate way of getting there and have their child reflect on this experience. On a huge Seattle map, we located where our houses were and noticed which classmates lived near us. We each drew a line connecting our house to a favorite Seattle spot our family enjoys. We published a list of “Room 5 Recommended Seattle Restaurants” as well as our favorite destinations in our neighborhoods. We finished our year with yet another form of transportation—we traveled by car and ferry boat to Camp Sealth! What a great way to end our transportation exploration!
Africa is the second largest continent in the world and, given its vast expanse of culture, history, landscape and people, it is a topic big enough for a complete kindergarten through fifth grade study! I felt passionate about studying Africa because my first year of teaching was at a school in West Seattle with a large East African population. The richness these families added to my life made me want to celebrate theirs by learning more about their homeland and, in some small way, sharing them with my kindergarten students at Thornton Creek.

We began our expedition on Africa based on our first kindergarten FOSS science unit on fabric—a great place to start. The FOSS science unit provided not only different types of fabric, but also yarn for hand weaving. Coincidentally, the yarn matched the colors of the Ghanaian flag, which is green, yellow and red. So while we studied fabric, we focused on weaving, especially hand weaving in Africa. We studied African patterns found in weaved kente cloth and mud-printed fabric at the same time that we studied patterns in math. We created mud-printed scarves and cards, which we sold at the Winter Bazaar, and wove paper using the colors of the Ghanaian flag.

A student’s uncle worked at the Peace Corps and had spent some time in Ghana. While visiting family in Seattle, he was able to come and talk to our class. He brought beautiful pictures of children engaged in activities in their daily lives in a rural village. The Room 7 students were fascinated by the amount of chores children do in rural Africa: young boys help their fathers build their mud huts, they work in the fields, and they carry heavy containers of water on their heads walking from the river to their homes. Looking at rural village life in Ghana, we compared and contrasted their neighborhood in Seattle to a rural community. Some of our focus questions were: “Who builds homes here vs. there?” “How is life the same and different on a daily basis for children in rural Africa?” “Where do they shop?” “Do African children go to kindergarten?”

As we delved deeper into our African journey, we quickly learned from various Thornton Creek community members about their connections to Africa by either personal or family travel to Africa. Soon we started getting donations of African fabric, gourds, bowls, drums, and a beautiful map that hung in our classroom. It was a great way to engage our larger Thornton Creek community. One Room 7 student’s mother had spent two years in a rural village in Namibia teaching local teachers how to teach. She visited Room 7 and led the students in several hands-on activities related to chores that the children in rural Africa might do.

Throughout the year, it became evident this expedition was meant to be because things kept falling into place. In the fall, while we were studying fabric, the Burke Museum showcased a fabulous weaving exhibit, which we were able to attend. We rode the Metro bus from school to the U-District, which added even more excitement to the field trip. We were also able to see the Northwest Puppet Theatre’s performance of Anansi the Spider at the same time we read Anansi folktales. The students thoroughly enjoyed the continued on page 8
show and delighted in their ability to predict what Anansi, the trickster, was about to do next. Then we were fortunate to connect with Kofi Anang, a drummer, dancer and storyteller from Ghana. Kofi taught the students African songs and drumming, and told Ghanaian folktales mostly about Anansi the Spider, who was now our old trickster friend. Mary K. also taught the students African songs, including a song about Africa not being a country, but a continent with many countries. The students truly loved that song.

After winter break, we proceeded to the next kindergarten FOSS science unit called “Animals 2x2.” Originally it was not about animals from Africa, but I adapted the unit to study African animals in-depth. Our leading survey question was “Which African savanna animal is your favorite: a zebra, an elephant, or a giraffe?” (Zebras won!) We were able to see these and many other African animals on our field trip to the Woodland Park Zoo. Additionally, in art class the students learned to draw zebras, elephants and giraffes from front views and side views. They also made grassland pictures with Maria and learned about drawing landscapes, including the art terms foreground and background. The savanna is where our hearts felt most at home in Africa.

Our Whistlestop dance performance was based on these three herbivores. The students danced or traveled in herds as they migrated from north of the equator to south of the equator. While we studied the zebras, elephants and giraffes, they made books about them, which led to a discussion about nonfiction books. They learned how to label their animal illustrations and write about their distinguishing features, habitats, predators and other interesting facts. For a final project, the students wrote research reports on an African animal. The students’ reports were compiled into a book to teach each other about some of the many other interesting animals found on the continent of Africa.

