



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TĀEA

**2009**

## **Internal Assessment Resource**

Subject Reference: **Geography 1.5**

Internal assessment resource reference number:  
**Geo/1/5\_L7**

### **Go with the Flow**

Supports internal assessment for:

Achievement Standard 90206 v3

Carry out and present directed geographic research

Credits: 5

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**Date version published:**

March 2009

**Ministry of Education  
quality assurance status**

For use in internal assessment  
from 2009

### **Teacher Guidelines:**

The following guidelines are supplied to enable teachers to carry out valid and consistent assessment using this internal assessment resource.

### **Context/setting:**

This assessment is based on a traffic survey undertaken in the student's local area, using research methodology.

### **Conditions:**

- This activity requires a mixture of in-class and out-of-class work.
- Time allowed: this activity should take one to two weeks. Teachers may need to adjust the number of in-class periods depending on the length of class periods.
- The teacher must collect student work at the end of each class period.

### **Resource requirements:**

No specific resource requirements.

### **Additional information:**

The activity presupposes the prior teaching of simple graphing, mapping and sampling techniques and the geographic ideas of location and patterns. Students also need to be taught how to apply geographic ideas to research results and how to evaluate research.

Schools and departments should have authenticity procedures in place with respect to student work, as homework is included.

The aims of the research need to be understood by the students as they must relate back to these in their conclusions.

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## **Student Instructions Sheet**

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### **OVERVIEW**

In this geographic research activity you will carry out the following activities:

#### **Task 1**

- Collect and record traffic data on a main road near to your school, to answer two research questions. These will become the aims of the research.
  - \* What traffic patterns are there (number of vehicles, type of vehicles, travel direction of vehicles) on the road surveyed and why do these patterns occur?
  - \* What factors in your survey location area are an advantage or disadvantage to the flow and movement of traffic?
- Use the data to reach conclusions from information you have collected. These must also refer back to your aims.

#### **Task 2**

- Describe the relevance of geographic ideas to your research.

#### **Task 3**

- Evaluate the research process.

### **Other information**

Use the pages given in this booklet as the base for your presentation of work.

Complete Task 1 in groups with teacher direction.

Complete Tasks 2-5 in class as individual work.

**Watching the wheels (May be done in groups)**

**Task 1: Data collection and recording**

1a. Complete a rough site description in the space below (notes and / or drawing). This involves recording information that describes features of the main road that affect traffic movement. For example, number of lanes, where the main roads lead to, any parking restrictions, location of side roads, intersections, traffic lights, and bus stops.



1b. In your groups fill in the data tables below using a tally system as directed by your teacher.

**Tally Sheet: Day 1**

**Date:**

**Time:**

<b>Vehicle</b>	<b>Side A tally</b>	<b>Sub total</b>	<b>Side B tally</b>	<b>Sub total</b>	<b>Day 1 Total</b>
<b>cars</b>					
<b>commercial vehicles</b>					
<b>buses</b>					
<b>motorbikes</b>					
<b>bicycles</b>					
<b>TOTAL</b>					

**Tally Sheet: Day 2**

Date:

