

Teacher notes

This set of lesson plans have been developed to complement the Renault Safety Matters road safety initiative and support the Numeracy curriculum for Key Stage 2 (Primary 2-6). Further road safety support materials can be found online at: www.safetymatters.renault.co.uk

Using this resource

This teaching tool contains a set of lesson plans to support the delivery of Numeracy, whilst reinforcing key road safety messages. All activities are easy to implement and all paper-based materials required for delivery are to be found within this download.

Although a week-long course of lesson plans has been suggested, this is by no means prescriptive and activities have been designed to be as flexible as possible. If choosing to deliver these lessons over the course of one week you may wish to present this as part of a wider road safety or local area 'project', extending lessons into further areas of the curriculum. This would present a good opportunity to encourage children to think about road safety-related issues at a local level via less obvious subject routes or alternatively to address road safety issues via a broader awareness. Pupils can be encouraged to complete their project as a PowerPoint document and present their findings to the rest of the class upon completion.

Curriculum /Framework links:

- Using and applying Mathematics.
- Solving problems involving counting, adding, subtracting, doubling or halving in the context of numbers, measures or money, for example to 'pay' and 'give change'.
- Answer a question by selecting and using suitable equipment, and sorting information, shapes or objects; display results using tables and pictures.

Potential cross-curricular opportunities

Links to other subjects are flagged in the lesson plan grids where relevant. If delivering these lessons as part of a themed 'Road Safety Week', you may wish to extend the topic into additional subject areas. Two possible themes for this are as follows:

- Design and Technology: Pupils to study and test various materials for their reflective / weather resistant suitability. Pupils can design and make a miniature item of road safety equipment or clothing to conclude this area of study.
- Geography: Pupils to compare and contrast their local area with another. Ensure the area is as different from their own surroundings as possible e.g. compare with a rural environment if the school is located in an urban area and vice versa. Encourage pupils to think about the types of road safety issues this other location might have and the different types of vehicle that would be using the roads. Support lessons with rural / urban stimulus photography (as relevant).



Lesson preparation and delivery

At the core of the lessons suggested in these lesson plans are two traffic surveys conducted on different days of the week and at different times of the day (to allow scope for comparison).

1. Survey One: conducted on Tuesday morning
2. Survey Two: conducted Thursday afternoon

Relevant parental / guardian permission should be sought in advance of these surveys and pupils should be encouraged to wear suitable clothing for working outside in the playground.

Throughout the week, you might choose to theme any disciplinary techniques to control your pupils, employing for example a traffic light sequence for behaviour e.g. green when the class is good / silent when required and red when they should quieten down.

Differentiation and key words

Lesson plans contain suggestions for differentiating some of the activities for more / less able pupils where possible.

Lesson plans also feature key words for pupils to learn. It is suggested that teachers write these words onto the board during each classroom-based lesson for pupils to familiarise themselves with. To further develop pupils' road safety vocabulary, they can access the Safety Matters website at www.safetymatters.renault.co.uk. In addition to a Glossary containing key road safety words and definitions, games such as 'Guess the Word' and 'Road Wise' will help familiarise your pupils with spelling and meanings.

Further opportunities for learning

- The data gathered from the traffic surveys can be used to complete work on percentages and fractions. Pupils can be encouraged to study their data and respond to the following questions:
 - What percentage / fraction of the traffic surveyed in Survey 1 were cars / other?
 - What percentage / fraction of the traffic surveyed in Survey 1 were buses / other?
 - What percentage / fraction of the traffic surveyed in Survey 2 were cars / other?
 - What percentage / fraction of the traffic surveyed in Survey 2 were buses / other?
- Pupils can then compare the data from both surveys by looking at the variation in percentages between different types of vehicle. Further questions can be set by teachers, asking pupils to identify the percentage variations between both surveys.
- Pupils can be encouraged to conduct their own surveys on schoolmates' knowledge of The Green Cross Code. Ask pupils to predict how many children they think will know the answers in advance of the survey. Pupils can then be encouraged to devise a survey for a different year group and compare the results to their predictions.
- Survey / project results can be presented as a PowerPoint document and pupils can be encouraged to share their findings with classmates. Classmates can then be asked to assess each other's work using the 'two stars and a wish' approach – finding two positive things about the presentation to feed back on and one area the presenter can improve on.



