

*Building*

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# Maths Syllabus Links:

## Junior Cycle:

- ❖ 1.5 Finding, collecting and organising data
- ❖ 1.7 Analysing, interpreting and drawing conclusions from data

## Senior Cycle

- ❖ 1.5 Finding, collecting and organising data
- ❖ 1.7 Analysing, interpreting and drawing conclusions from data
- ❖ 3.3 Arithmetic: costing: materials, labour and wastage

Cross-curricular Links: History, Geography, Business

## Learning Intentions:



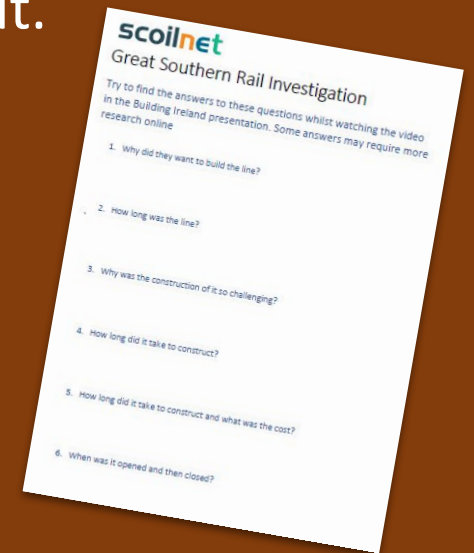
**In this unit,  
students will be able to:**

- ❖ Use the Data Handling Cycle.
- ❖ Design a survey questionnaire.
- ❖ Make decisions based on data.
- ❖ Calculate the cost of a project based on data.
- ❖ Research a local rail/greenway and see connections with real life.

Watch the Video:



Watch the video and answer the investigation questions on your handout.



[Click here for sample solutions](#)

# Part 1: Construction Costs

## ❖ Direct Costs:

- Materials: Rails, gravel, wood, stone
- Labour: Engineers, workers
- Direct Expenses:  
Equipment hire/land purchase

## ❖ Indirect Costs:

- Security
- Travel/Subsistence
- Warehouse rental for equipment/materials

## ❖ Estimated Wastage

## ❖ Contingency



# Construction Costs

Use the handout called 'Rail Costs' to calculate the construction costs of the railway if it was being built today.

**scoilnet** Great Southern Railway

Direct Costs	Units	Cost per unit	Number of units	Total Cost
<b>Materials</b>	Metre			€0.00
Rails	Square metre			€0.00
Gravel	Metre			€0.00
Wooden sleepers	Square metre			€0.00
Stone (for bridges/tunnels)	Square metre			€0.00
<b>Labour</b>	Number required	Cost per day	Number of days required	Total Cost
Engineers				€0.00
Planners				€0.00
Steelworkers				€0.00
Labourer				€0.00
Stonemasons				€0.00
Fencing contractor				€0.00
<b>Expenses</b>	Acres required	Cost per acre		Total Cost
Equipment hire				€0.00
<b>Expenses</b>	Number required	Cost per day	Number of days required	Total Cost
Land purchase				€0.00
<b>Indirect Costs</b>	Number required	Cost per day	Number of days required	Total Cost
<b>Indirect Expenses</b>				€0.00
Security				€0.00
Travel				€0.00
Warehousing				€0.00
<b>Other</b>				Total Cost
Wastage				€0.00
Contingency				€0.00
<b>Summary costs</b>				Total Cost
Direct Costs				€0.00
Indirect costs				€0.00
Other				€0.00





# Great Southern Rail Greenway Project

To complete the project, you need to carry out a statistical investigation.