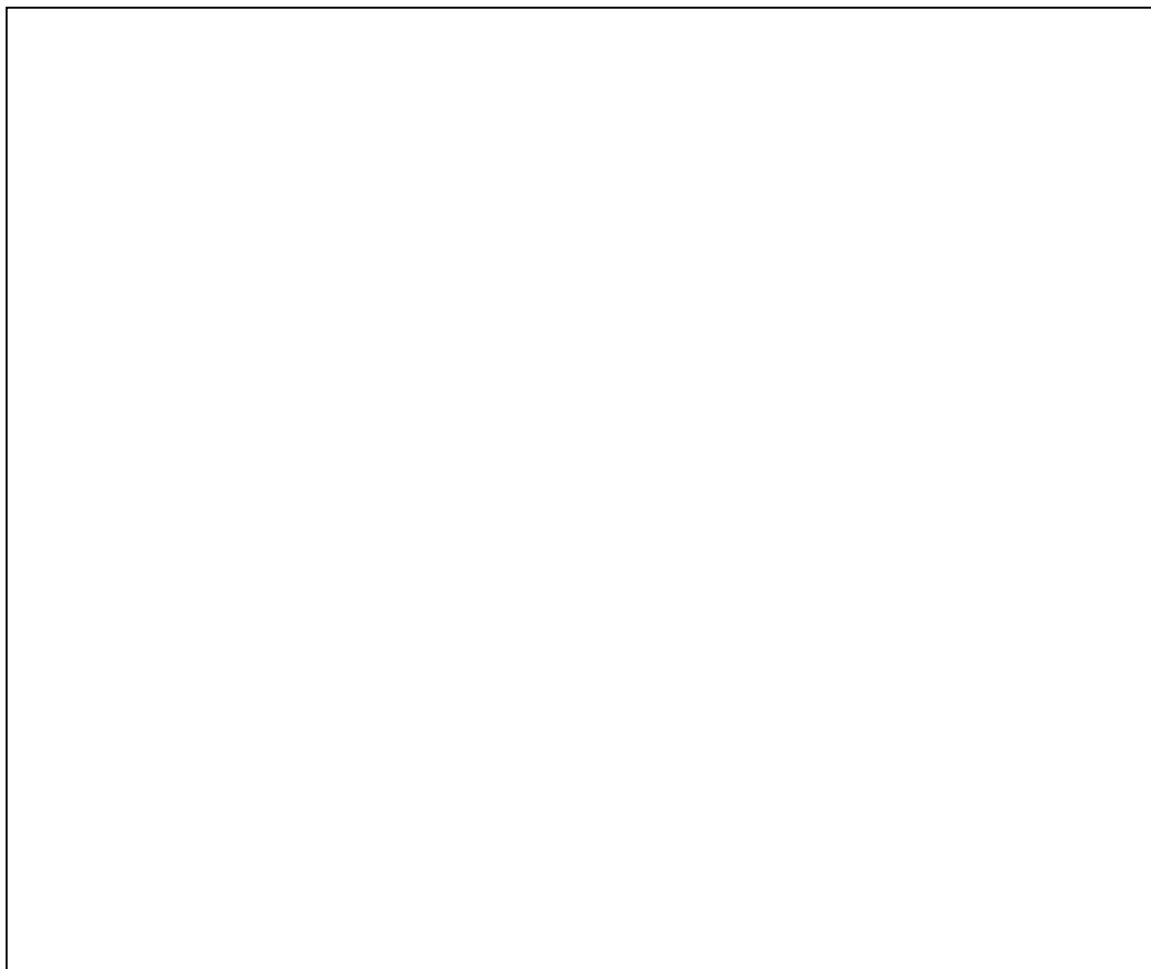
Time:

<b>Vehicle</b>	<b>Side A tally</b>	<b>Sub total</b>	<b>Side B tally</b>	<b>Sub total</b>	<b>Day 2 Total</b>
<b>cars</b>					
<b>commercial vehicles</b>					
<b>buses</b>					
<b>motorbikes</b>					
<b>bicycles</b>					
<b>TOTAL</b>					

**Driving alone (to be done individually in class)**

**Task 2: Presenting your results**

2a. Using your site description data (Task 1 a) draw a map of your survey site presenting features of the main road that affect traffic. For example, number of lanes, where the main roads lead to, any parking restrictions, location of side roads, intersections, traffic lights, and bus stops. Also mark on the location of the point where the traffic survey was carried out. Make sure that the map is **accurately** presented using all the correct conventions that apply to maps.



2b. Fill in the two tables below and over from your tally sheets.

