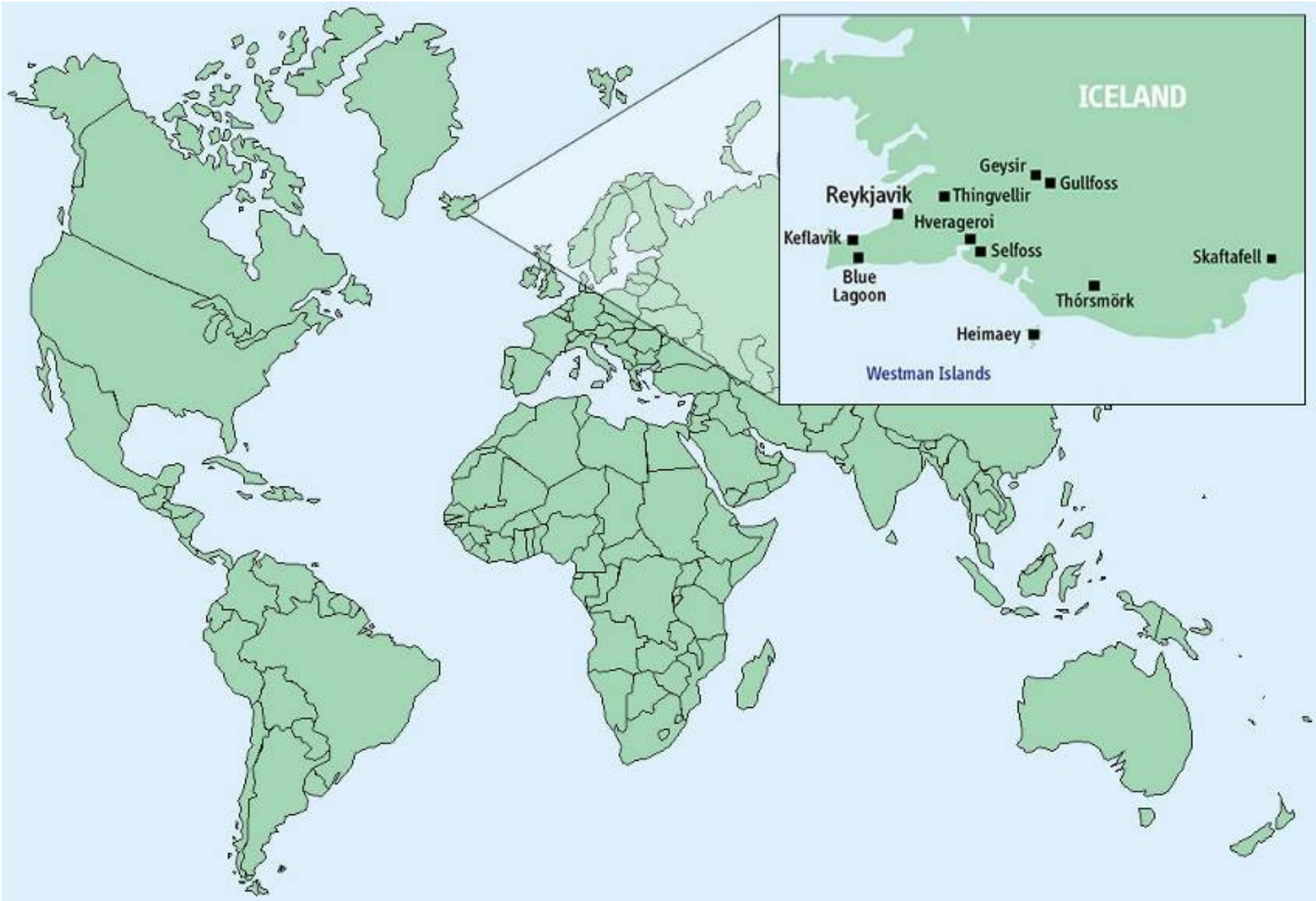


Iceland Maps



Iceland Activities Overview

Programme Benefits

Suitable for combined year groups with visits and activities relevant to both KS3 and KS4
Educational resources directly linked to “new look” Geography programmes of study, attainment levels 4-8.
Activity sheets are provided for pre-visit preparation and follow up, as well as for each visit option.
Visit options are excellent for the study of physical, human and environmental geography, as well as offering cross curricular opportunities.
Proximity of the locations maximises study potential and minimises the time spent travelling.

