

## Visitor Guide to the Outdoor Exhibits & Buildings at Raven Hill Discovery Center

Watershed Model	Music Garden
<p><i><b>Please:</b> explore with an adult. Leave frogs, stones &amp; rocks alone and on the ground and in the stream. Keep sticks, leaves &amp; mulch out of streams &amp; lake.</i></p> <p><i><b>Location:</b> near Picnic Pavilion</i></p> <ul style="list-style-type: none"> <li>• How many streams come together?</li> <li>• What is the same about each stream? What is different about each stream?</li> <li>• How many geysers?</li> <li>• What happens to the third spring, if you cover two of the “springs”?</li> <li>• Which stream moves faster? Which one is slowest?</li> <li>• How many frogs can you find? <b>PLEASE DO NOT CATCH THE FROGS.</b></li> <li>• Can you find a conglomerate rock (AKA puddin’ stone—a rock with small colored rocks in it)</li> <li>• Which is your favorite part of the watershed: lake, stream, waterfall?</li> </ul>	<p><i><b>Please</b> play instruments gently &amp; take turns. Do not go inside the roped-off area. Ask for help with those instruments.</i></p> <p><i><b>Location:</b> past Picnic Pavilion</i></p> <ul style="list-style-type: none"> <li>• Stand close to the orange <b>whale drum</b>. Play the drum gently. Feel the vibrations in your feet?</li> <li>• Use the flip flops on the <b>slap tubes</b>. Can you play a tune or a pattern?</li> <li>• Use the mallets to play the <b>lithophone</b>. Lithophones are made of stone. This lithophone is made of granite countertop.</li> <li>• Play the wooden <b>amadinda</b>. The amadinda is a type of xylophone.</li> <li>• Try making quiet sounds with the <b>mushroom bells</b>. They are made out of old oxygen tanks.</li> <li>• Play the brake drum <b>metallophone</b>.</li> <li>• Which instrument do you like the best?</li> <li>• Can you play a song on one of the instruments.</li> </ul>
Jurassic Park Walkway	Schoolhouse
<p><i><b>Please:</b> stay on the brick path &amp; off fence Do not pick plants or leaves or peel bark.</i></p> <p><i><b>Location:</b> starts past Picnic Pavilion</i></p> <ul style="list-style-type: none"> <li>• Find time period 4500 million years ago: What famous <b>coral</b> lived here in Michigan? What other animals lived here then too?</li> <li>• Find time period 400 million years ago: When did the <b>horseshoe crabs</b> live here?</li> <li>• Find time period 350 million years ago: What did the <b>crossopterygian fish</b> do?</li> <li>• Find time period 300 million years ago: Find the life-size <b>dragonfly</b> sculpture. The long <b>Equisetum</b> plant is 1/3 size at 30 feet. How tall did it grow?</li> <li>• Find time period 250 million years ago? Name the lizard with the big sail fin—<b>dimetrodon</b></li> <li>• Find time period 150 million years ago: The <b>Pteranodon</b> is gliding and is ¼ life-size. How big did it really get?</li> </ul>	<p><i><b>Please:</b> be careful with old books &amp; desks. Hands-off things that are on the wall. Pick up when done. One GENTLE ring of the school bell each.</i></p> <p><i><b>Location:</b> top of hill/top of Jurassic Park</i></p> <p><i><b>Play school:</b></i></p> <ul style="list-style-type: none"> <li>• Line up separately—girls in first and boys in second.</li> <li>• Take seats—boys on one side &amp; girls on other.</li> <li>• Stand for pledge to flag.</li> <li>• Stand up by your seat to answer questions.</li> <li>• Find a book. Stand by seat to read aloud.</li> <li>• Find the slate boards on the wall that were used instead of paper.</li> <li>• Find the slate pencil used on the slate boards.</li> <li>• Find and read the list of punishments.</li> <li>• Find a favorite thing from the posters on the walls—Changes in Schools &amp; Changes in America.</li> </ul>