Table 1

<b>vehicle type</b>	<b>day 1 total</b>	<b>day 2 total</b>	<b>Combined total</b>
cars			
commercial vehicles			
buses			
motorbikes			
bicycles			

Table 2

	Total number of vehicles
Side A Day 1	
Side B Day 1	
Side A Day 2	
Side B Day 2	

2c. Draw a bar graph in the space below to show the results of Table 2. This should be **accurately** plotted and labelled.









**Check the rear view mirror**

**Task 5: Evaluate the research process**

**5a.** Evaluate the research process in depth by:

i) Describing **two strengths** of what you did. You will need to include some data from your research in your answer. State how the strengths you describe have made the research better.

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5b) describing **two weaknesses** of what you did. State how these weaknesses affected the quality of your research.

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### Assessment schedule for Geo/1/5\_L7

Task	Evidence	Judgement towards Achievement	Judgement towards achievement with Merit	Judgement towards achievement with Excellence
1.	Research procedures. Data has been collected and recorded in the site description and tables.	Site description and tables completed.	Site description and tables completed accurately.	As for Merit.
2.	Data has been presented on the site map, tables and graph.  Map is completed using appropriate conventions (title, key, direction arrow (scale optional)).  Tables are presented.  Graph is completed using appropriate conventions (title, axes labelled, bars accurately drawn, key or labelled bars).	Three items (map, tables or/ and graph) are presented. The data used is from the data collected from the survey. There may be some difficulties with the accuracy of the data.	Three items (map, tables (2) and graph) are presented <b>accurately</b> (are consistent with the data and all conventions are followed – <i>use professional judgement for a minor slip-up in conventions.</i> )	As for Merit.
3.	Presented results are analysed and two conclusions made that reflect the results shown on the map, tables or graph. The student must also refer back to the aims.	One conclusion is made that makes a reference to the aims of the research. <i>e.g.</i> • <i>There was more traffic travelling on one side which was what we were trying to find out in our study. This confirmed our aims.</i>	<b>Two</b> conclusions clearly reflect the results of the map, tables or graph that make a reference to the aims. They must also use some data from the research to support their conclusions. <i>e.g.</i> • <i>The graph showed that there was more traffic travelling on Side A than</i>	As for Merit.

Task	Evidence	Judgement towards Achievement	Judgement towards achievement with Merit	Judgement towards achievement with Excellence
4.	<p>A pattern from the map, tables or graph is named and the pattern has been described in detail.</p> <p>Location (site) features have been identified and location advantages and disadvantages have been described in detail.</p>	<p>For one of the geographic ideas (patterns or location) its relevance to the research is described.</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• <i>Patterns: Side A had more cars than Side B in the morning. This is due to people going to work in the morning using side A.</i></li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• <i>Location: The location we chose to do the survey was where much of the traffic flowed at that time of day so it was easy to collect lots of data to test our theory.</i></li> </ul>	<p><i>on Side B on both the days we did our survey. About 20% of the traffic went this way. This was the aim of our study and so it proved that what we guessed would happen, did so.</i></p> <ul style="list-style-type: none"> <li>• <i>Table 1 indicated that there were more bicycles (30) than motorbikes (15) travelling on the main street on both of the survey days. This is what we predicted in our aims.</i></li> </ul> <p>For one of the geographic ideas (patterns or location) its relevance to the research is described in detail.</p> <p>e.g.</p> <ul style="list-style-type: none"> <li>• <i>Patterns: The flow of cars on Side A was higher than on Side B. This was also the case for other types of vehicle, because many people are using their cars (as well as other types of vehicles) to travel to the City for work at this time of day. Side A takes traffic towards the city centre. Therefore the main flow of traffic was more in one direction than the other</i></li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• <i>Location: The survey site area (location) has parking restrictions that</i></li> </ul>	<p>For <b>two</b> geographic ideas (patterns and location) their relevance to the research is described in detail.</p> <p>TWO strengths and TWO of the research process are evaluated in depth weaknesses which indicate how they affected the validity/reliability of the research.</p> <p>Both ideas are covered with Merit standard answers.</p>