Key stage 3 relevance: (The study of geography should include)

a variety of scales, from personal, local, regional, national, international and continental, to global
a range of investigations, focusing on places, themes or issues
the location of places and environments
key aspects of the UK, including its changing human and physical geography, current issues and its place in the world today
different parts of the world in their wider settings and contexts, including the EU and regions or countries in different states of development
physical geography, physical processes and natural landscapes
human geography, built and managed environments and human processes
interactions between people and their environments, including causes and consequences of these interactions, and how to plan for and manage their future impact.

Key stage 4 relevance:

1. Coastal management
2. Geographical information systems
3. Geography in the news
4. Travel and tourism destinations
5. Geography through fieldwork
6. Introducing Cultural Geography

Therefore the selection of a tour to Iceland is very propitious as it is a destination directly relevant to all the above 6 themes.

Iceland The Accompanying Booklet



You are advised to download and use the pupil booklet which accompanies this resource.

It is recommended that you download the booklet, and allow pupils to write notes/ ideas in this booklet before you go on your visit.

There are MANY activities in this booklet. It is advised that you delete any that you are not undertaking before giving the booklet to your learners for them to work on.

Just prior to your visit, you should print off each booklet for your group, and allow them to continue writing and sketching on the hardcopy during your visit.

Once back in the classroom your pupils should type up their notes from their visit, and add any digital images/video clips to their booklets and keep as an electronic copy as evidence.

Alternatively, print off individual hardcopies at the start of the project, and allow pupils to use these as their evidence throughout their learning experience.

nst Iceland
Geography Booklet
Activity 5—Dyrhóley Coast

Task 1: Tectonic processes create distinctive geology

The distinctive cliffs at Reykjavík resulted when a layer of molten lava cooled slowly to create a basalt landscape. The lava originated from the volcano Katta, which lies beneath the Mydalajökull icecap to the North. This periodically erupts and blasts through the overlying ice.

As the lava cooled at differential rates to form basalt, it contracted and cracks formed to relieve the stress. These cracks formed a pattern of hexagons with 120° angles (A). Long hexagonal columns resulted, that resemble giant pencils (B). This geological process is known as *columnar jointing*. Subsequent weathering, coastal erosion and pressure release from isostasy has resulted in some unique patterns and formations (C)

Account for the black beach sediment found along the south shores of Iceland (E)

Further Investigation

If the sediment source is different to that of other beaches, will it behave in a different way? This can be investigated by setting up a transect from MHW to MLW and measuring the dimensions of sediment samples at regular intervals across the transect. Clinometers, ranging poles and measuring tapes can be used to measure the beach profile.

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Iceland Geysir

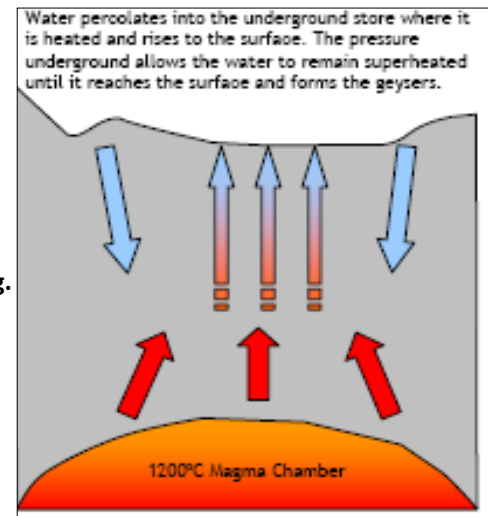
How it happens

The term geyser comes from the Icelandic *Geysir* which means gusher. The history of Geysir dates back over 10,000 years to the end of the last ice age. However, the first written record of activity in this area is from 1294.