Day: Monday

Time	Activity	Explanation	Resource required	Notes
5 minutes	Types of journeys	Explain that this week pupils will be looking at the amount of traffic on the roads outside their school. Ask pupils to brainstorm, as a class, different types of journeys that are taken on the roads e.g. school run etc. Pupils to write suggestions on the whiteboard.	Interactive whiteboard / sheet of paper	Prior to lesson commencement, you may wish to write the key words onto the whiteboard for pupils to familiarise themselves with.
10 minutes	How do you travel?	Teachers to conduct a straw poll of how children travel to school and present findings on the whiteboard for all pupils to see. Ask pupils to identify the most popular mode of transport. Encourage pupils to relate distance travelled to the mode of transport e.g. children that live closest may walk to school.	No resources required	You may wish to utilise some of the imagery from the Safety Matters website www.safetymatters.renault.co.uk to represent the different modes of transport. A tally can then be marked underneath each picture to depict how many pupils utilise this mode of transport to travel to school.
30 minutes	Data creator	Using the data from the previous activity, pupils should select a suitable diagrammatical tool to present these findings (to familiarise themselves with working with and presenting data in preparation for their own survey). Formats for presenting findings can include pie charts, graphs etc.	Statistics from previous activity	If the results to the previous activity did not provide sufficient variation, the following fictitious data (representing a class of 25 pupils) can be used: Car: 12, Bus: 7, Bicycle: 3, Foot: 3
15 minutes	Survey says...	Explain that pupils will be working outside conducting a traffic survey during tomorrow's lesson. Encourage pupils to pre-empt findings from Tuesday's traffic survey – e.g. which do they think will be the most and least popular vehicles? Why do they think this? Do they think this is a busy time on the roads? If so, why?	No resources required	Conclude lesson with safety briefing for traffic survey the following day and instructions to bring suitable clothing for working outside.

Differentiation: *More able pupils: can present the data in multiple formats to familiarise themselves with each tool. Less able pupils: can be encouraged to work in pairs. Assistance with drawing / labelling graphs may need to be given to less able pupils.*

Day: Tuesday

Time	Activity	Explanation	Resource required	Notes
10 minutes	Stay safe	Reiterate safety briefing from Monday to ensure that pupils remain at a safe distance from the road and have suitable clothing for working outside.	Pupil worksheet 1	A digital camera can be used to support project work if required.
30 minutes	Traffic survey 1	<p>Survey 1 to be conducted at approximately 9.15am.</p> <p>Pupils to work in pairs or small groups, each equipped with a copy of Pupil worksheet 1 and a pencil. Pupils should take turns recording the different types of vehicle that use the road during a 30 minute period.</p> <p>Pupils should record the number of vehicles they see travelling in either one or both directions. Pupil worksheet 1 supports this survey with a table for pupils to record their results.</p> <p>To ensure that pupils get different results, the class can be divided into smaller groups and the Teaching Assistant can be encouraged to help facilitate.</p>	Pencil and copy of Pupil worksheet 1	<p>The length of the survey can be varied to accommodate the location of the school e.g. urban schools may find it suitable to reduce the length of time.</p> <p>Ensure that pupils clearly date their worksheets, as another copy of Pupil worksheet 1 will be used for Survey 2.</p> <p>Encourage pupils to look at other factors that could impact on road safety, such as parked vehicles surrounding the school, pedestrian crossings, broken road signs etc. If completing these surveys as part of a wider area / road safety project, a camera can be used to photograph these road safety concerns.</p>
20 minutes	Plenary	<p>Once all children have returned to class, encourage pupils to write up their findings neatly in preparation for tomorrow's lesson. Any photographs can also be downloaded.</p> <p>Conclude the lesson with a quick class discussion about pupils' immediate observations from the survey.</p>	No resources required	If facilities allow, pupils who do not need to write up findings can access the Safety Matters road safety website at: www.safetymatters.renault.co.uk and play one of the road safety games.

Differentiation: Less able pupils can be partnered with more able pupils to aid differentiation.

Day: Wednesday

Time	Activity	Explanation	Resource required	Notes
30 minutes	Present your findings	Working independently, pupils should present the findings from their survey using one of the following diagrammatical tools: pie chart, bar chart or pictograph. If facilities allow, pupils can present their findings using a PC (ICT link).	Completed copies of Pupil worksheet 1 for every pupil	Ensure that all pupils have a copy of the completed worksheet for their pairing so that results can be presented independently. Sample diagrammatical formats can be displayed on the whiteboard for stimulus.
15 minutes	What does it tell you?	Once pupils have completed their findings, they should be encouraged to identify key results from their data. Ask pupils to look at their data and complete the exercises on Pupil worksheet 2.	Pupil worksheet 2	
10 minutes	Were you right?	Pupils should now compare the actual traffic survey findings with their predictions from Monday. Were they right? What was the most / least popular vehicle?	Pupil worksheet 2	
5 minutes	Plenary	Conclude this lesson by asking pupils to predict how the results from Tuesday's survey will compare to results from Thursday afternoon's survey. Which day do they think will be the busiest on the roads and why?	No resources required	Alternatively, you can conclude this lesson by playing the Safety Matters interactive Maths quiz as a class. Visit: www.safetymatters.renault.co.uk to access the game which features mathematical questions relating to road travel and safety.

