

Lesson Three - Census 2006

Theme

Classroom Census 2006

Objectives

That the child will be enabled to:

- talk about the census - what the census is and why/how the census is conducted
- explain the process involved in data collection
- identify what facts, figures and statistics will be useful for future planning and the questions that need to be posed in an investigation
- engage in the data collection process at classroom level
- represent and interpret classroom data using block graphs, bar charts, bar line graphs...
- develop a continued awareness of the upcoming census on April 23rd 2006

Integration and Linkage

See **Census 2006 Activities** for full list of integration opportunities.

Tasks

- Revision of key messages - Lessons 1 and 2
- Whole class activity – Census sorting cards and creating the steps in the census cycle
 - Activity 1: Filling in the form
 - Activity 2: Checking the sample pop.
 - Activity 3: Compiling the data
 - Activity 4: Completing a tally

Extension work

Census Cubes

Census brain teasers

You will need

- Steps in the Census Cycle S 3.1
- Census Cycle Chart S 3.2
- Key questions from Census form 2006 S 3.3
- Sample census forms blank and sample S 3.4 a and b
- Census Tally sheet S 3.5
- Census Cubes Activity S 3.6
- Fractured Fractions and solution S 3.7 a and b

Home/School links

Children bring home cards for Steps in the Census Cycle as basis for discussion.

Children discuss the key questions with their parents/guardians.

Key Messages

- A classroom census is a rich source of information and can be designed to provide facts and figures (statistics) to help planning within the school.
- Each step of the data collection process is important for a successful outcome.
- Data can be represented in graphical, diagrammatic or pictorial form as well as in report form.

Language

Census, collect, information, data, ask, pose, question, list, form, ask, Sunday, April, information, age, address, education, tax, count, country, estimate, government, gender, employment

The above language can provide a very rich source of material for discussion and also for written word work.

Assessment

The children will

- orally recall the key messages from Lessons 1 and 2 in relation to data collection and the census cycle
- use the language associated with Census 2006 in context
- correctly sequence the steps in the census process
- use the vocabulary of the census to design a classroom census
- engage in the data collection process at classroom level and present their findings graphically.

Teacher Observation Tips

As the language in this activity is quite complex be particularly observant of children who are not using the language at all or not using it correctly.

Note children who are finding the activity too easy and use resource S 4.8 to encourage them to use ICT in the development of graphs. This would also enable them to branch out into use of charts in a written report (English – writing and reading in different genres).

Teacher's Notes - Lesson 3

Revision of key messages from Lessons One and Two:

- Talk about the Census and assess the children's understanding of the Census
 - what the census is
 - why the census is conducted
 - what data/information is collected
 - how census data can be used
- Use flashcards with key words relating to the census (many of these words were used in the Census Word Search in Lesson Two).
- Revise the steps of the Census Cycle i.e. the steps of the census data collection process using the cue cards provided with Lesson Two. This can be a whole-class or pair/group activity in which small cards are used (see S 3.1).
- Use an enlarged copy of the A4 Census Cycle poster provided in this lesson to summarize the data collection process (S 3.2).

Brainstorm

- Ask the children to consider what questions may be asked on Census form 2006. Make a list of these on a flipchart / blackboard.
- Refer to the rationale for the census and encourage children to relate the data that is needed to the question being posed e.g. if it is important to establish what the most common method of transport being used by people travelling to work, a likely question on the census form will be:
- 'How do you travel to work?'
- Use the list of key questions for Census 2006 (S 3.3) for this guided discussion.
- Ask the children what information a government might need to find out from a census and why.
- From their brainstorm encourage the children to orally explore some of the areas below
 - how rich or poor is our country?
 - are more people living here than the last Census?
 - are there more old or young people?
 - are there more males than females
 - where do most people live? Country? Towns/cities?
 - how many people are at school?
 - how many people have jobs?
 - what kinds of jobs do people have?
 - how do people get to work or school?

Ask the children to consider what questions may be asked on Census form 2006. Make a list of these questions.

Whole Class Activity

Explain to the children that in the same way as the government hold a national census as an official population count and to collect important data / statistics that you are going to conduct a classroom census.