Task	Evidence	Judgement towards Achievement	Judgement towards achievement with Merit	Judgement towards achievement with Excellence
5.	Research process evaluated in depth including strengths, weaknesses and possible improvements.		<p><i>extend to both sides of the road just at peak traffic flow times. This occurs to provide another lane for people to drive on during peak traffic flow periods and makes the traffic flow more easily.</i></p> <p>Evaluation of the research process is made including at least TWO strengths, and TWO weaknesses of the process. Reference could be made to the validity/reliability of the research</p> <p>e.g. <b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• <i>My group worked well together collecting the traffic data and we recorded vehicle types accurately using a tally sheet..</i></li> <li>• <i>We divided up the corner survey site so that we could watch traffic in a small area carefully and this meant our data was more accurate.</i></li> </ul> <p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• <i>We did not spend long enough at our first survey site.</i></li> <li>• <i>It rained one day. I think this may</i></li> </ul>	<p>Evaluation of the research process is in depth including at least TWO strengths, and TWO weaknesses of the process. Reference could be made to the validity/reliability of the research</p> <p>e.g. <b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• <i>The research process had been explained to us thoroughly in class and this helped me to understand the tasks clearly so I knew what I was meant to be doing for the research. I knew exactly where to stand to count the</i></li> </ul>

Task	Evidence	Judgement towards Achievement	Judgement towards achievement with Merit	Judgement towards achievement with Excellence
			<p><i>have affected our overall results s as we did not go out to count could not see the pattern over the full week.</i></p>	<p><i>traffic and which category the different types of vehicle fitted into.</i></p> <ul style="list-style-type: none"> <li>• <i>My group worked really well together. We divided up the entire task that we had to do but we still helped and supported each other even though we had our own responsibilities for counting traffic going in one particular direction..</i></li> </ul> <p><b>Weaknesses:</b></p> <ul style="list-style-type: none"> <li>• <i>We didn't really spend long enough at our survey site. Because of this my traffic data was not as accurate and reliable as it could have been if we'd had longer to collect it.</i></li> <li>• <i>It rained heavily on day two but we still went out and did our</i></li> </ul>

<b>Task</b>	<b>Evidence</b>	<b>Judgement towards Achievement</b>	<b>Judgement towards achievement with Merit</b>	<b>Judgement towards achievement with Excellence</b>
				<i>survey. The wet weather may have affected the results that we collected and recorded because this weather may have meant fewer people were out shopping and visiting than on a fine sunny day.</i>

### Judgement Statement

To gain evidence toward **Achievement** for the first Achievement criteria (Procedures, presentation)  
**Achievement** must be gained for each of **Tasks 1, 2 and 3**.

To gain evidence toward **Achievement with Merit** for the first Achievement criteria (Procedures, presentation and accuracy)  
**Achievement with Merit** must be gained for each of **Tasks 1, 2 and 3**.

### Judgement Record Summary

Achievement Criteria	Achievement	Merit	Excellence
Procedures, presentation and accuracy	<input type="checkbox"/>	<input type="checkbox"/>	
Geographic Ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evaluation		<input type="checkbox"/>	<input type="checkbox"/>

The award of a grade should be based on professional judgement against the achievement criteria in the achievement standard using the assessment schedule for detailed guidance. The final decision for the first criterion only should be a holistic judgement across the body of evidence produced by the student.

This 'tick box' summary is a form of collation, assisting the assessor in determining the award of a grade.

- Tick the boxes that indicate the grade level that the student responses have provided evidence toward.

GRADE AWARDED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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- Overall judgement, using the 'tick boxes' for allocating a grade, Achievement/Merit/Excellence
  - For Achievement both Achievement boxes must be ticked
  - For Merit both Achievement & all 3 Merit boxes must be ticked
  - For Excellence all boxes must be ticked