

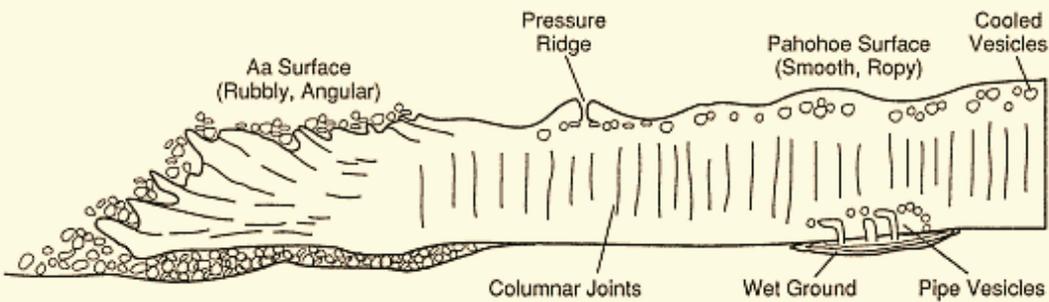
Skaftáreldahraun (Eldhraun)

Teacher's Sheet

Geosites within Eldhraun to be visited:



Teacher's Notes

SUGGESTED STOPS	POINTS TO NOTE
<p>Access:</p>	<p>Coming from Reykjavik, take route 1, the ring-road and drive eastward towards Kirkjubæjarklaustur. The distance from Reykjavik is 242 km. A rest stop on Route 1 with free parking for buses and cars.</p> <p>63°44'48.1"N 18°09'38.4"W</p> <p>63.746682, -18.160664</p>
<p>1</p>	<p>Drawing the hills surrounding the area.</p> <p>Under the moss cover, the lava exhibits an overall rubbly pahoehoe texture. An outer layer of thick rubbly pahoehoe formed early during the emplacement of the lava close to its origin through brecciation and compression. This layer acted as an insulator for the viscous lava which allowed it to flow much further with this enhanced thermal efficiency. The Laki lava fields are considered among the largest and most morphologically diverse lava flow fields in historical times. Other subdivisions of morphologies in the lava include: shelly, spiny and slabby pahoehoe types. Most of the lavas present have surface morphologies significantly different from typical basalt lava flows (i.e. 'a'ā and pāhoehoe lavas). The image below is useful for reference while examining the surface. The moss cover softens the extremes, but shows a close approximation of the surface texture.</p>
<p>2</p>	<p>Draw a labeled cross-section through the basalt lava flow</p>  <p>An example: a cross section drawing of a basalt lava flow.</p> <p>Basalt lava flows typically have rubbly bases and tops. The Eldhraun lava exhibits rubbly a'a lava texture. The interior often shows columnar jointing and gas vesicles can get trapped in the upper parts of the flow. Underneath the lava, the ground will be baked from the heat showing a zone of metamorphism, often referred to as a "baked margin". The moss cover hides the features somewhat but show a relatively close approximation of the surface texture.</p>
<p>3</p>	<p>Perform a comparison of Eldhraun to other various elements of nature or human structures and habitats.</p> <p>The area of Eldhraun (Skaftáreldar) is around 600 km², roughly equivalent to the area of Mýrdalsjökull ice cap of 596 km². The 8th of June 1783, the Laki fissures start erupting lava. In the end, around 14.7 km³ of lava had spread over the lower regions. The last activity witnessed from the fissures was on the 7th of February, 1784.</p> <p>For better understanding the scope of the lava flow, the students should preferably use comparisons known to them, such as mountains, lakes and cities close to home. The average speed estimate is to get a rough idea of the spreading.</p> <p>Examples of areas and volumes:</p> <ul style="list-style-type: none"> Birmingham city area: 600 km² Mýrdalsjökull glacier: 596 km² Pingvallavatn lake: 2,8 km³ Smáralind shopping mall: 0.0004 km³

4	<p>A circular path of mossy demise.</p> <p>Eldhraun is covered by a 200-year-old <i>Racomitrium lanuginosum</i> moss and lichens forming Stereocaulon lava heath, endemic to Iceland and particularly vulnerable to trampling. The top 5 cm are the only living part of the moss which grows 1 cm per year. Please keep to trails and do not walk on living moss. Plans are being discussed to build an elevated wooden path in place of the existing trail. By doing that, the moss cover is protected and can grow undisturbed below.</p>
5	<p>An old farmstead by the side of the road up to Fjaðrárgljúfur</p> <p>Continue east on route 1 and make a left turn onto road F206 towards Laki.</p> <p>A small sign is located on the right hand side beyond the fence shortly after turning onto the road. Under a field of grass lie the remains of an old farm. Untouched for centuries, the grass crept over and hid the remains. Look from the bus or park at the sheep pens a little further on to take a closer look.</p>
6	<p>An overview from the top of Fjaðrárgljúfur</p> <p>Continue along road F206 and follow the signs until you reach Fjaðrárgljúfur. Walk up the path towards the top of the hill until you find the best spot for viewing the lava from above. Gaze upon one of the the largest basalt flow in history.</p>