Differentiation: *More able pupils: can present the data in multiple formats to familiarise themselves with each tool. Less able pupils: can be encouraged to work in pairs. Clearly label the axis of the graph for less able pupils.*

Day: Thursday

Time	Activity	Explanation	Resource required	Notes
10 minutes	Stay safe	Reiterate safety briefing from Monday to ensure that children remain at a safe distance from the road and have suitable clothing for working outside.	Pupil worksheet 1	
30 minutes	Traffic survey 2	<p>Survey 2 to be conducted at approximately 2.00pm.</p> <p>Pupils to work in pairs or small groups, each equipped with a copy of Pupil worksheet 1 and a pencil. Pupils should take turns recording the different types of vehicle that use the road during a 30 minute period.</p> <p>Pupils should record the number of vehicles they see travelling in either one or both directions. As per Survey 1 Pupil worksheet 1 also supports this survey with a table for pupils to record their results.</p> <p>Again the Teaching Assistant can be encouraged to help facilitate this activity by supervising groups so it is not necessary for all pupils to survey simultaneously.</p>	Pencil and copy of Pupil worksheet 1	<p>Once more, the length of the survey can be varied to accommodate the location of the school if a sufficient set of data is collected sooner.</p> <p>If staging this activity in separate groups, pupils remaining in the classroom can be encouraged to visit the Renault Safety Matters website at www.safetymatters.renault.co.uk and play the interactive Maths quiz.</p> <p>Ensure that pupils clearly date their worksheets, to differentiate their results from Survey 1</p>
20 minutes	Plenary	Once all children have returned to class, encourage pupils to once again write up their findings in preparation for tomorrow's lesson.	No resources required	

Differentiation: Less able pupils can be partnered with more able pupils to aid differentiation.

Day: Friday

Time	Activity	Explanation	Resource required	Notes
20 minutes	Present your findings	Working independently, pupils should present the findings from their survey using one of the following diagrammatical tools: pie chart, bar chart, or a pictograph. If facilities allow, pupils can present their findings using a PC (ICT link).	Completed copies of Pupil worksheet 1 for every pupil	Ensure that all pupils have a copy of the completed worksheet for their pairing so that results can be presented independently.
10 minutes	What does it tell you?	Once pupils have completed their findings from Survey 2 they should be encouraged to identify key results from their data. Photocopy and distribute a copy of Pupil worksheet 2 and ask pupils to look at their data and complete the exercises on the worksheet.	Pupil worksheet 2	
20 minutes	Compare and contrast	Encourage pupils to compare findings from both surveys and contrast findings from Survey 2 with pupil predictions. Were they right? Pupil worksheet 2 to assist with identifying key findings.	Statistics from previous activity Pupil worksheet 2	Ensure that pupils think about traffic volume in relation to road safety issues. Also encourage pupils to think about any parked vehicles they may have seen during their surveys and the implications on road safety.
10 minutes	Plenary	Pupils to think about road safety in relation to their findings. Do they think there are sufficient road crossings in place around the school to ensure safe crossing of the road? Do they think anything can be done to ease peak time traffic congestion around the school?	No resources required	This activity can lend itself to further extension work in Literacy. Pupils can present their findings in a mini project, adding photographs and survey results. The conclusion to the project can include a letter to the local council requesting further traffic maintenance and calming solutions for the area surrounding the school.

Differentiation: Less able pupils can be partnered with more able pupils to aid differentiation. Assistance with drawing / labelling graphs may need to be given to less able pupils.

Traffic survey

Name: Date of survey:

Class: Time of survey:

Use the following table to record your traffic survey results.

Cars



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Lorries



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Buses



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Vans



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Motorcycles



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Bicycles



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Emergency vehicles
e.g. ambulances



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Farm vehicles
e.g. tractors



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Other



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Key words

traffic, survey, car, bus, bicycle, road, pavement, record, volume, lorry, emergency, motorcycle, van, tractor, fire engine

Traffic survey results

Name: Class:

Question 1

Survey One

How many of the following vehicles did you record during your first survey?

- | | | |
|------------------------|----------------------------|-----------------------------------|
| a Cars | d Vans | g Emergency vehicles |
| b Lorries | e Motorcycles | h Farm vehicles |
| c Buses | f Bicycles | i Other vehicles |

j Which was the most popular vehicle?

k Which was the least popular vehicle?

l Which vehicle did you think would be the most popular and why?
.....
.....

m Which vehicle did you think would be the least popular and why?
.....
.....

Question 2

Survey Two

How many of the following vehicles did you record during your second survey?

- | | | |
|------------------------|----------------------------|-----------------------------------|
| a Cars | d Vans | g Emergency vehicles |
| b Lorries | e Motorcycles | h Farm vehicles |
| c Buses | f Bicycles | i Other vehicles |

j Which was the most popular vehicle?

k Which was the least popular vehicle?

l Which vehicle did you think would be the most popular and why?
.....
.....

m Which vehicle did you think would be the least popular and why?
.....
.....

Question 3

Comparing results

Which day saw the highest volume of traffic?

Why do you think this is?

Which day did you think would be busier and why?