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Fire & Ice Tour:

Volcanos & Green Energy

Iceland Destination:

Geothermal & Hydroelectric Energy, Geography, Geology, Specialization:

Earth Science, Volcanology & History

Itinerary: 5-days / 4-nights in Iceland









	Fire & Ice - Sample Itinerary											
	<u>Morning</u>		<u>Afternoon</u>		<u>Evening</u>							
1	Fly to	Iceland	The Blue Lagoon	Vikingaheimar Musuem & Viking Ship Islendingur	Check-In; dinner on own in Reykjavik							
2	Hellisheioi Geothermal Plant	Pingvellir National Park & Almannagja Fault	The Alpingi Parlament	Geysir Geothermal Area / Hekla & Eyjafjallajokull Volcanos	Dinner and overnight at Hvolsvollur							
3	Eyjafjallajökull Volcand	a & Volcano Visitor Centre	The Vik Village	Reynisdrangar Rocks	Dinner and overnight at Hvolsvollur							
4	Ferry to Westman Island / Pompeii of the North	Sightseeing Boat Cruise	Hellisheioi Power Station Guided Tour	Transfer to Reykjavik	Dinner on own in Reykjavik							
5			Depart for Home									

Welcome to Visions STEM Discovery School specialists in Science, Technology, Engineering & Mathematics

















Iceland.... Few visitors can travel around Iceland without being deeply touched by the sheer

beauty of it all; and few can leave the country without a pang and a fervent vow to return. It's just that sort of place. Perched on the edge of the Arctic, this wonderful little island contains some of the most impressive natural wonders in Europe. The continent's biggest waterfalls thunder down with such force that the ground trembles under your feet; the barren highlands form Europe's largest, loneliest desert; and the awesome ice cap Vatnajökull is the biggest outside the poles. Other spectacular phenomena include smouldering volcanoes, slow-flowing glaciers, extruding lava, gushing geysers, bubbling mudpots, soothing thermal pools and, in the darkness of winter, the magical northern lights.

Situated on the Mid-Atlantic Ridge, Iceland is a hot spot of volcanic and geothermal activity: 30 post-glacial volcanoes have erupted in the past two centuries, and natural hot water supplies much of the population with cheap, pollution-free heating. Rivers, too, are harnessed to provide inexpensive hydroelectric power.

Until about 20 years ago, Iceland's fantastic scenery, friendly natives and eerily remote wilderness were a well-kept secret. Today the country is one of Europe's hottest travel destinations. As well as having awe-inspiring nature, it boasts the compact capital Reykjavik, a city filled with Viking history and renowned for its high-energy nightlife and kaleidoscopic music scene.



Indulge in a little horse riding, white-water rafting, glacier walks, caving, whale watching, sea kayaking and a spot of elf hunting! That's right - we said elf hunting! Elves are nothing new to Icelanders who have told folk tales of "little people" since the time of the medieval sagas and have even today, had roads rerouted and building plans redesigned or abandoned to avoid disturbing rocks where elves are said to live.

Whale watching is a big attraction – in summer Iceland is probably the best place in Europe to see minkes and humpbacks. The sea cliffs around the country are a paradise for birdwatchers, but even if you're not a 'twitcher' you'll be blown away by the sight of 20,000 puffins nesting on a cliff top. No matter if it snows, rains or blusters, or if you spend your whole visit basking in the sweetest spring sunshine, Iceland is a ravishingly beautiful place that you'll long to return to.

> With an amazing mixture of stunning scenery and natural wonders, mythical traditions, Viking heritage and the warmth of the Icelanders', this country is a must on any bucket list.

For more information on Iceland, visit www.visiticeland.com; https://www.cia.gov/library/publications/theworld-factbook/geos/ic.html, and https://www.gov.uk/foreign-travel-advice/iceland.

For more information on Iceland's geological history, visit http://geological-history-of-iceland.blogspot.com.















Scientific |celand

Nature's variety show

Geologically speaking, Iceland is a very young country; its creation began less than 20 million years ago and is still progressing today. Volcanic eruptions in the Mid-Atlantic Ridge, on the bottom of the Atlantic Ocean, created a mountain which grew above sea level, resulting in an island. So Iceland truly has a volcanic origin. This is illustrated by the presence of picturesque lava fields, craters, volcanoes, table mountains, mountains of pumice and fields of volcanic ash.

Iceland's wildlife

Iceland's wildlife reflects the youth of the country. There are relatively few insect species and only a handful of wild mammals. In the ninth century, when the first settlers arrived in Iceland, the only native mammal was the arctic fox, but later on other species were introduced by man. Birds are still discovering Iceland and new species are regularly observed. There are no reptiles or amphibians, and there are simply no dangerous animals!