- Talk about what preparation might be needed in planning for a census i.e.
 - Organising a census committee
 - Deciding on a census date
 - Advertising the census date
 - Designing the census form
 - Deciding what questions need to be asked
 - Providing information for the research group

- Finding enumerators to distribute the forms, to provide information and to collect the completed forms
 - Considering how the data will be organised and represented (tabular, diagrammatic, pictorial or graphical format)
 - Deciding on how results/findings will be reported back
- Discuss each of the above points in turn with the children:
 - The class of children will be the census committee with each group being given a specific role in the census cycle.
 - Decide on a suitable census date with the children.
 - Encourage the children to design posters, bookmarks etc... to highlight/advertise the census date. This could be carried out at home with the help and support of parents and family.
- Talk to the children about the type of data/information that is being sought about the class. This data could be linked to the data required from Census 2006.
- Ask the children to work in pairs to consider what questions could be put on the form e.g. name, place of birth, date of birth, age, means of transport to school, distance from home to school.... These headings could be put up on a white/blackboard and agreed by the class. This could then be used as a basis for gathering the relevant information about their own class.
- Children can then design a census form in pairs / groups using S 3.4 a. Alternatively the sample census form (S 3.4 b) could be used.
- The forms can be distributed to the children as a role-play with a Census Enumerator delivering the census forms to the children and helping to answer any questions they may have. The Enumerator will also inform the children of the Classroom Census date.
- The children then examine the forms in pairs to consider how they will go about completing them and how the questions will be answered correctly.

Activity 1 - Filling in the form

- On the date of the Classroom Census, the children will be given the opportunity to complete the forms throughout the day. This factual writing exercise could be completed at a designated writing corner/area that has been set up for the census. The area could be decorated with the children's census posters and information cards about the census. Pens, pencils, erasers, paper, additional census forms and envelopes could also be provided at the census writing table.
- When children have successfully completed their census forms, they are kept in a safe place until collected by the Census Enumerator/collector on an agreed day.
- The teacher can then discuss with the children how the set of data that has been collected from the classroom census could be used.

Activity 2 - Checking your sample population

- As the national census is an official count of the population of the country, the first task of the Classroom Census is to establish how many people are present at school / absent from school on census day i.e. an official count of the classroom population.

- The teacher can then use the census forms to establish who is present/absent. The number of those present/absent is recorded on the blackboard/chart.

Activity 3 - Compiling the data (information) - the children as computers

- The forms can be given back to the children and they now become the computer compiling the data.
- Each question can be dealt with separately and the overall data collected. The children can be the data sets. Representatives from the census committee can record the results on the blackboard/flipchart e.g.
 - Question 1: Are you male or female?
(All males stand up and are counted then all females). Data recorded on 'master' sheet on board or chart.
 - Question 2: In what month were you born?
Have list of months laid out on blackboard and fill in as children stand up for their month. How many in January, February ...
 - Question 3: How old are you
Children can discuss what span of ages they would need to collect the data. Would we need to include 1, 2, 3, 4, 5...? Would we need to go over 10?
 - Question 4: In what country were you born?
Make a list of the relevant countries and tally as children provide information.
 - Question 5: Where do you live?
This will raise questions of where the town ends and the country begins and will show the need for accurate descriptors.
 - Question 6: How do you travel to school?
Call out the categories and let the children be the data sets and stand up when their category comes up. What do you do if you walk sometimes and get a lift when it rains?
 - Question 7: What is the distance from your house to the school?
Will this information be provided in kilometres? What is the shortest/longest distance that is travelled by children?
 - Question 8: How long does it take you to travel to school?
Will this information be provided in hours/minutes? What is the shortest/longest time that is travelled by children?
 - Question 9: What type of accommodation do you live in?
Discuss types of accommodation and housing with the children. This can be integrated with the geography curriculum.
 - Question 10: Do you own a P.C.?
What is a P.C.? Does this include children's computers / laptops...?
 - Question 11: Do you have Internet access at home?
Discuss 'Internet access' with the children...What is Internet access? How do you know if you have Internet access? How many children / adults use the Internet at home? How can the Internet be used?

Activity 4 - Completing a Census Tally

Children can complete an individual or group census tally sheet using the information collected from the class (See S 3.5)

Plenary

Discuss the key messages from the lesson and ask the children to describe / report on how the classroom census was conducted. Talk about difficulties that were experienced and how these barriers/challenges could be prevented in a future census / data collection exercise.

Consider how the data that has been collected may now be represented. How should this data be presented to the school / home community e.g. displayed in school hall, census booklet...

Extension work

- Using the data collected from the class census keep the chart on the wall and activities can be written on the black/whiteboard a couple of times a week for early finishers or to extend more-able students. Working in small groups, children can also try to devise ways of recording data. These suggestions can later be examined and tried out by the class. This is an essential skill (listening to and discussing both own and other children's mathematical work).
- A fun puzzle, which challenges children to construct 'census words' from interlocking cubes and explores the concept of volume and surface area (integrating with the mathematics curriculum) has been included with this lesson and is an ideal activity for early finishers (Resource 3.6).
- Another extension problem-solving task is to crack the census code using the children's basic knowledge of fractions. This fun activity highlights the theme of the census (Resource 3.7).