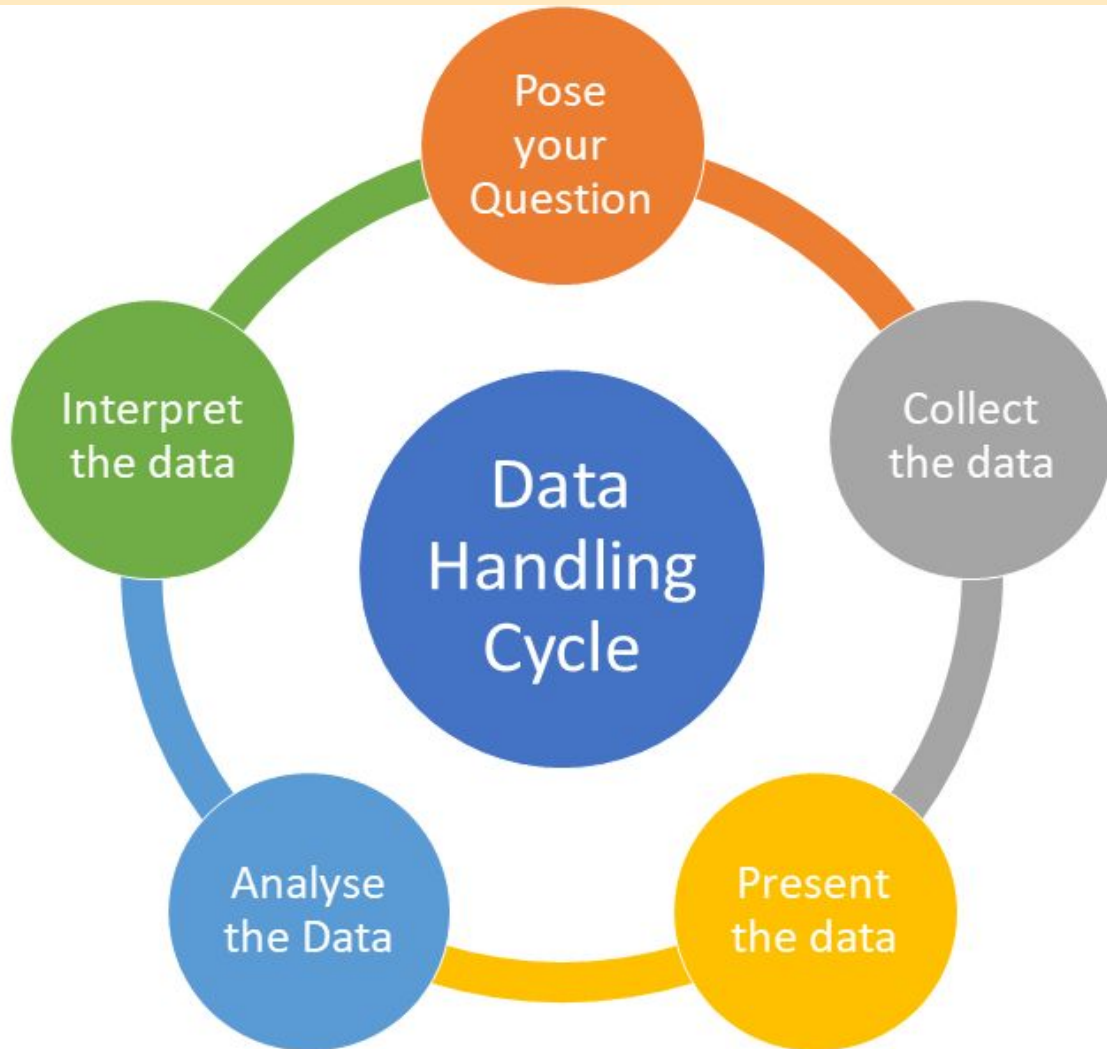


Use the handout called 'Killarney Tourism - Data Handling Cycle' to help you.





# Statistical Investigation - Data Handling Cycle



## ❖ **What is our question:**

- Is there demand from the public and businesses for a greenway from Killorglin to Valentia Harbour?

## ❖ **How will we collect the data?**

- Survey questionnaire

## ❖ **Present the Data:**

- Public and Business

## ❖ **Analyse the data:**

- Central tendency, shape, spread

## ❖ **Interpret:**

- Reflect on our question. Do we conclude there is demand from public and/or business?

# Alternative or Further Research

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## Kerry County Council Rail Greenway Task Force

Scenario: You are the Project Officer in Kerry County Council. You have to explore the viability of reusing the old railway line from Killorglin to Valentia Harbour as a Cycle Greenway. Before the Council will agree, you must show that there is a need/public desire for it.



Using the Data Handling Cycle, carry out a Statistical Investigation and make your recommendations to the council based on your research.

Instead of using the Kerry County Council Rail Greenway project, you could research your own local railway using the same criteria.

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