

How children travel to school

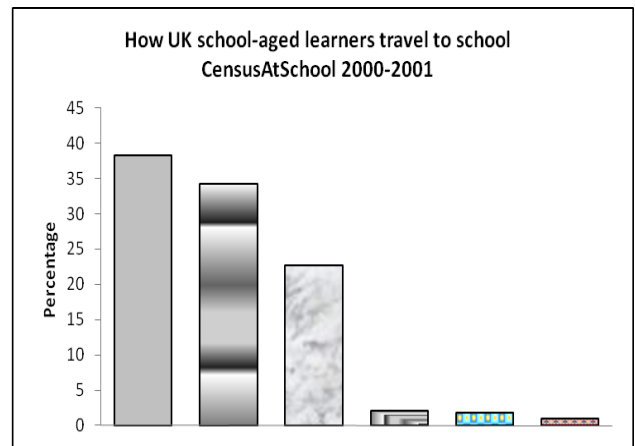
One of the *CensusAtSchool* 2000–2001 questions, that over 63,000 school children answered was:

What is the main way you *usually* travel to school?

- Walk Cycle
 Bus Rail
 Car Boat
 Other

TASK 1

1. Get into a group of 4 or 5 people.
2. In your group discuss whether you would make any changes to the wording of the above question.
3. The bar chart opposite shows the different ways school-aged learners travel to school. In your groups discuss the method of transport you think each bar represents and write these on the bars.

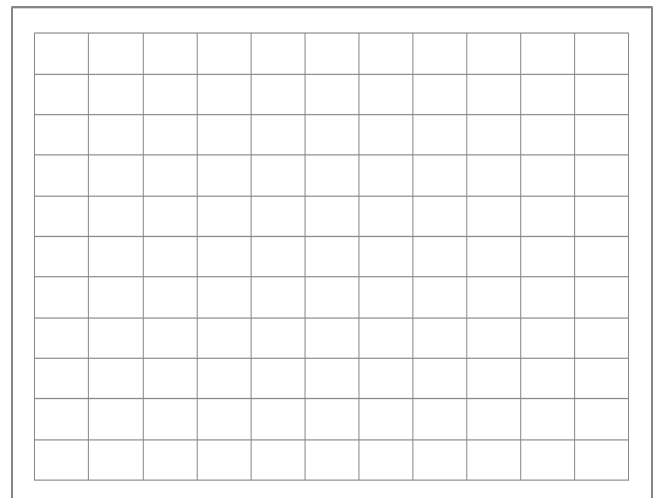


Now let's find out if you are correct.

TASK 2

Ask the members of your group how they usually travel to school. Note down any difficulties in answering this question.

Display your results from the data collected from this question in a bar chart using the axis opposite. Remember to label your axis, bars and give this chart a title.



Is this sample big enough to draw any conclusions?

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Give a reason for your answer.

TASK 3

Below are the data for four different schools in four different areas of the UK. Display this data in the best way to compare the four groups and to help you decide how most children travel to school.

Group A Peterborough	Group B South Wales	Group C London	Group D Surrey
Car	Walk	Car	Walk
Walk	Walk	Car	Walk
Walk	Walk	Walk	Walk
Bus	Walk	Walk	Car
Bus	Walk	Car	Car
Cycle	Car	Car	Car
Car	Car	Bus	Walk
Walk	Car	Car	Car
Bus	Walk	Car	Walk
Bus	Bus	Car	Walk
Cycle	Walk	Car	Car
Bus	Car	Bus	Car
Walk	Walk	Bus	Walk
Bus	Walk	Car	Car
Bus	Car	Car	Car
Bus	Bus	Car	Car
Bus	Car	Walk	Car
Car	Car	Car	Walk
Bus	Walk	Car	Walk
Car	Walk	Car	Walk
Bus	Walk	Bus	Car
Bus	Car	Walk	Walk
Bus	Walk	Car	Car
Bus	Car	Bus	Car
Cycle	Walk	Walk	Car
Bus	Car	Car	Walk
Bus	Bus	Car	Walk
Bus	Car	Car	Walk
Car	Car	Car	Walk
Car	Walk	Walk	Walk
Bus		Walk	Walk
		Car	Walk
		Car	

Discuss in your groups whether you think these four samples represent the whole population of UK school children. List at least three weaknesses of drawing conclusions from these results.

Let's investigate further using the *CensusAtSchool* DataTool.

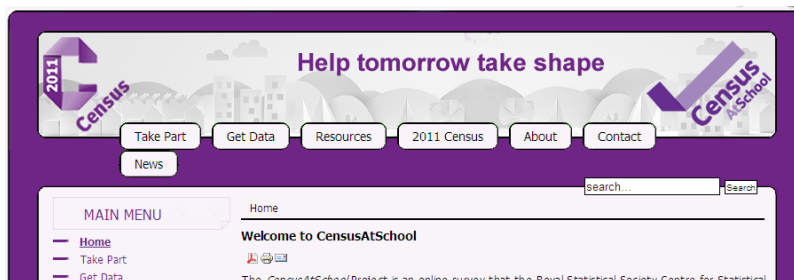
TASK 4

So we are asking the question: **How do UK school children usually travel to school?**

We will now look at the results from different sample sizes to decide on the size of sample we should take to draw some conclusions about how the population of UK school children usually travel to school. We will also look at how sure we are about these conclusions.