Home/School links

Children bring home their completed forms and discuss them with their parents.

Steps in Census Cycle

Census forms
are
delivered
to our
homes



Census forms
are
completed
on
Census day



Census forms
are
collected
after
Census day



Census forms
are
checked
and
scanned



Information
is put on
graphs
or
lists



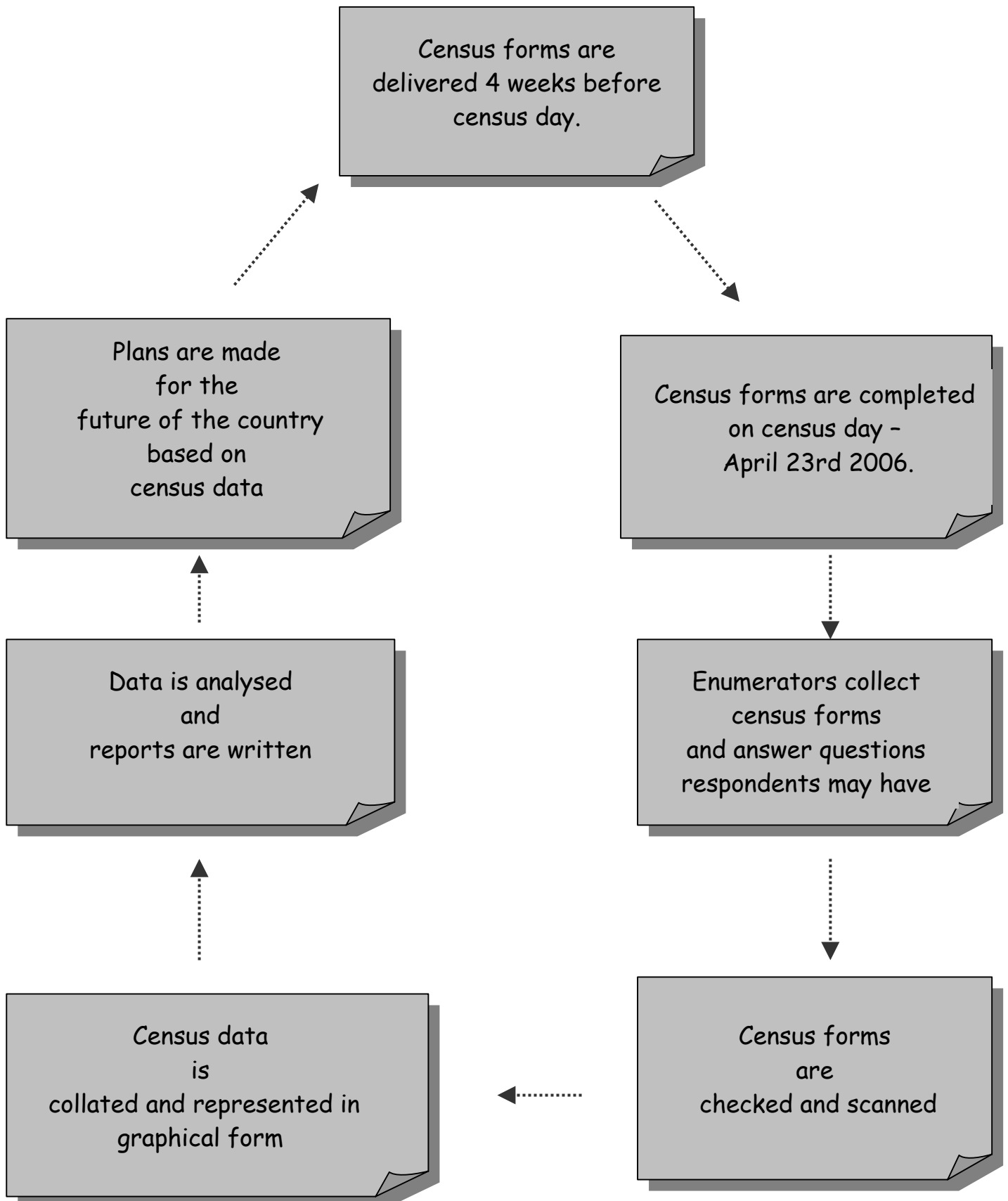
People read
the graphs
and
write
reports



Plans are made
to make
the
country
better



The Census Cycle





Census 2006 ~ Key Questions



Persons Present on Census Night

- + Name
- + Gender
- + Date of Birth
- + Place of Birth
- + Nationality
- + Place of residence on census date
- + Marital status
- + Religion
- + Irish language
- + Means of travel to work, school or college
- + Distance travelled
- + Time taken
- + Education
- + Voluntary activities
- + Occupation



Household Characteristics

- + Type of accommodation
- + Year house was built
- + Rent paid
- + Number of rooms
- + Central heating
- + Water supply
- + Sewerage facilities
- + Number of cars and vans
- + PC Ownership
- + Internet connectivity





Classroom Census Form





Classroom Census Form



Name:

Are you male or female?