Interaction between volcanic activity and ice or water

Due to the northerly location of the country, there is a good deal of interaction between volcanic activity and ice or water. In the Kverkfjöll area, hot springs rising beneath the glacier has created impressive ice caves. At times volcanic eruptions occur under glaciers, causing massive melting of the ice, often dramatically fast.

Vegetation

Another consequence of Iceland's location in the Arctic that will amaze you is the vegetation. The summer is short, so flowers that bloom in different months further south all bloom at the same time in Iceland. They do not always grow as tall as they do further south: orchids and gentians are plentiful in Iceland but are smaller than elsewhere. The energy and heat in Iceland's soil create conditions that are unique at this latitude and make the vegetation much richer than one would expect.

Thinner earth crust

The Earth's crust is much thinner under Iceland than it is under Europe or America. As a result, the molten rock is closer to the surface and heats up the groundwater deep in the earth, giving rise to numerous hot springs. In many places the natural hot water is used for space heating and to fill swimming pools, and of course the boiling, bubbling hot springs are an extraordinary sight. This is particularly true in the Geysir area, where the geyser Strokkur produces a high column of boiling water every 15 minutes or so.

The environment is important to the Icelanders

Over the millennia, glaciers, erosion and the tectonic movement of the Earth's crust have helped to shape the landscape. Great rivers have formed, containing countless waterfalls, of all shapes and sizes. In fact, there are so many that not all the waterfalls even have names. The rivers are a great source of environmentally friendly energy, of which the Icelanders gratefully avail themselves. The environment is important to the Icelanders and they are continually searching for newer and better solutions. The use of hydrogen and other new sources of energy, in some countries considered a dream for the future, is already a reality in Iceland.

















Glaciers

Ten percent of Iceland is covered with glaciers, vast, magnificent worlds of ice. Every year they move and change a little, sometimes growing in cold periods and sometimes, as in recent years, shrinking. Glaciers are naturally white, but in some areas volcanic ash has fallen or been blown on to them by the wind, turning the glacial tongues black. In many places you can see layers of white and black in the ice, because in winter any layers of black ash or sand on a glacier will be covered with fresh snow. The glaciers move forward, pushing soil, sand and stones before them, but they can also retreat. This can result in picturesque lakes where icebergs float. There are quite a few of these in Iceland, the most spectacular being the Jökulsárlón glacial lagoon in the southeast. This is part of the new Vatnajökull National Park, the biggest in Europe, which encompasses the Vatnajökull ice cap.



Day 1Dinner on Own

Vision schools will generally arrive in Keflavik, Iceland in the morning or early afternoon. Upon arrival we'll meet our motorcoach and then it's off for exploration! Our first stop is The Blue Lagoon so schools will want to make sure they have packed a swimming costume / bathing suit in their hand luggage.

The Blue Lagoon - Our Visions Fire & Ice Tour kicks off with a trip to The Blue Lagoon, one of Iceland's premiere attractions. Enjoy bathing and relaxing in geothermal seawater, known for its positive effects on the skin. Guests of The Blue Lagoon actually bathe between two continents as the Eur-Asian and American tectonic plates meet at The Blue Lagoon. www.bluelagoon.com



The Blue Lagoon Geothermal Spa is one of the most visited attractions in Iceland. The spa is located in a lava field in Grindavik on the Reykjanes Peninsula in southwestern Iceland. The Blue Lagoon complex is clearly visible from any of the usual satellite imagery sources at coordinates (63.880, -22.449).

















Blue Lagoon's operation is based on the unique properties of the geothermal seawater, the closed eco-cycle it belongs to, and represents an exceptional relationship between nature and technology. The result of this extraordinary relationship between nature and technology results in a unique experience based on healing power, wellness, and beauty.

The origin of the geothermal seawater is from 2,000 meters beneath the surface. In its travels through porous lava, a blend of sea and fresh water undergoes mineral exchange and then near the surface, concentration occurs, due to vaporization, evaporation and finally, sedimentation.



The warm waters are rich in minerals like silica and sulphur and bathing in the Blue Lagoon is reputed to help people suffering from skin diseases such as psoriasis. The water temperature in the bathing and swimming area of the lagoon averages 37–39 °C (98–102 °F). The Blue Lagoon also operates a Research and Development facility to help find cures for other skin ailments using the mineral-rich water.

The lagoon is man-made and is fed by the water output of the nearby geothermal power plant Svartsengi and is renewed every 2 days. Superheated water is vented from the ground near a lava flow and used to run turbines that generate electricity. After going through the turbines, the steam and hot water pass through a heat exchanger to provide heat for the municipal water heating system. The water is then fed into the lagoon for recreational use.

YOUTUBE VIDEO: http://www.youtube.com/watch?v=vZttOSNyF-0

After our refreshing visit, we'll travel to the Vikingheimar Museum.