Africa is a huge, varied, complex and amazing continent. Room 7’s investigation brought us all many rich rewards throughout the year.
Salmon in the Trees

Liz McCormack / Second Grade
Nora Scully / Second Grade

What do salmon need in order to survive?

How are salmon and forests connected?

What is soil and how does it affect plant growth?

What are the organisms that live in a salmon forest and how are they connected?

In the fall, our students investigated salmon and their life cycle. The students worked in research groups and wrote about the salmon life cycle stages. Each group created a poster to share their knowledge with other students and members of our school community. We also made visits to local streams and the Issaquah Hatchery to observe spawning salmon. In the classroom, the students observed a dissection of a salmon and learned about the anatomy of salmon. We raised salmon in our school and released them into Thornton Creek near Matthews Beach.

In the winter and spring, we continued our study of salmon with an emphasis on the connection between salmon and forests. We explored the question: How do the salmon get in the trees? We began this with a study of soils and decomposition. We made field trips to the Mercer Slough and the UW Arboretum. Our programs focused on soils and food webs with a focus on the energy flow through food webs. We learned about producers (plants), consumers (herbivores, omnivores, carnivores), and decomposers (fungi, bacteria, invertebrates). The students researched plants and animals from these three categories and wrote reports.

The culminating product was a mobile depicting a balanced food web in salmon forest ecosystem. Throughout the year we integrated our study of salmon into a social studies curriculum about families and their neighborhoods. By creating a neighborhood with families, homes and businesses, students came to understand how neighbors work together in a community. The backdrop for the neighborhood was a large mural, and in the forefront the students created structures representing homes, schools, library and businesses. To tie in our expedition, the students created a salmon stream. Through role playing, the students learned how to discuss and solve problems such as pollution, zoning and flooding. In order to solve some of the problems, the students came to understand the importance of continued on page 14
Room 9’s expedition this year was “Play and Toys: The Science Behind Toys and the Importance of Play.” The focus of our expedition was to get children to play, explore their creativity and imagination, and have fun in the learning process. In this day and age when children are over-scheduled with extra curricular activities and stimulated by technological devices, we really wanted to emphasize the cognitive learning that is developed through play and toys.

Our expedition had three investigations: Exploring Toys from the National Toy Hall of Fame; Balls and Ramp (science kit), and Toy Making. Although these were separate investigations, there was overlap in the activities. For example, balls are in the National Toy Hall of Fame, and there were some lessons in the Balls and Ramp kit where the children began exploring their toy making skills.

History and science were the focus of our exploration of the toys from the National Toy Hall of Fame. As we learned about different toys, our focus questions changed depending on what we were studying. Some of our focus questions were: “What is a ___?” “What can it become?” “How does it move?” Our expedition was woven into literacy, math, everyday play, and art.

We focused on non-mechanical toys including the hula hoop, jump rope, jacks, skateboard, slinky, bicycle, top, sticks, balls, ramps, kite, and stuffed animals. At the end of the year, children made their own top, kite, constructed a stuffed animal and designed and created a toy of their choice. The children were very engaged in this expedition as evidenced by their excitement and creativity each time we did expedition work. We often adjusted our expedition based on the kids input and level of engagement.

Our children are very well versed in the physics behind the toys we studied. We focused on Newton’s 3 Laws of Motion, as well as gravity, friction, acceleration, push/pull, momentum and centrifugal forces. They can look at a toy and describe what about its design makes it work well. Why is a hula-hoop round? How heavy/light should it be? Why? How was it made? They often bring these forces up when something happened on the playground or in regular conversation. They also displayed their understanding of physics in their dance with the Whistlestop Dance Company.

The second investigation was the Balls and Ramps science unit. In past activities, our students learned about forces (gravity, friction, acceleration, push/pull momentum, and centrifugal), which were further explored in this unit. The students learned about properties of balls, and conducted experiments to discover what made a ball a good roller and bouncer. They furthered their learning by creating ramp systems. There were many lessons in this unit where the children began to realize they were becoming toy makers (e.g. making balls move with straws through a student designed ramp system).