Located in the Haukadalur valley, a series of earthquakes in the 13th century caused major geological changes and began the geothermal activity in the area.

Throughout the history of the Geysir area activity has fluctuated. Two extremes of totally dormant to thunderous spouting have been seen. Earthquakes are the major contributor to the changes in activity. The tremors revive activity which subsequently calms in the years following. In 1630 an earthquake renewed the geothermal activity after a 40 year dormant period.

Before the most recently occurring earthquake in 1896, the Great Geysir or Stori-geysir, was calm. It ceased activity in 1916. Artificial bursts have been produced but this is no longer continued. The current activity comes from the Strokkur geyser (The Churn), 100 metres south of the Great Geysir, which blows up to 30 metres high.



Steam vents, mud pots and hot springs can also be found in the area. Geysir is a high temperature geothermal area. Subsiding cold water generates a large convection cell. The estimated temperature of the Geysir system is 240°C and it covers 10-15km². At depth the water causes the solution of minerals, like silica. When the saturated water rises to the surface, silica is deposited in veins as the water cools. The silica is responsible for the blue colour of the hot pools as it scatters the light. Silica is also deposited at the surface to form the bone like structures around the geysers, giving rise to the name of the stream to the east, Beinà (Bone river). The area is formed from rhyolitic lavas and these rocks hold heat for longer than the surrounding basalt. Evidence of this can be found from studying the geology of the Laugarfjall to the north.

Notes:

The weather in Iceland is highly changeable. In a matter of hours, conditions can change from mild and sunny to snowing.

The majority of locations on the itinerary are a distance away from the hotel, so it is essential that you prepare for all weathers.

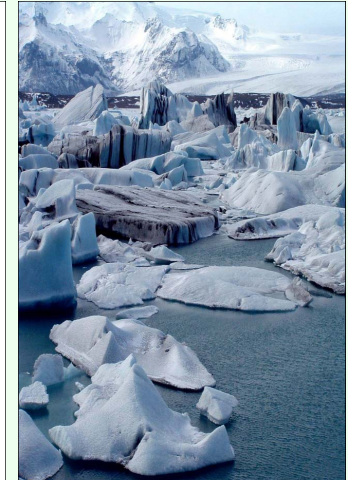
Much of the time, you will be in close proximity to ice or water. Spare footwear and waterproof clothing is essential.

Below is a list of recommended items for you to pack:

- Sturdy walking boots / trainers with firm grip – footwear must be water resistant
- Shoes suited to indoor use
- More than one set of outdoor footwear (spare pair to be left on coach each day)
- Warm waterproof/wind resistant jacket
- Trousers – not denim. More than one set to allow for layering and drying of wet clothes
- Thermal underwear (long legged and sleeved)
- Long sleeved tops – to allow for layering (the weather is extremely changeable)
- Water and wind proof over-trousers (can use sallapettes)
- Thick, warm socks- ideally wool (spare pair to carry in day pack)
- Warm gloves
- Scarf/ turtle fur/ snood
- Hat /balaclava
- Swimsuit for Blue Lagoon
- Large towel

How is the lake changing over time?

Why do many of the icebergs exhibit distinctive black striping?



Notes:

Activity 9—Jokulsarlon

Name the glacier that created this proglacial lake.

What is meant by the term 'proglacial'?



Which river was dammed to create Jokulsarlon? What created the dam?

How were the icebergs formed?

Describe the characteristics of the icebergs

What prevents the lake from freezing over?

- Equipment (Pen, pencil, eraser, ruler, calculator, protractor)
- Clipboard
- Day pack/small rucksack
- Energy bars/ snacks (Food is extremely expensive in Iceland)
- Basic First Aid kit
- Torch
- Camera (optional)
- Travel sickness bands/tablets
- Sunglasses (To counter glare on glaciers)
- Sun protection lotion
- Eye masks for sleeping in summer months
- Water bottle
- Flask
- Plastic bags for wet items

NB. Electrical items such as mobile rechargers, and hairdryers will require an adapter plug for use in Iceland. Sockets require two round pins.