The Vikingaheimar Museum – Built in 1996, Vikingaheimar Museum is home to the Viking Ship Islendingur (The Icelander). The Icelander is an exact replica of the famous Gokstad ship, a remarkable archaeological find of an almost completely Viking ship, excavated in Norway in 1882. Vikingaheimar is also a home to a portion of the Viking millennium exhibition produced by the Smithsonian Institution - Vikings: The North Atlantic Saga. This exhibition sheds light into the Norse settlement and explorations of unknown lands. These two fine projects, both celebrating Iceland's central role in the discovery of North America 1000 years ago by the Norse Vikings, have now found a permanent home in Vikingaheimar. http://www.vikingaheimar.is/en



After we've learned about the fascinating Viking heritage of Iceland, we'll transfer to our hotel in Reykjavik – Iceland's capital city. Once there we'll check in and get settled. We'll have our Visions Welcome & Safety Meeting; followed by free time for dinner on our own in Reykjavik.

















Sample 3-Star Hotel – The Cabin Hotel

Hotel Cabin prides itself on offering guests warm, friendly hospitality and a high level of comfort. The reception area is opened round the clock, and the friendly team are always on-hand to ensure that your stay is as pleasant as possible. Each of the 250 rooms comes equipped with an extensive range of en-suite facilities, including telephone and satellite TV. The Cabin Hotel is specially designed for the modern traveller who likes his 'home-away-fromhome' to be completely efficient and with all the modern facilities that makes you feel in touch with the rest of the world. Hotel Cabin is well-situated at



Borgartún, Reykjavík, and has a beautiful view of the bay nearby. Just a short distance away is the city's main shopping area and the bustling downtown cafés and pubs. www.hotelcabin.is

Reykjavík - Pure Energy: Recharge and Relax in Iceland's Capital

Shaped by the energy of the earth, bustling with the energy of a cosmopolitan capital, surrounded by the pure unpolluted energy of nature, Reykjavík is a city of striking contrasts. Small corrugated iron houses nestle next to futuristic glass buildings; state-of-the-art facilities lie minutes away from rugged volcanic terrain; and international influences mingle with Icelandic national traditions to create a unique culture where old embraces new. Whatever your interests, Reykjavík has something to offer... Whether you are seeking the bustling energy of a cosmopolitan city, the thundering thermal energy in the ground beneath your feet, or the quiet green energy of the landscape surrounding the city, Reykjavík promises a memorable visit.



The magnificent countryside that surrounds the city also makes Reykjavík unique and provides a wide variety of things to do. Salmon fishing, midnight golf, sailing, climbing, glacier trekking, horse riding and whale watching are all within easy reach. Reykjavík's energy also abounds in the city's cultural scene. From the avant-garde to the historical, Reykjavík's galleries, museums and theatres support a vibrant yet sophisticated artistic culture. Annual festivals, special exhibitions and stage productions mean that the cultural calendar is always full and there is always plenty to enjoy. Reykjavík has everything you could possibly want. Pure energy vou'll leave revitalized.















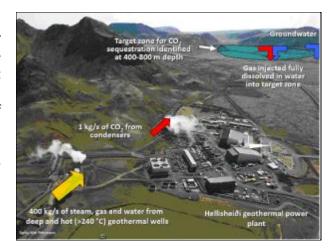


Breakfast, Lunch & Dinner

Good morning Reykjavik! After breakfast in our hotel, we're in for a very special day! We'll pack our bags and check out of the hotel, heading for exploration of Iceland's fantastic science and natural beauty!

Hellisheiði Geothermal Plant Lecture - Located on Hengill volcano in the South of Iceland, Hellisheidarvirkjun (or Hellisheidi) heat and power plant (CHP) constitutes the largest power station of Iceland and the second largest geothermal power station in the world. The geothermal power plant was created to provide electricity to the city of Reykjavik . Only 11 km separate the Hellisheidarvirkjun geothermal plant from Nesjavellir which is the second largest geothermal power in Iceland. While here we'll have an enlightening professional lecture to best understand geothermal power. Later in the tour (Day 4) we'll return for a full tour of all the plant facilities.

http://www.extremeiceland.is/en/hellisheidarvirkjungeothermal-power-station



Pingvellir National Park - National Park of Geological Wonders (UNESCO) - Iceland is a country of enormous geological interest because it straddles the Mid-Atlantic Ridge where the European and North American continental plates meet. No single place epitomizes the history of Iceland and the Icelandic nation better than Pingvellir by the river Öxará. In the last few decades, research has made it clear that Pingvellir is a natural wonder on an international scale, with the geologic history and the bio system of Lake Pingvallavatn forming a unique entity, a magnificent showcase. The faults and fissures of the area make evident the rifting of the earth's crust. We walk through the Almannagiá fault to the site of Alþingi, the world's oldest parliament that was established in 930. http://www.thingvellir.is/english.aspx



Albingi – The Albingi (anglicised as Althing or Althingi) is the national parliament (literally: "[the] all-thing", or general assembly) of Iceland. It is one of the oldest parliamentary institutions in the world. The Althing was founded in 930 at Þingvellir, the "assembly fields" or "Parliament Plains", situated approximately 45 km east of what later became the country's capital, Reykjavik. This event marked the beginning of the Icelandic Commonwealth. Even after Iceland's union with Norway in 1262, the Althing still held its sessions at Þingvellir until 1799, when it was discontinued for 45 years. It was restored in 1844 and moved to Reykjavík, where it has resided ever since. The



present parliament building, the Alþingishúsið, was built in 1881, of hewn Icelandic stone.

