Our third and final investigation into toy making culminated with our students making tops, kites, stuffed animals, and ultimately concluded with them designing and making...
Self-Contained Classroom: Learning American Sign Language

Teresa Swanson / Second & Third Grade

This year Room 10 learned American Sign Language (ASL). We use this way of communicating because one of our classmates is deaf. We included students from Nora and Steve’s classes so more Thornton Creek students will know ASL and can talk with us. The first step was to have a name sign, so everyone who came to Room 10 received a name sign. Then we learned key words, like eat, read, math, circle time, bathroom, outside, play and sit. Next we asked questions like “Where are our friends?” The students in Room 10 also discovered that learning ASL helped everyone communicate more effectively, and we used ASL throughout the day. ASL helped those of us who can hear, but not talk, communicate our needs quickly. As our ASL vocabulary grew it also improved our ability to learn to read.

Stop by Room 10 to learn ASL. We are hoping everyone will share this amazing language with us!

Art was another important element integrated into our expedition. We utilized our Roger Kukes training by having students sketch every toy we discovered. These products were incorporated into each child’s own expedition book.

Our expedition was highly enjoyed by our students based on their engagement and lively participation in discussions and activities. In addition to the learning targets of our expedition, the children developed their individual skills through cooperative play. The hands-on discovery approach that naturally comes through play was helpful in achieving the expedition's learning goals. The enjoyment by our students and the transfer of learning between investigations were successes in our expedition.

Room 9: Play and Toys

continued from page 10

their own toy (an original design or based on another toy). These amazing creations confirmed that the children understood the critical design elements of toys. Did they include all the parts on their drawings? Did they choose appropriate materials for their own toy? Did their kite fly? Do their tops spin? Were they able to sew a stuffed animal? Were the stitches in the right parts?
The Human Body

Steve Chavez / Fourth Grade

What makes something a “living thing”?
What goes on in our bodies every day that we don’t have to think about?
What can we do to keep our bodies healthy?
What have been some of the most beneficial medical discoveries in modern history, and how did these discoveries come about?

The first investigation allowed the students to understand the smallest (and arguably the most important) parts of our bodies: cells. Some of the highlights of this investigation were learning about analogies and creating analogous cell models that included all the major cell organelles. The students were exceptionally creative and came up with models that clearly explained cell function. They worked in partnerships to complete this project. Another highlight was having a community college instructor come in to help us view cells under the microscope. The children drew diagrams in their science notebooks. Finally, along with an artist-in-residence, the students wrote and performed Micro Battle—an original play about what happens when a virus invades the body!

The second investigation was on body systems. The first part of this investigation was a simulation in which the students trained as “medical specialists.” In small groups they researched and learned about a specific body system and took a board exam to be “certified.” Each student studied hard, using multiple resources, including books, videos, and the Internet to pass their board exams. The next piece of the investigation was to teach other students about their specialty. Working in specialty groups (cardiologists, neurologists, immunologists, orthopedists, and so on), the students created a display and model of their body system.

Each group gave a 5- to 10-minute lecture on their specialty to teach their “colleagues.” These interesting presentations were shared with classroom families at an evening event. The final part of the class expedition was an investigation into our health and what impacts it. The students learned about various common diseases that specifically affect the body systems of their various specialties. They were presented with “patients” who come to their clinic with specific symptoms. The students were challenged to come up with a diagnosis for their patients as well as a course of action for recovery. We were lucky to have a physician (a TC parent) who assisted with this part of the investigation. The students presented their cases in what we called “grand rounds,” which concluded the expedition.

Diagnosis: It’s been a fantastic year!
Diving Deep into the Puget Sound: A Study of Orca Whales

Rebecca Rutzick / Third Grade

What makes an orca an orca? How do orcas communicate? What is the family structure of orca whales? Why is the orca population declining? What is the difference between transient and resident orcas? These endlessly interesting mammals provided the basis of Room 13’s expedition. This was a hands-on, integrated, year-long study. Orca whales became the basis for our science and writing work for the year. In addition, math, social studies, reading and art were also integrated into the study. Throughout the expedition, there was a large focus on both partner and group work. Students went on field trips related to orcas and met with local orca scientist experts. There were several large culminating projects.