The **DataTool** allows you to pick a random sample of data from the *CensusAtSchool* database. It can draw all sorts of graphs and allows you to compare girls against boys etc.

Open www.censusatschool.org.uk (or google *CensusAtSchool*).



Select **Get Data**

Get Data

DataTool

DataTool

Click here to start the DataTool (2012)

Click here to start the DataTool.

Click on *CensusAtSchool*



For more information on the 2011 Census visit our website at www.census.gov.uk

Resource from the *CensusAtSchool* project at www.censusatschool.org.uk

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Now you need to select the **United Kingdom** and **UK Secondary 2000-2001**.

Next.



Now drag **Travel to school by** under **Variables**

Next.



We want to take **one** sample of **10** from the **whole** database.

Next.



Drag **Travel to school by** across to the Bar chart option.

Next.



How do most children travel to school using your sample of 10? Write the results in the table on the next page as sample number 1. Also put the results for your group of 5 and for Groups A, B, C and D in this table. Group A is already completed as an example.

Now take another sample of 10 using the resampling option. Click on the arrow next to **Options**.



Then click on the arrow next to **Resample**.



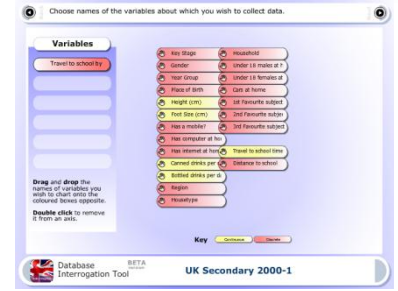
Enter the result in the table on the next page as sample number 2. Repeat this to get sample 3 and sample 4 and add the results to this table.

Each time you wish to change the sample size click back until you get to the **Random sample** webpage.



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Each time you wish to change the variables click back until you get to the **Choose names of variables** webpage.



So now find the usual way UK school children travel to school using a sample of 20. Repeat this for the sample sizes shown in Table 2. Complete rest of the table below using the resampling option when you can.

Sample number	Sample size	Highest frequency	Second highest frequency	Third highest frequency	Fourth highest frequency	Fifth highest frequency	Sixth highest frequency	Seventh highest frequency
My group	5							
Group A	31	Bus	Car	Walk	Cycle			
Group B								
Group C								
Group D								
1	10							
2	10							
3	10							
4	10							
5	20							
6	20							
7	20							
8	20							
9	50							
10	50							
11	50							
12	50							
13	100							
14	100							
15	100							
16	100							
17	250							
18	250							
19	250							
20	250							

What do you think is the best (most representative) sample size?

Why do you think this is the best sample size to take?

For more information on the 2011 Census visit our website at www.census.gov.uk

Resource from the *CensusAtSchool* project at www.censusatschool.org.uk

TASK 5

Use the DataTool to compare how boys and girls usually travel to school on the same graph.

Travel to school by under Variables

We want to take **Two samples** of **200** from **Part of database**.

Next.

Click on **Gender** and then select **Male**.

Next.

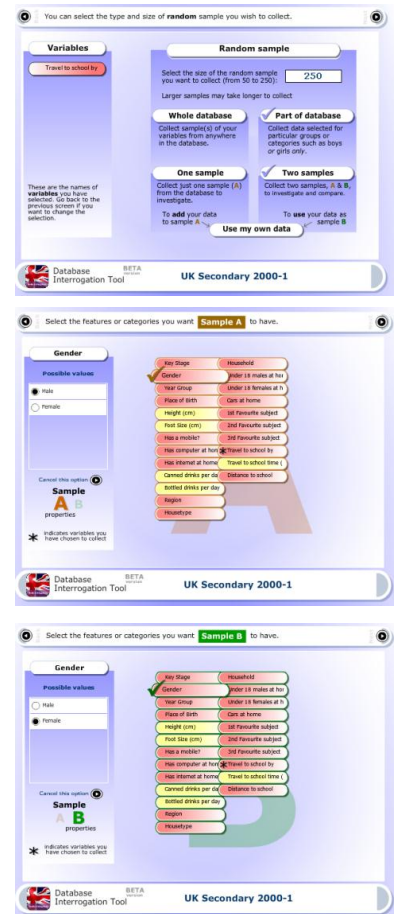
Click on **Gender** and then select **Female**.

Next.

Drag **Travel to school** across to the Bar chart option.

Next.

Write your results in the table below.



Sample number	Sample size	Highest frequency	Second highest frequency	Third highest frequency	Fourth highest frequency	Fifth highest frequency	Sixth highest frequency	Seventh highest frequency
21 Girls								
21 Boys								
22 Girls								
22 Boys								
23 Girls								
23 Boys								
24 Girls								
24 Boys								

Looking at your results do you think boys and girls use different methods of transport to travel to school?

Give a reason for your answer.