Treehouse	Wetlands Boardwalk
<p><i><b>Please</b> stay on the path. Do not pick plants or leaves or peel bark. Leave sticks &amp; stones on the ground.</i></p> <p><i><b>Location:</b> behind Schoolhouse in woods</i></p> <ul style="list-style-type: none"> <li>• Which picture panel is your favorite?</li> <li>• Whisper to a friend in the voice pipe.</li> <li>• Try the marble roll inside.</li> <li>• Look through the periscopes.</li> <li>• What is the shape of the treehouse?</li> <li>• Read Shel Silverstein’s poem.</li> <li>• Find the big burl (growth) in a nearby tree.</li> <li>• Can you balance and walk on a log?</li> <li>• Can you find a beech tree? It has smooth gray bark. A cherry tree has black, shaggy bark.</li> <li>• Do you see any wildflowers?</li> <li>• What colors do you see in the woods?</li> <li>• How many little Hobbit houses can you see?</li> </ul> <p><b>Look, but don’t touch, please. Or build your own to leave for others to see!</b></p>	<p><i><b>Please:</b> stay on the boardwalk. Slippery when wet. Walk, don’t run. Don’t pick leaves or flowers or peel bark off trees.</i></p> <p><i><b>Location:</b> off back of parking lot behind ET Building</i></p> <ul style="list-style-type: none"> <li>• Find damage done by man.</li> <li>• Find water pools. Are they big or little or all dried up? Why?</li> <li>• Look for evergreen trees.</li> <li>• Look for ferns or other special low-growing plants.</li> <li>• Look up and describe 3 things you see.</li> <li>• Look down and describe 3 things you see.</li> <li>• Find a leaf that is smaller than your hand. Is it smooth or rough?</li> <li>• Find a leaf that is larger than your hand. Does it have a smooth edge or toothed edge?</li> <li>• Find the old and new boardwalks. Does the old part of new part have boards that go across? Is the old or new part the one with boards that go lengthwise?</li> </ul>
Ancient World	Taxi Trail
<p><i><b>Please:</b> Stay on paths. Read signs to answer questions. Climb pyramid at your own risk—climb carefully &amp; on steps only.</i></p> <p><i><b>Location:</b> other side of Wetlands Boardwalk</i></p> <ul style="list-style-type: none"> <li>• Find the great <b>pyramid of Giza</b>. The big stone is the real size of some of the pyramid stones.</li> <li>• Find the <b>sphinx</b>. It is 10-foot long. The real sphinx at Giza is 24 times the size of Raven Hill’s. How long is it?</li> <li>• Play ball on the <b>Mayan ball court</b></li> <li>• Walk on the raised <b>Sweet Track</b></li> <li>• How are the bluestones of <b>Stonehenge</b> arranged?</li> <li>• Find the tip of the shadow of the <b>obelisk</b> and figure out the time and date.</li> <li>• Walk through the <b>Roman arch</b>.</li> <li>• Visit “Dum Dum” the Easter Island head or <b>Moai</b></li> </ul>	<p><i><b>Please:</b> stay on the trail &amp; enjoy the tree families.</i></p> <p><i><b>Location:</b> start by the picnic tables or behind the ET Building.</i></p> <p>*Stop at the cement slab by the Beech family and walk the railroad track. Can you balance &amp; walk the rails? Put your ear down on the rail &amp; have someone hit at the other end of the rail? Loud or soft sound?</p> <ul style="list-style-type: none"> <li>• Pine family: how many different ones do you see?</li> <li>• Linden family: in the old days rope was made from the inner bark of the basswood.</li> <li>• Birch family: how did the Native Americans use birch bark?</li> <li>• Maple family: what food do we get from maple trees?</li> <li>• Rose family: all our fruit trees. Name two fruits that grow on trees.</li> </ul>

Connections Trail	Whisper Dishes
<p><b>Please:</b> enjoy the learning stations, but be gentle with them so that they are there for others.</p> <p><b>Location:</b> starts behind the Schoolhouse and parallels the Taxi Trail, so you can go back &amp; forth between the two trails.</p> <ul style="list-style-type: none"> <li>• Look through the kaleidoscopes, while you turn the dish garden to make patterns.</li> <li>• How many paces (steps) equal 20 feet for you?</li> <li>• Crawl tubes are only for the younger kids.</li> <li>• Can you successfully walk one of the balance beams?</li> <li>• How tall are you in cubits? The knotted rope at the Stegosaurus station will help you measure in cubits. Dinos are half size!</li> <li>• Write a note or draw at the sketching station.</li> <li>• The weather station has a black plate &amp; white one? Feel them. What is the difference?</li> <li>• Open shutters on the solar station. What happens?</li> <li>• T-rex station measures your height in feet &amp; inches. Dinos are half size!</li> </ul>	<p><b>Please:</b> take turns at the two whisper dishes</p> <p><b>Location:</b> near the Picnic Pavilion</p> <ul style="list-style-type: none"> <li>• The large satellite dishes are 250 feet apart.</li> <li>• Each satellite dish is 10 feet in diameter.</li> <li>• They are called parabolic dishes.</li> <li>• They collect, focus and amplify sound waves.</li> <li>• You can talk into the focal point of one large satellite dish and hear in the focal point of the other.</li> <li>• One person talks into one focal point, while the other person listens at the other focal point.</li> <li>• Have someone stand between the two dishes and sing, while you talk between the two satellite dishes. Can you hear the singing in between? Does it make it hard to hear?</li> <li>• Try whispering a message. Can you hear the whisper?</li> </ul>
Pond Guide	Medicinal Gardens
<p><b>Please:</b> just look or catch &amp; release</p> <p>Watch for gray clay—it eats shoes &amp; STAY OFF DOCK</p> <p>Do not take trail up the hill on far side of pond—continue around pond instead.</p> <p><b>Location:</b> across road from the driveway to Center</p> <ul style="list-style-type: none"> <li>• How many turtles? Do you know what kinds?</li> <li>• How many frogs? Adults or tadpoles?</li> <li>• Do you see fish? Where?</li> <li>• Any invertebrates: insects, spiders, etc.?</li> <li>• Quietly find bird nest. Any eggs? Babies? Empty?</li> <li>• Choose a leaf and observe: shape, color, size, smooth?</li> <li>• Look at the plants growing in the pond and shore.</li> <li>• How are the plants alike?</li> <li>• How are the plants different?</li> <li>• What else do you notice? <ul style="list-style-type: none"> <li>○ Look up, down &amp; around.....</li> </ul> </li> </ul>	<p><b>Please:</b> just for looking</p> <p><b>Location:</b> behind the Fiber Studio</p> <ul style="list-style-type: none"> <li>• do not use any of these plants for medicines, since they may interact with medicines that you currently take.</li> <li>• Medicinal gardens are also called herb gardens or a garden of simples.</li> <li>• Medicinal gardens were around in the Middle Ages and before.</li> <li>• Many modern medicines are made from herbs and other plants.</li> <li>• How many different gardens can you count?</li> <li>• These plants used to be used as medicines.</li> <li>• Find the plant used for sore muscles.</li> <li>• Can you locate the stomach flu garden?</li> <li>• What shape do the red bricks make?</li> <li>• How does that shape relate to the Medicinal Gardens? (Red Cross)</li> <li>• Find the peppermint. We use it to flavor candies &amp; toothpaste.</li> </ul>