Our study began with meeting a scientist who first fell in love with orcas when he was 7 years old and has since dedicated his career to studying, and helping to protect, orcas. Students became introduced to the deep connections between the Puget Sound and orca whales.

When the study began, students wrote about what they knew and what they wanted to learn about orca whales. The whole class researched these amazing creatures. Next, students developed research questions and research teams to delve deeper into specific questions. They worked in pairs over a number of weeks, refining their questions, researching, and posing their questions to specialists. Some of the topics included the orca life cycle, human impact, orcas compared to other mammals, habitat, and more. Then, students wrote about and illustrated their specific topics. Finally, the class put their collective research and work together to create a non-fiction book about orcas.

Throughout the research, students did extensive partner work and gave frequent peer feedback. The class celebrated the completion of the research by inviting Room 2 to read and respond to their work.

Throughout the expedition, students met with a scientist who first fell in love with orcas when he was 7 years old and has since dedicated his career to studying, and helping to protect, orcas. Students became introduced to the deep connections between the Puget Sound and orca whales.

At the Seattle Aquarium, students learned more about the skeletal system of orca whales, and in what ways they are similar to humans. Students also did hands-on work with plankton and learned how the health of plankton populations affects orcas.

Interwoven throughout our study of orcas was a study of Northwest Coast Native Americans. Students learned of the great importance that orca whales have for these local

continued on page 14
Room 13: Diving Deep

continued from page 13

At the end of the school year, students did a mini study on the Tlingit Tribe. Students learned about traditional tribal roles, and created a number of hands-on projects, including: fishing tools, woven baskets, drums and clay canoes. Math was integrated into their daily work. For example, as the students created and built replica longhouses, they calculated perimeter, area and scale.

Students wrote stories and poetry that were inspired by orca whales. The poetry was written in a number of different forms including haiku and acrostic. Then, students did an orca poetry slam, where students recited and acted out their poetry for friends and family. Next, the class compiled a book of their haiku poetry on orcas, replete with hand-drawn illustrations inspired by local Northwest Coast Native American art. Several poems were even the basis for our whole class modern dance piece.

Students completed several art pieces related to orcas. They crafted Northwest Coast Native American style traditional orca button blankets as individuals and together as a whole class. They researched depictions of orca whales in Northwest Coast Native American art, and did drawings and carvings in clay of orca whales in this style. Many students invited their parents to the classroom to see their artwork throughout the year. For the annual auction, Room 13 students worked together to create a button blanket of an orca whale that was then donated back to the school so the entire Thornton Creek community could enjoy it. To paraphrase a piece of classroom art, “Orcas really are extraordinary!”

Rooms 8 & 14: Salmon in the Trees

continued from page 9

buffers such as wetlands and riparian zones, as well as native plants. We also learned to recognize the sources of common pollutants that get into our salmon streams and determined ways to prevent the deterioration of salmon streams. We visited a local site where stream restoration is in the planning stages. We hope to observe the restoration project as it progresses next year.
Making History

Rick Lemberg / Fifth Grade

Our Making History expedition attempts to simulate the origins, formation, and evolution of culture. Played as an elaborate game, it integrates the disciplines of history, anthropology, economics, language arts, art, mathematics, engineering, geography, and critical thinking in an atmosphere of creativity and research.

Each simulated society begins with relatively few technological skills, similar to the way humans lived tens of thousands of years ago. During the duration of the project, the simulation traverses thousands of years of cultural complexity and can bring some of the civilizations into a bronze or iron age. The challenge of the expedition is to cooperate as a team; to create and develop a rich culture; to work with specific and limited natural resources; to trade and interact with other societies; and to research, invent, and document the whole development in our journals. Developing a culture is a collaborative effort; every student is expected to contribute his or her part as the process unfolds.