TASK 6

Look back to the chart at the beginning of this booklet. Did you guess correctly?

Discuss these results in your group.
Did anything surprise you?

TASK 7

The Office for National Statistics (ONS) has the following statement on their website www.ons.gov.uk:

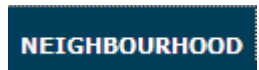
“The Office for National Statistics (ONS) is the UK Government’s main survey organisation and its main producer of official statistics.”

This is quite a difficult statement to understand. What do you think the ONS do?

Let’s look at some data on the ONS website.

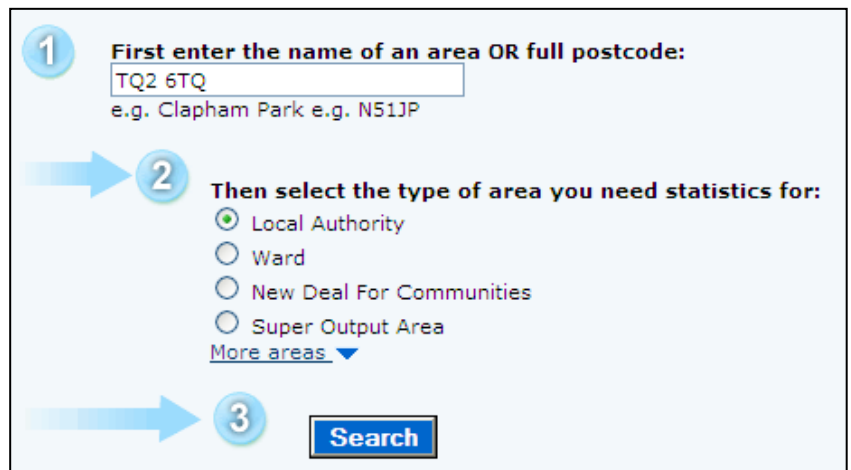
Go to the webpage www.ons.gov.uk/ons/index.html

Click on **NEIGHBOURHOOD**



Enter the post code of your school.

Select **Local Authority**



1 First enter the name of an area OR full postcode:
TQ2 6TQ
e.g. Clapham Park e.g. N51JP

2 Then select the type of area you need statistics for:
 Local Authority
 Ward
 New Deal For Communities
 Super Output Area
[More areas](#) ▼

3 Search

Search

Click on 2001 Census: Census Area Statistics

[2001 Census: Census Area Statistics \(61 datasets\)](#)

A selection of tables from the Census Area Statistics giving detailed information on specific census variables.

Click on Age (UV04) (2001)

[Age \(UV04\) \(2001\)](#)

Click on About this dataset (PDF 284Kb)

[About this dataset \(PDF 284Kb\)](#)

What is the data in this dataset?

How is this data collected?

When was this data collected?

Work out from this dataset the number of children of school age (5–16 years old) in your area.

Work out approximately how many of the school-aged learners in your area travel to school by car. (Use the results from your investigation.)

How many extra cars will be on the roads at the beginning and at the end of the school day ie 'the school run'?

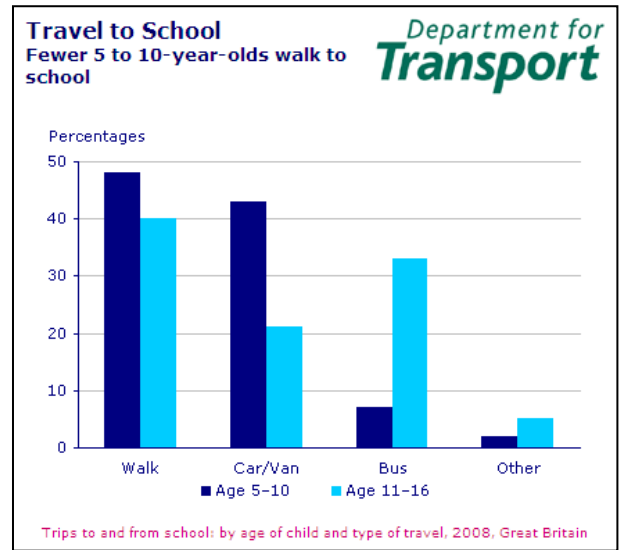
State two reasons why the number of extra cars on the road at beginning and the end of the school day may not be as large as the number you have written above.

What could be done to reduce the number of car journeys to school?

TASK 8

Here is part of a report on the ONS website.

“Secondary school children are far more likely than primary school children to go by bus or rail to school. Private and local bus travel accounted for 7 per cent of journeys to and from school by those aged 5 to 10 in 2008 and 33 per cent of trips by those aged 11 to 16. Two per cent of primary school children cycled to school in 2008, the same proportion as secondary school children.”



Use the DataTool to see if the *CensusAtSchool 2000 2001* data agree with these statements and graph. (Use 2 samples of 200 each, compare year groups.)

What are your findings?

Why do you think older children are less likely to walk or travel to school by car?

TASK 9

Use the DataTool to investigate how South African children travel to school.

What is the most popular method of travel?

Why do you think so many children travel in this way in South Africa?

