

Location of Industry

Aim: to investigate the factors influencing the siting and location of a secondary activity using Scoilnet Maps.

Resources: Scoilnet Maps, OSi's Discovery Legend available as a PDF on Scoilnet Maps' home page. The website of Irish Cement's Platin factory at <https://www.irishcement.ie/about/platin/>.

Content: locational factors of manufacturing industry, GIS and mapping skills

Preparation for Activity

The Irish Cement factory at Platin, County Meath is a heavy manufacturing industry. **Heavy industry** uses large amounts of **raw materials** and **energy**. Examine the headings in the table below then watch the video at the following link: <https://www.irishcement.ie/about/platin/>. Using information from the video complete the table.

Platin Cement Factory			
Raw Materials	Energy	Processes	Outputs
		1	
		2	
		3	

Setting up Scoilnet Maps

1. Open **Scoilnet Maps**
2. Open the **OSGi Map Viewer**
3. Using the map switcher activate the *OSGi Aerial Photography*
4. Activate the **Grid Reference** tool
5. Find Platin Cement works by typing the following co-ordinates into the **Find a Location** tool: X 706231 Y 771688. These are Irish Transverse Mercator (ITM) co-ordinates so choose this co-ordinate system
6. Bookmark this location
7. Zoom out one step and check that the scale ratio is 1:10,000

Site Activity

The **site** of a factory is the land on which it is built. Examine the Platin site using the following tools and layers:

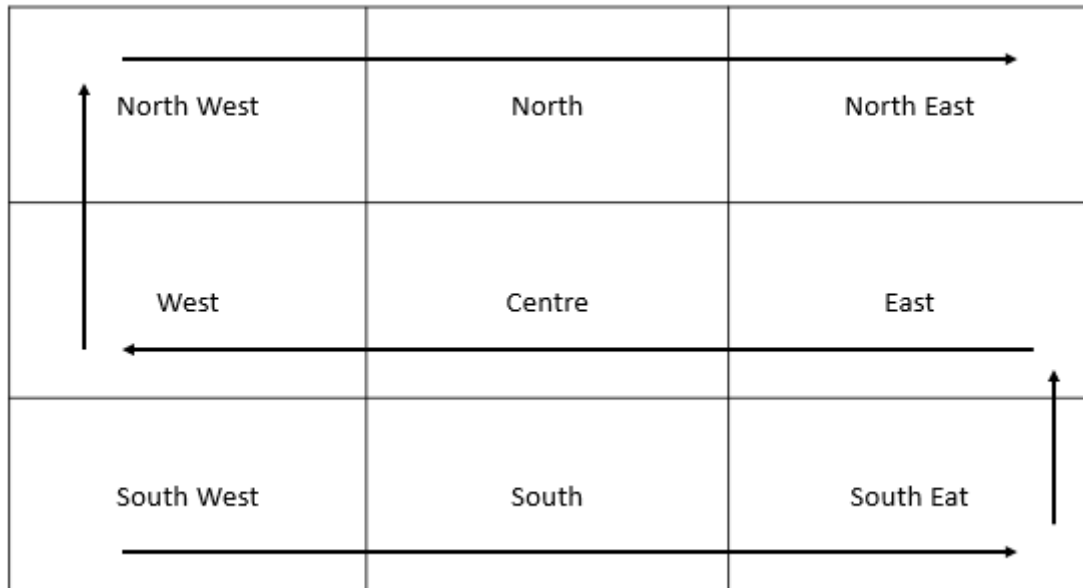
Tools: Swipe and Spotlight, Elevation Profile, Draw and Measure

Layers: Geology, Population

First observe the aerial photograph carefully. Follow the direction of the arrows shown in the diagram below as a guide. Start observing in the south west sector and move across to the south

east. Then move up into the eastern sector and across the centre to the western sector and finally from the north west sector to the north east sector.

Location Grid for Vertical Aerial Photographs



Which of the following are present in the photograph?

Features	Present	Location
	✓ or X	
Railway line		
Quarry		
Pastoral farm		
Forest		
Motorway		
Market gardens		
Tillage farm		
Processing plant		

Activate the **Draw and Measure** tool. Measure the length in Kms of the perimeter of the Platin works including the quarry and the processing plant.

Perimeter _____ Kms.

Activate the **Elevation Profile** tool. Draw a profile from east to west along the Northing 71.5.

Examine the profile carefully. Move the cursor along the profile to see the exact height on the photograph. Then answer the following questions:

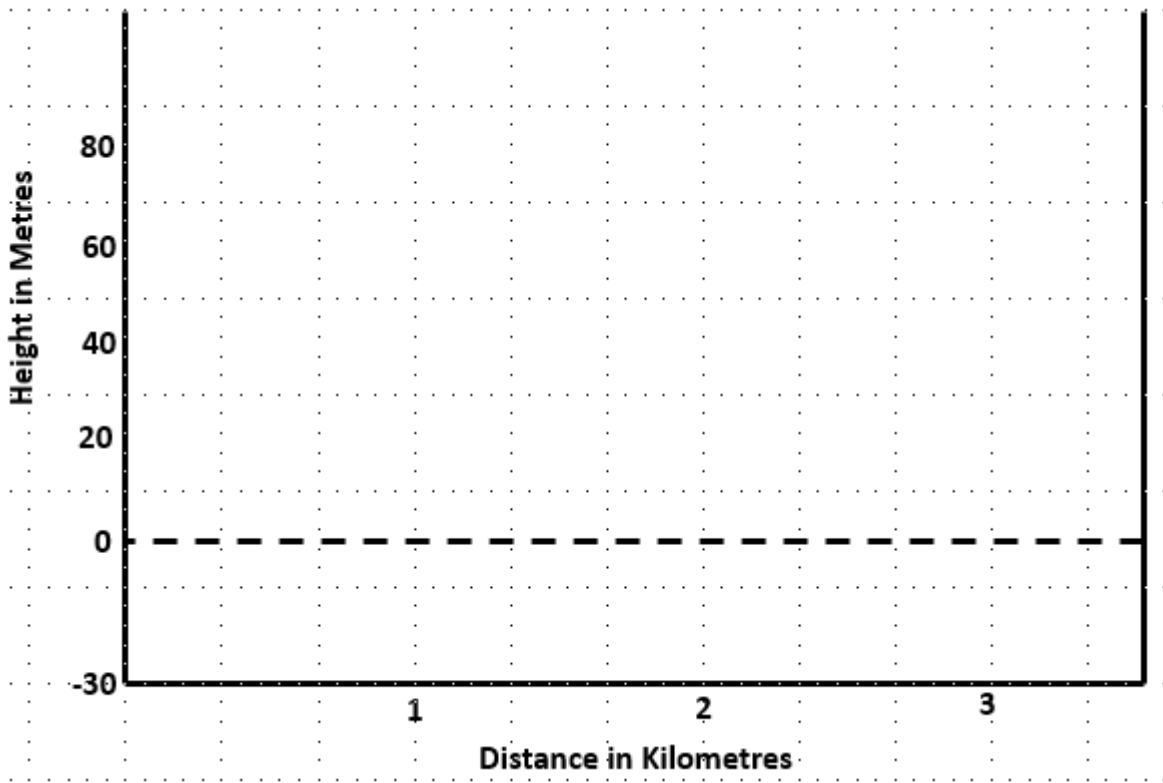
What is the depth of the quarry in metres? _____ m

What height is the land to the west of the quarry in metres? _____ m

What relief feature is the Platin processing plant built on? _____ .

What height, in metres, is the site of the Platin processing plant? _____ .

Using information from the elevation profile you constructed and the aerial photograph draw a profile of the site freehand. Annotate your drawing with the location of the quarry and the location of Platin processing plant.



Activate **Swipe and Spotlight**. Select the *Aerial Photograph* as the top layer and the *Discovery Map* as the bottom layer. Choose *Vertical Swipe* from **Type** and *Large* from **Size**.

Swipe very, very, slowly from West to East and watch as the Platin area on the Aerial Photograph changes into a Discovery Map. Examine how the map represents the slopes, rivers, roads, buildings etc. Then swipe left very slowly and see the map change again into the photograph. Do this a number of times. Examine the landscape and look out for human activities and settlements both on the map and aerial photograph.

Answer the following questions using information present on the Discovery Map.

Name 4 road types that serve the Platin cement plant. _____

Give 2 pieces of evidence that Platin uses large amounts of electricity? 1. _____,

2 _____.

Activate the *Bedrock Layer* and its Legend in **Layers**. Identify two rocks present in the area.

1. _____, 2 _____.

Fill in the missing words in the paragraph below with information from the activities above.

The Site of Platin Cement Factory

The Platin cement factory is sited on a _____ of _____ metres in height. Plains are cheaper to _____ on than mountains. They also suit the building of transport links such as _____ and _____. The Platin site is underlain by _____ rock which is the main raw material in the production of cement. This rock is extracted or _____ on-site this helps to keep the _____ of raw materials down. Good transport infrastructure such as _____ and _____ links the site to the _____. The surrounding land is used mostly for different types of _____ so the population density is _____. Quarrying and production of cement can be n_____ and d_____ so it is best located away from large population centres.

The Location of Platin Cement Factory

Location means where a place is in relation to other places.

The location of a factory is important for its success. Factories locate at their least cost location so they can make a profit and continue producing. Producing cement needs a large amount of rock which is heavy and expensive to transport. So Platin Cement factory is located beside its main raw material, limestone, for that reason.

Cement is a very perishable final product. If it is exposed to moisture, it hardens and is useless. It is transported in bulk tankers on trains and lorries and in bags. The tankers have to be watertight and humidity controls. It is very risky transporting cement over long distance so it is usually produced as close to the market as possible. Excellent transport links are very important for a successful cement making industry. The largest market for cement in Ireland is the Greater Dublin Area where construction is concentrated.

Activate the OSGi Discovery Series Map and locate Platin using the Bookmark or the ITM co-ordinates (706231 771688).

Zoom out until the scale ratio is showing 1:50,000.

Examine the location of Platin in terms of the surrounding urban settlements and the transport links to them.

Answer the following questions:

The R152 road links Platin to which urban settlements? 1. _____ 2. _____

The R152 road links Platin to which motorway? _____?

Zoom out again until the scale ratio is showing 1:600,000 and activate the OSGi Mapping using the Map Switcher tool.

The rail line links Platin to which large urban settlements? 1. _____ 2. _____

Which motorway links Platin to its largest market? _____.

Fill in the missing words in the paragraph below with information from the 1:50,000 Discovery map and the 1:600,00 OSGi map.

The Location of Platin Cement Factory

Platin cement factory is located _____ Kms to the south west of _____ Town and _____ Kms to the _____ of Duleek. People in these towns have _____ in the cement plant. The factory is located on _____ bedrock which is the main _____ of cement. Plantin's main market is in _____ city which lies _____ Kms to the _____. Plantain is linked this main market by the _____ motorway and a _____ line. Good _____ links play a big part in the success of Plantin Cement factory.

Consolidation

Using Scoilnet Maps as you practiced above, examine the site and situation of Mungret Cement factory located at the following ITM co-ordinates: X 553175, Y 654957.

Extension

Using Scoilnet Maps find a local manufacturing industry and examine its site and location.