Next we'll explore Gullfoss & Geysir - Gullfoss (Golden Falls) as well as the Geysir Geothermal Area teeming with hot springs, exploding geysers and bubbling pools of mud.



Gullfoss - Gullfoss is in the river Hvítá (The White River), which has its origin in the glacier lake Hvítávatn at Lángjökull glacier about 40km north. Glacial water is brownish since it carries lots of sediments that the glacial ice has carved off the earth. Gullfoss is called the "Golden" Falls" because on a sunny day when the water is plunging down the staircase and then tumbling farther down into the 32m deep crevice it truly looks golden. To stand at Gullfoss and wallow in the beauty and the wonder of nature is an uplifting experience. It is claimed that you feel more energetic when leaving Gullfoss than when arriving due to the impact these unique nature sites have on the human body! http://www.gullfoss.org

Geysir & Strokkur - One of the greatest natural attractions of Iceland, The Great Geysir, or Stori-Geysir, has been dormant since 1916 when it suddenly ceased to spout. It came to life only once in 1935, and as quickly went back to sleep. It is not exactly known when Geysir was created. It is believed that it came into existence around the end of the 13th century when a series of strong earthquakes, accompanied by a devastating eruption of Mt. Hekla hit Haukadalur, the geothermal valley where Geysir is located. What is known is that it spouted regularly every third hour or so up to the beginning of the 19th century and thereafter progressively at much longer intervals until it completely stopped in 1916. Whether its silence is eternal or temporary no one knows. When it was alive and shooting, it could thunderously blast a spectacular jet of superheated water and steam into the air as high as 60 to 80 meters according to different sources. Its opening is 18 meters wide and its chamber 20 meters deep.



The Great Geysir was among the most notable geysers in the world, such as those in Yellowstone Park, New Zealand and North Iceland. The English word "geyser" is derived from the Icelandic word "geysir" which means gusher. Though the Great Geysir itself is now more or less inactive, the area surrounding it is geothermically very active with many smaller hot springs.

The attraction of the area is now Strokkur (The Churn), another geyser 100 meters south of the Great Geysir, which erupts at regular intervals every 10 minutes or so and its white column of boiling water can reach as high as 30 meters. The whole area is a geothermal park sitting on top of a vast boiling cauldron. Belching sulphurous mud pots of unusual colours, hissing steam vents, hot and cold springs, warm streams, and primitive plants can all be found here. A short distance away to the west stands the small Laugarfjall Mountain with a panoramic view overlooking the Geysir area. King Christian IX of Denmark visited the area in 1874 and by the foot of the mountain are the rocks where he leaned while his hosts tried to impress and amuse him by boiling eggs in the hot springs. The rocks are now called Konungssteinar ("The King's Stones").

> Also included are the Geysir Multimedia Show and a Hot Spring Bread tasting with cooked eggs, Icelandic butter, and herring.

Heading east through small villages and farmlands to the majestic mountains towering over the coast, we see the snow shrouded Hekla Volcano.

















Hekla Volcano - Known as the "Gateway to hell", the Hekla volcano is located in the southern part of Iceland reaching a height of 1,491 metres. The stratovolcano is one of the most active volcanoes in Iceland having erupted more than twenty times since 874. The last large eruption occurred in 1947 and formed a 28,000 metres high column of ash in the atmosphere, this ash falling as far away as Russia. Hekla is also said to have produced one of the largest lava volumes in the world. This one has reached 8 km3.





Hekla erupts a magma-type that is unique for Iceland, intermediate between highly silicic and andesitic composition. From surface deformation studies after the 1980 eruption, it has been concluded that its magma chamber is located around 8 km below the summit. Typically, at least the beginning parts of Hekla's eruptions are largely explosive. Hekla has also had a number of large prehistoric but postglacial eruptions, producing vast amounts of tephra which repeatedly covered up to two thirds of the country with light-coloured tephra. http://en.wikipedia.org/wiki/Hekla

We then travel onwards to the Hvolsvöllur area where we have a great view of the world famous Eyjafjallajökull Volcano. This evening we'll have dinner and overnight in Hvolsvöllur area.