<p style="text-align: center;"><b>Labyrinth</b></p>	<p style="text-align: center;"><b>Raven Ridge Nature Preserve</b></p>
<p style="text-align: center;"><i><b>Please:</b> walk, don't run.</i></p> <p><i><b>Location:</b> between the road and the Main Building</i></p> <ul style="list-style-type: none"> <li>• Find the beginning opening in the rock circle. Look on the road side of the circle</li> <li>• Follow the pathway without stepping over any rocks.</li> <li>• The path leads to the middle where there is a sitting stone for quiet time.</li> <li>• Labyrinths have a single pathway unlike a maze that has dead-ends, choices of pathways and branches.</li> <li>• Labyrinths come from the Greeks and have been around for 4000 years.</li> </ul>	<p><i><b>Please:</b> this is an extra hike beyond the Ancient World, so there might not be time to see other exhibits.</i></p> <p><i><b>Location:</b> adjacent to Raven Hill, beyond Ancient World</i></p> <ul style="list-style-type: none"> <li>• Walk up and down the hills—morainal ridges</li> <li>• Look for micro-habitats on fallen logs or tree stumps.</li> <li>• Can you find any “pit and mound” topography, which forms when a tree falls over and the roots leave a hole (pit) and the roots &amp; dirt eventually form a hill (mound).</li> <li>• What can you see from the overlook platform?</li> </ul>
<p style="text-align: center;"><b>Time Out—lunch or break time</b></p>	<p style="text-align: center;"><b>The Steppes</b></p>
<p><i><b>Please:</b> use the Picnic Pavilion for lunch and break time. There is a bathroom in the Fiber Studio building near the Picnic Pavilion. <b>Students must be accompanied by an adult in the Fiber Studio.</b> The bathroom is right inside the door on the right. Look only in the Fiber Studio—it is <b>not hands-on.</b></i></p> <ul style="list-style-type: none"> <li>• After lunch, please pick up all trash, including straws and paper litter and put it in the trash bin.</li> <li>• Anything that can be recycled can go in the recycle bin.</li> <li>• Lunch and break time is for sitting at the picnic tables, not for playing in the Watershed or the Music Garden.</li> <li>• Relax and enjoy your lunch and down time.</li> </ul>	<p style="text-align: center;"><i><b>Please:</b> walk only on the Steppes</i></p> <p><i><b>Location:</b> along the parking lot by Picnic Pavilion</i></p> <ul style="list-style-type: none"> <li>• The Steppes extend 238 feet along the parking lot.</li> <li>• Our cement steps are like the Great Steppe that stretches from Eastern Europe to Central Asia.</li> <li>• Steppes are defined by the amount of rainfall. These lands are between a desert (our parking lot) and a prairie (our grass campus area) that is too dry for trees to grow, but not dry enough to be a desert.</li> <li>• Find your favorite rock on the Steppes. What do you like about it?</li> <li>• Do you prefer to sit on the top step, the bottom step or in-between? What about your friends?</li> <li>• Is there a difference in the front (east) or back (west) end of the steps?</li> </ul>
<p style="text-align: center;"><b>Smithsonian Labor Days History of Work exhibit</b></p>	<p style="text-align: center;"><b>Evolving Technology Building</b></p>
<p><i><b>Please:</b> look with your eyes only. Do not touch.</i></p> <p><i><b>Location:</b> south end of Main Building—use south door for entrance and exit. Do not use the main museum doors.</i></p> <ul style="list-style-type: none"> <li>• Which picture do you like best? Why?</li> <li>• what is the oldest date you can find on a picture?</li> <li>• Why is there a “moon” boot?</li> </ul>	<p><i><b>Please:</b> look with your eyes only. Do not touch artifacts.</i></p> <p><i><b>Location:</b> Straight off the back of the parking lot.</i></p> <ul style="list-style-type: none"> <li>• There are 16 time periods featured. Which is your favorite and why?</li> <li>• Do you see anything that your grandparents have in their house?</li> </ul>