In Making History, each culture group of four to five students develops and maintains its society within a defined land area with limited natural resources represented on a world map. As the simulation progresses, each culture group chooses which traditions and technologies they want their society’s culture to acquire and enhance. Inevitably, the cultures grow in different directions. For that reason, the simulation attempts to accommodate any reasonable developments that the students can envision. These enhancements, however, do not become incorporated into a group’s culture unless they are recorded in their culture journals. Because the society each group nurtures will share and trade its discoveries and inventions with other societies, the efforts of each student ultimately enriches every culture in the simulation and educates every student in the class. The scope of Making History goes as far as our imagination, critical thinking, and research can take it!
This year’s expedition, The Silk Road, offered many rich areas of learning. We began our journey by studying early maps, in particular one of the Mediterranean region from the 1300’s. Part of the Catalan Atlas, it provided an entry into map-making and geographical awareness. Early cultures and contacts were put into context with a large floor map containing the Silk Road places that were part of our study. We also had access to a Seattle Art Museum kit on ancient civilizations with artifacts including early trade coins. We used the floor map often as well as a timeline activity that placed people and events in BC/AD such as the where and when of the domestication of camels and horses, the secrecy and politics of silk making and trade, the time of Genghis Khan and Kublai Khan, Marco Polo, etc. The topic was a compelling one and wakened a sense of curiosity about both geography and history.

With the read-aloud of *Three Cups of Tea* came a class project collecting ‘Pennies for Peace’. We tried our hand at a math lesson, writing with sticks in the dirt on a cold, rainy day. It deepened our understanding of what it means to have an education and schoolhouse. The students were proud to send off their funds earned from the winter bazaar and collected pennies to help Afghani and Pakistani children, especially girls, living in remote villages.

Through our anchor text, *I Rode a Horse of Milk White Jade*, we immersed ourselves in another culture. We learned some of the Mongol language and beliefs of the 1300’s through the story of a Keriat girl of a nomadic Mongol tribe. We learned about spices in connection with the Spice Trade. This included a presentation from a parent who traveled to the Spice Islands and is also a curator at the Burke Museum. We prepared a meal with multiple spices and a menu of food from Afghanistan, Pakistan and India at Deb’s Training Kitchen. The students were very engaged in all the activities and projects! As a closing activity, we toured the Port of Seattle to take a look at current trade. We continued to read journals, wrote about the Catalan Atlas and performed a play based on a story of the Kirghiz tribe of Central Asia. We worked on a silk scarf project and concluded with a watercolor project. Both art projects integrated learning from our year-long expedition.

Next year, we will raise silkworms since this year was simply too full of Silk Trade exploration and we have run out of time! It is important for this silkworm project to be long enough to experience the entire life cycle of the silkworm. We have planted a mulberry tree (silkworm food!) and a silk tree (native to Persia) in our outside planters. I plan on linking next year’s expedition focus with this year’s to continue to expand geographic awareness and a sense of history. It has been an amazing journey so far!
The Mind’s Eye: An investigation of how we see, what we see, and why we see it that way

Sandra Brettler / Fifth Grade

This year our class of fifth graders had a great time studying the importance of eyes, vision, and perspective. Our explorations covered three main investigations: 1) How we see: The physiology and anatomy of the eye and vision, 2) What we see: Noticing the world around us, and 3) Why we see it that way: Studying the cultural and personal biases we have.

Our expedition opened with an exploration of the science behind the eye and the visual system. Students learned how photoreceptors work and the physiology behind rods and cones. They studied the eye as a system with specific subsystems including the sclera, conjunctiva, pupil, cornea, lens, retina, and optic nerve. The investigations included identifying and studying the blind spot, mono- and binocular vision, depth perception, visual dominance and how the visual system interacts with other systems.

We also had the opportunity to learn how the human eye differs from other animals’ (including dissecting a squid and learning about their round lens).

Our second investigation involved students exploring what they see. We used specific techniques to observe the world around us including the Private Eye work, which had students look through a 5x loupe and draw what they see. They continued to draw and comment as they looked closer, closer, and closer. They wrote about the object commenting about what the contour lines and details reminded them of. Focusing on a small field allowed deeper investigation into what they were looking at by blocking out the world around the object. We also used other artistic techniques such as drawing what you see without looking at your art or with minimal viewing. This allowed the students to reflect on communicating in different ways about what they were seeing. We used our scientific exploration of microworlds, sense of scale (powers of ten), and perspective drawing to further explore this concept.

Lastly, students studied why they see things a certain way, exploring our cultural and personal biases. Our read alouds, book groups, and drama work (Seattle Children’s Theater and class play) all provided avenues for this exploration. We deepened this idea of perspective with our regular interactions with our friends at the Ida Culver Senior Home in which we shared personal stories and singing of songs from different time periods.