Hvolsvöllur - Hvolsvöllur is a small town in the south of Iceland about 106 km to the east of Revkjavik. It is situated in the inland swamps of Landeyjar, in the municipality of Rangarping Eystra and has fewer than 900 inhabitants. The area is the scene of one of the most famous sagas of Iceland, Njal's saga. The town of Hvolsvöllur has a Saga Centre dedicated to this and other Icelandic sagas.

Also included in the afternoon are an egg boiling in Hveragerði, a visit to the Alafoss Woollen Market, and a greenhouse and horse stable visit in Reykholt Village.

Sample Accommodation in Hvolsvöllur - Hellishólar in Fljótshlíð offers an array of activities as well as accommodation with cottages, small houses and if in summer, tent facilities. Hellishólar is located in the midst of the scene 'Burnt Saga' and about an hour away from the capital city. Built by a farmer with a goal of abandoning traditional farming operations, the owners ventured into tourism allowing guests to live and breathe Icelandic farm life. http://www.hellisholar.is



Day 3 Breakfast, Lunch & Dinner

Rise and shine Iceland! After breakfast, we'll spend the morning exploring the area close to the towering strata volcano Eyjafjallajökull, probably the most famous volcano in the world today.

















Eyjafjallajökull Volcano - Eyjafjallajokull is on the list of the most destructive volcanoes in Iceland. Being one of the smaller ice caps in Iceland, Eyjafjallajokull is a volcano completely covered by an ice cap. Iceland's Eyjafjallajökull Volcano burst into life for the first time in 190 years on March 20, 2010. A 500-meter- (2,000foot) long fissure opened in the Fimmvörduháls pass to the west of the ice-covered summit of Eyjafjallajökull. Lava fountains erupted fluid magma, which quickly built several hills of bubble-filled lava rocks (scoria) along the vent. Lava flow spread northeast, spilling into Hrunagil Gully.







The eruption of Eyjafjallajökull was presaged by a series of earthquakes starting in early March. Over time, the earthquakes rose towards the surface, and land near the volcano rose at least 40 millimetres (2 inches)—both indications that magma was moving underneath the volcano. 150,000 tons of CO2 were emitted every day during the eruption and large areas of northern Europe were covered with ash.

Time Magazine Video: How to Pronounce Eyjafjallajokull, the Icelandic Volcano (good video!): http://content.time.com/time/video/player/0,32068,79889722001 1984383,00.html

Today the aftermath of the volcanic eruption can be clearly seen in Thorsmork Glacier Valley, the natural oasis that lies just behind the volcano. What was once a white glittering glacial cap is now covered by black ash and the breath taking glacial lagoon that was once there now has completely washed away. The sight of what the unbridled power of an erupting volcano can do in a short time to its surroundings is breath taking and leaves visitors awestricken.

Eyjafjallajökull Volcano Visitor Centre - Eyjafjallajokull Visitor Centre opened on April 14th, 2011 exactly one year after the start of the Eyjafjallajokull eruption. Because it's at the foot of the volcano, visitors feel firsthand what it is like to have a huge volcano looming over their shoulders. A short film (20 min) portrays the spectacular natural event, and the hectic times and incredible challenges met by the family farm of Thorvaldseyri. http://www.icelanderupts.is

We drive past Dyrhólaey, a magnificent rocky headland with sheer cliffs before stopping for lunch in the charming village of Vík, famous for its volcanic black sand beaches.



Vik - Located in Mýrdalur, the southernmost district in Iceland, Vik's natural environment is diverse: turbulent seas, black sands, grassy meadows, green mountains, wilderness notched with gullies, and over all this towers the majestic Mýrdalsjökull glacier, which embraces Katla Volcano, last erupting in 1918. The Gulf Stream passes by the coastline, ensuring shorter and milder winters than other areas of the country. Birdlife is diverse there is easy access to many ideal bird watching spots. About 500 people live in Mýrdalur, of which approximately 300 in Vík, a trading post since 1887. www.south.is/en/inspiration/towns/vik

















After the break, we'll head for the seashore, flanked by steep bird cliffs rising above the black, wave-pounded sands. In the sea just outside the village of Vík are Reynisdrangar Rocks - 66 meters (215 feet) above sea level.

Reynisdrangar Rocks – Just outside the tiny town of Vik, three black basalt columns called the Reynisdrangar protrude from the stormy North Atlantic. Legend has it that the rocks are three trolls, caught out too late and frozen by the early morning sunlight. From the wild black beach at the foot of Vik, the towers can be seen off the misty coast to the west. http://www.atlasobscura.com/places/reynisdrangar





This evening we'll travel back to our hotel in Hvolsvöllur for dinner and a good night's sleep!

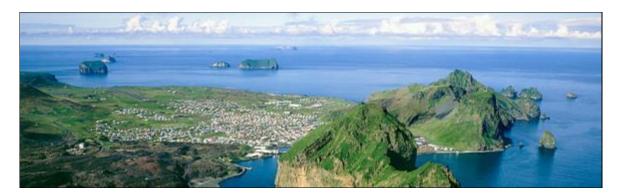
Day 4

Breakfast & Lunch; Dinner on Own

Good morning Hvolsvollur! After breakfast at our hotel, we'll ride by ferry (35 minutes) to the Westman Islands!

Westman Islands – There are places in Iceland that simply need to be experienced. Vestmannaeyjar (the Westman Islands) are in this group by virtue of their natural beauty, the bounty of their wildlife, and by being historically and geographically one of Iceland's most distinctive places. The islands are part of a young and still active submarine volcanic system, most of them coming into being 10-20.0000 years ago.

Video: http://visitwestmanislands.com/english



The latest in the group, Surtsey - south of Heimaey, grew from the sea floor in episodic eruptions from 1963 to 1966. If travelling in May through September months, we'll embark on a boat tour around the islands to be treated with a view of this newest land, also known as "The Youngest Place on Earth." Surtsey Island burst

















from the North Atlantic in a dramatic ocean floor eruption in 1963. In 2008 it was named a UNESCO World Heritage Site.







The famous eruption on Heimaey, the largest and the only inhabited island was, however, even more spectacular. It began in January 1973 and lasted until early July. The cone Eldfell rose, the island became 2.3 kms larger; block lava flowed and ash burned or buried almost 400 buildings. The remains of the eruption are among the island's most fascinating historical locales.

We'll also venture out to the magnificent ocean cliffs, home to 10 million puffins. Other sites include Eldborg Volcano, still warm from its latest eruption almost 40 years ago.





Finally, we'll travel back Iceland's capital city - Reykjavik. Iceland is the only Western country that produces all its electricity from emission-free and sustainable natural resources in the form of geothermal and hydroelectric power. After returning to the mainland we get an in-depth enlightenment on how geothermal energy is processed from hot water at the Hellisheiði Power Station, located on an active volcanic ridge. Our private, guided tour through the plant also includes various multi-media presentations.

The Hellisheiði Power Station - The way Icelanders harness geothermal energy is the reason they can run their modern society. The Geothermal Energy Exhibition at Hellisheiði Power Plant is a state-of-the-art look into the harnessing of geothermal energy in Iceland. The plant is a striking example of how geothermal energy is harnessed in a sustainable manner and a showcase for the rest of the world. Experienced guides are on-hand to provide informative presentations backed by multimedia shows about sustainable green energy as a global energy source.

Afterwards, we'll check back into our Reykjavik hotel, enjoy dinner on our own locally, and have the rest of the evening open for fun!

















Day 5

Breakfast

Rise and shine Iceland! After breakfast we'll pack our bags and check out of our hotel. Afterwards we'll start to say goodbye to this wonderful land as we head for the airport. We will wave to our new friends as we leave and hopefully, take away memories that will last a lifetime!

















PRACTICAL INFORMATION FOR ICELAND



Background - Settled by Norwegian and Celtic (Scottish and Irish) immigrants during the late 9th and 10th centuries A.D., Iceland boasts the world's oldest functioning legislative assembly, the Althing, established in 930. Independent for over 300 years, Iceland was subsequently ruled by Norway and Denmark. Fallout from the Askja volcano of 1875 devastated the Icelandic economy and caused widespread famine. Over the next quarter century, 20% of the island's population emigrated, mostly to Canada and the US. Denmark granted limited home rule in 1874 and complete independence in 1944. The second half of the 20th century saw substantial economic growth driven primarily by the fishing industry. The economy diversified greatly after the country joined the European Economic Area in 1994, but Iceland was especially hard hit by the global financial crisis in the years following 2008. Literacy, longevity, and social cohesion are first rate by world standards.

The country is governed by the Althing (parliament), whose 63 members are elected every four years. Fouryear elections are also held for the presidency; President Ólafur Ragnar Grímsson was elected in June 1996 to succeed Vigdís Finnbogadóttir, and was re-elected in June 2000. The head of state plays no part in day-to-day politics.

Geography - Iceland is an island of 103.000 km2 (39,756 sq.miles), about one-third larger than Scotland or Ireland. Its highest peak, Hvannadalshnjúkur, rises to 2.119 m and over 11% of the country is covered by glaciers, including Vatnajökull, the largest in Europe.

Languages - Icelandic, English, Nordic languages, German widely spoken. Iceland was settled by Nordic people in the 9th century - tradition says that the first permanent settler was Ingólfur Arnarson, a Norwegian Viking who made his home where Reykjavík now stands. The Icelanders still speak the language of the Vikings, although modern Icelandic has undergone changes of pronunciation and, of course, vocabulary! Iceland is alone in upholding another Norse tradition - the custom of using patronymics rather than surnames; an Icelander's Christian name is followed by his or her father's name and the suffix -son or -dóttir, e.g. Guðrún Pétursdóttir (Guðrún, daughter of Pétur). Members of a family can therefore have many different "surnames".