This expedition opened up our eyes to the world around us!
Maria Callahan

This year we had some amazing themes of our own in the art room, ranging from enormous animals of the savanna and oceans to the detailed physiology of the human body and the fascinating world of wild salmon, tiny insects, layered rocks and toy construction. We looked at how artists work and think. We intertwined these ideas with our general expedition projects and learning. As a whole school, we thought about how artists communicate, how they welcome mistakes, how they take risks, and how they have fun. As the year began, we did specific projects and assignments that helped us practice these ideas. The entire school heard a beautiful little book called *Beautiful Oops!* From this book, we embraced the idea of changing a “mistake” into something great!

Most projects in art class centered around students’ expedition learning. Often we spend several weeks gathering skills and taking small steps toward the completed work. For instance, the Salmon in the Trees expedition required us to practice drawing both trees and salmon. Then students were able to invent their own tree house animal homes, create a Northwest Native salmon design and draw a whole-class ink drawing based on the expedition.

Similarly, fourth graders learning about the Silk Road practiced drawing camels, goats and horses. The students were then able to take these skills and design their own silk scarves with an animal theme. Kindergartners learned how to draw zebras, giraffes and elephants before helping to paint a life-size giraffe and elephant for their expedition on Africa. Both of these magnificent creations now “live” in the Thornton Creek lunchroom!

The art of Nick Cave linked very well with an expedition on the Human Body. The fourth graders in Room 11 learned about proportion and scale as related to the human figure. Inspired

*continued on page 19*
by Cave's sound suits, the class made sculptural dolls out of fabric, beads and yarn.

Two big art events at school also helped to support and expand our expedition learning. In December, lanterns for our winter lantern festival were boldly decorated to reflect the various expedition themes. It was breathtaking to see countless lanterns flickering on the stage as a warm welcome to the otherwise dark, wintry season. Our spring Art and Athletic Skills Night showcased a great many of the projects students created to show their expedition learning. Remarkable photography coupled with witty poems, astonishing clay masks, delicate silk scarves, whimsical fabric dolls, rock and mineral collages, detailed pen sketches and marine watercolors were just some of the beautiful work adorning the walls and halls of Thornton Creek. It was a year of joyous creation!
Expeditionary Learning Outward Bound (ELOB) emphasizes learning by doing, with a particular focus on character growth, teamwork, reflection and literacy. Each year at Thornton Creek, our teachers connect high quality academic learning to adventure, service and character development through a variety of student experiences, including interdisciplinary, project-based learning expeditions.

These expeditions enable students to develop teamwork skills, learn to think critically, put forth their best effort, value and seek out a diversity of thought, reflect upon their work and think about meeting others’ needs through service projects in the community. There is a strong emphasis on cooperation and collaboration, building a culture of support, risk-taking, and service and compassion in each classroom, as well as throughout the school. Students often express what they have learned through visual and performing arts.

Expeditionary learning also emphasizes the importance of process in learning. Teachers create experiences in which students are challenged to think deeply about and evaluate their own work over time. Evidence for this process exists in our peer critique and collaborative assessment processes, students’ written reflections on their learning, as well as the multiple drafts that are developed to create a final written product.

Expeditions often take a class outside the school building to do research, conduct interviews or carry out a range of other fieldwork assignments. We also bring community resources into the classroom to support expedition work. Community members who have expertise to offer an expedition are sought out and encouraged to become involved in class work. Parents also provide critical support to students and teachers for daily work, culminating projects, displays of expedition work and travel for fieldwork.

We hope you enjoyed this review of our 2010–11 expeditions.

ELOB Design Principles

1. The primacy of self-discovery
2. The having of wonderful ideas
3. The responsibility for learning
4. Empathy and caring
5. Success and failure
6. Collaboration and competition
7. Diversity and inclusion
8. The natural world
9. Solitude and reflection
10. Service and compassion

See the appendix of the school handbook for a more complete explanation of ELOB and these principles.

Learn more online: www.elschools.org

Thornton Creek @ Decatur

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SCHOOL WEB SITE
seattleschools.org/schools/ae2