Religions - Lutheran Church of Iceland (official) 80.7%, Roman Catholic 2.5%, Reykjavik Free Church 2.4%, Hafnarfjorour Free Church 1.6%, other religions 3.6%, unaffiliated 3%, other or unspecified 6.2% (2006 est.)

















Population - 315,281 (July 2013 est.); country comparison to the world: 179. Out of a population numbering more than 300.000, half live in the capital Reykjavík and its neighbouring towns in the southwest. Keflavík International Airport is located about 50 km from the capital. The highland interior is uninhabited (and uninhabitable), and most centres of population are situated on the coast.

Health - Life expectancy, at 81.3 years for women and 76.4 for men, is one of the highest in the world and a comprehensive state health-care system aims to keep it that way.

Season and Climate - The Icelandic climate is warmer than the name suggests, thanks to the Gulf Stream. Summers in Iceland are rather cool, while the winters are relatively warm. The average monthly summer temperature ranges from 10 to 13 °C. During the summer the climate is mild but unstable with possible rain and frequent weather changes. The daily temperature can fluctuate from a minimum 5 °C at night to a maximum of 25 °C during the day.

Average Temperatures in Celsius:														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Reykjavik	-0.5	0.4	0.5	2.9	6.3	9	10.6	10.3	7.4	4.4	1.1	-0.2		
Akureyri	-2.2	-1.5	-1.3	1.6	5.5	9.1	10.5	10	6.3	3	-0.4	-1.9		
	Sunrise & Sunset Times													
Sunrise	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Reykjavik	11:19	9:55	8:21	6:42	4:39	3:15	3:07	4:50	6:16	7:36	9:24	10:51		
Akureyri	11:31	9:51	8:09	6:23	4:09	2:22	2:02	4:20	5:55	7:22	9:19	10:59		
Sunset	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Reykjavik	15:44	17:29	18:59	20:22	22:12	23:39	23:55	22:15	20:37	18:57	16:58	15:44		
Akureyri	15:01	17:03	18:40	20:11	22:12	0:03	0:27	22:14	20:26	18:40	16:32	15:05		

Time - Iceland is on Greenwich Mean Time (GMT) throughout the year and does not go on daylight saving time.

Telephone Calling - Direct calls can be made to all parts of Iceland. The code into Iceland from overseas is +354 + seven-digit number. Direct long-distance calls can be made to Europe and the USA by dialling 00 plus the country code, and the telephone number you wish to reach.

Mobile Phones - There are four GSM operators in Iceland: Siminn, Nova, Tal and Vodafone. Together they cover most of Iceland including all towns and villages with over 200 inhabitants. These telephone companies both sell pre-paid GSM phone cards and offer GSM/GPRS services. Pre-paid cards are available at petrol stations around the country. GSM phones may be rented from Iceland Telecom, Ármúli 27, Reykjavík.

Tax free shopping/tax refund - A refund of local Value-Added Tax (VAT) is available to all visitors in Iceland. The refund will result in a reduction of up to 15% of the retail price, provided departure from Iceland is within 3 months after the date of purchase. The purchase amount must be no less than ISK 4,000 (VAT included) per store. All goods (except woollens) need to be shown at customs before check-in. At Keflavík Airport this applies only to tax-free forms whose refund value exceeds ISK 5,000. All other forms can be refunded directly in cash at Landsbanki Íslands in the departure hall.

Shopping - The shops in Iceland are of international standard, and carry a wide variety of merchandise. Local specialities are woollen knitwear (for example sweaters, cardigans, hats and mittens), handmade ceramics, glassware and silver jewellery.















Currency - The Icelandic Krona is the currency of Iceland. The currency code for Kronur is ISK, and the currency symbol is kr. Coins are in denominations of 100 kr., 50 kr., 10kr., 5 kr. and 1 kr. Bank notes are in denominations of 5000 kr., 2000 kr., 1000 kr., and 500 kr. All Icelandic banks provide foreign exchange. To determine current exchange rates, visit www.xe.com.

Medical & Emergency Assistance - Icelanders enjoy a healthy life, thanks to clean air and water and quality fish. Water is safe to drink throughout Iceland. Pharmacies are called "Apótek" and are open during normal business hours. Many are open at night. Reykjavík has a great many general practitioners, as well as specialists, many of whom will receive patients at short notice. There are also many Health Centres in Reykjavík, with officially appointed family doctors who receive patients at short notice during the day. For information tel.: +354-585-1300 or go to www.heilsugaeslan.is. There is a medical centre or a hospital in all major cities and towns in Iceland. **The emergency phone number (24 hours) in Iceland is 112**.

Electric Current - The electric current in Iceland is 220volts, 50 HZ AC.

Tipping - Service and VAT are invariably included in prices in Iceland.















ADDITIONAL PRE/POST TRIP OPTIONS

(Pricing applies to all passengers inclusive of students & adults)

City Sightseeing Tour - Reykjavík is the world's most northerly capital, with more than one third of Iceland's population. Today Reykjavík is a modern city with a variety of restaurants, museums, galleries and theatres. On our tour we'll cover the city from one end to the other. We will see the old town centre, the Parliament, the Cathedral, the harbour, the National Museum, the Pearl and Höfði house, the summit site of 1986. We drive past the city's salmon river and the Árbæjarsafn outdoor folk museum, which offers an interesting contrast to the modern buildings of the most recent part of Reykjavík. Our drive continues past Reykjavík's largest outdoor swimming pool in Laugardalur which is heated with water from natural hot springs under the city, the Ásmundur Sveinsson Sculpture museum and Hallgrímskirkja Church (whose steeple is a Reykjavík landmark). The tour ends at your hotel or in the city centre. Transportation is in private coach with a guide. Duration: 3 hours

Fee – Approximately £22/\$33 per person; please enquire when booking.

Optional: Entrance to the National Museum for participants 18 years and older is approximately £3 / \$2 per person. Students 17 years and younger are free of charge.

Winter Whale Watching Cruise - Take part in an adventure at sea with an unforgettable tour into the world of whales and sea birds. Conveniently located in Reykjavik's Old Harbour, a journey can bring you up close to whales and birds in their natural habitat. In winter months it can be fascinating to go at sea in calm weather as the bay can be full of surprises. The types of whales commonly sighted include white beaked dolphins, harbour porpoises, minke whales and humpback whales. Duration: 3-4 hours

Fee – Approximately £29/\$44 per person plus transportation; please enquire when booking.

Saga Circle Tour - The Icelandic Sagas are renowned throughout the world. This Saga Tour takes you to the settings of the most famous events in Icelandic history where we follow in the footsteps of the Viking warrior and poet Egill Skallagrimsson and others in Borgarfjordur. We visit the Icelandic Settlement centre exhibition in Borgarnes. From there we head to Reykholt, the home of Snorri Sturluson the most significant Nordic poet and historian of the Middle Ages, and Snorrastofa. We drive further inland to the Hraunfossar and Barnafossar waterfalls, and the last stop is at Deildartunguhver, Europe's most powerful hot spring. Transportation is in a motorcoach with a guide. Duration: 8-9 hours

Fee – Approximately £68/\$102 per person; please enquire when booking. Additional hotel night required. Optional:

- 2 course lunch (excluding drinks) from approximately £15/\$23 per person.
- Packed lunch box from approximately £9/\$14 per person. (Also possible to buy hot dogs or sandwiches on the spot for approx. £2/\$3 per person.)
- Entry to the Settlement Centre in Borgarnes. Through exhibits, the centre tells the Saga of The settlement of Iceland and Iceland's most famous Viking and first poet, Egill Skallagrimsson. Approximately £11/\$17 per person.
- Entry to Snorrastofa in Reykholt, the medieval centre, where Snorri Sturluson lived. Approximately £4/\$6 per person.

















FIRE & ICE

Minimum Booking Numbers: 20 students

What's Included: Roundtrip Flights on a scheduled carrier

4-nights' accommodation in Iceland

Meals as shown in itinerary (all breakfasts, 3 lunches, 2

Transportation to activities shown in Itinerary

Blue Lagoon Excursion

Vikingaheimar Museum Excursion

Hellishheioi Geothermal Plant Lecture & Private Tour

Pingvellir National Park Excursion

Alþingi Excursion **Gullfoss & Geysir Visits Geysir Multimedia Show Hot Spring Bread Tasting**

Greenhouse & Horse Stable Visit at Reykholt Village

Egg Boil in Hverageroi

Alafoss Woollen Market Excursion

Eyjafjallajokull Volcano Excursion & Volcano Visitor Centre

Vik Excursion

Westman Islands Excursion

Surtsey Island Cruise (Summer Only)

Visions Tour Ambassador 24-hour emergency cover

What's Not Included: Fully comprehensive insurance (mandatory)

Transfers to/from home airport

Transportation for activities not shown in the itinerary

Cost of visas, full or collective passports

Cost of inoculations or medication required for travel Sightseeing / Entertainment Options not shown in Itinerary Hotel incidental deposits & bills – meals, mini-bar items, recreation charges, purchases billed to room, etc

Any gratuities – coach drivers, maid service, bellman service, area guides, tour ambassador

As always, our staff are always available to you to answer any questions you may have regarding programming. If we may serve you in any way, please do not hesitate to contact us.

> United Kingdom: info@visionsineducation.co.uk / 01444 226348 The Americas: info@visions-in-education.com / 802.239.3010