In what month were you born?

How old are you?

In what country were you born?

Where do you live?

In the town ☐

In the country ☐

How do you travel to school?

Walk ☐ Cycle ☐ Bus ☐ Car ☐

What distance is your home from the school?

How long does it take you to travel to school?

What type of accommodation do you live in?

In what year was your house built?

Do you have a computer at home?

Do you have internet access at home?



Classroom Census Tally



Let's Count

How many people in the class?

How many boys in the class?

How many girls in the class?

How many people were born in:

January	February	March	April	May	June
July	August	September	October	November	December

In what country were you born?

Ireland	U.K.	U.S.A.	France	Spain	Germany
Poland	Nigeria				

How many people were born in:

Town		Country	

How many people travel to school by:

Walking	Cycling	Bus	Car	Other

What distance do you travel to school?

< 5 km	5-10 km	10-15 km	15-20 km	Other

How long does it take you to travel to school?

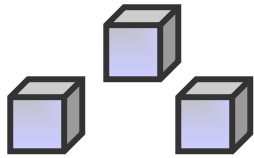
< 10 min.	10-20 min.	20-30 min.	30-40 min.	Other

What type of accommodation do you live in?

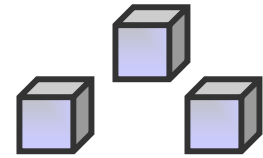
Detached	Semi-detached	Terraced	Flat/Apartment	Other

How many have a P.C. at home?

How many have access to the Internet at home?



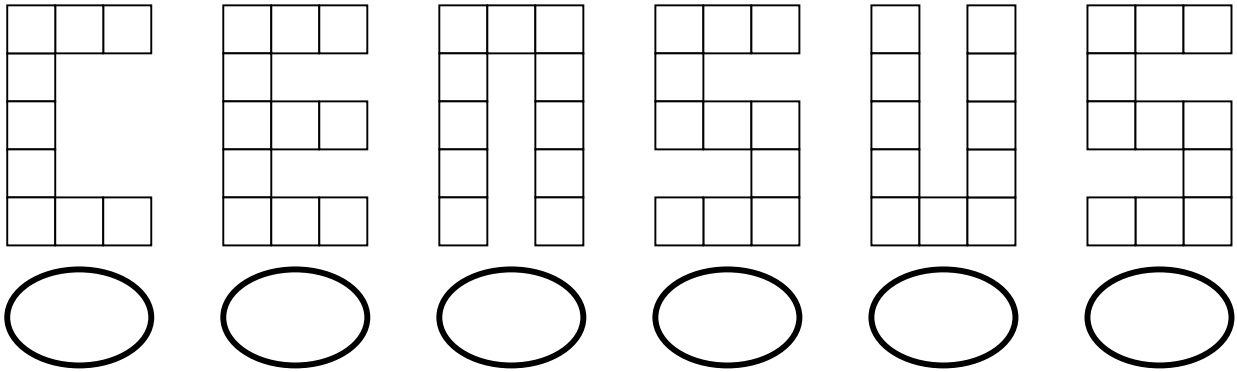
Census Cubes



*A group of children used interlocking cubes to make the word **Census**.*

Can you figure out how many cubes were used to make each letter?

This number is its volume.



The number of faces that can be seen and counted from the outside of each letter is its surface area.

Look at the letter C. How many faces can you see? _____

Use interlocking cubes if you need help.

The answer is 31.

See if you can work out the surface area of the following letters:

E :

N :

S :

U :

What is the total volume of the word 'Census'?

What is the total surface area of the word 'Census'?

Brain Strain

How many more cubes would you need to make each letter a cuboid?

C :

E :

N :

S :

U :

Draw and Construct

Look at the letter E.

Draw what you would see:

- * if you looked down on the letter
- * looked from the side
- * looked from the back

Use interlocking cubes to construct the census month April.

Can you find the volume / surface area of each letter?

Fractured Fractions

1. First $\frac{1}{3}$ of BETTER	8. First $\frac{2}{6}$ of GENDER
2. First $\frac{2}{4}$ of PAGE	9. Middle $\frac{1}{5}$ of APRIL
3. Last $\frac{2}{5}$ of COURT	10. First $\frac{1}{10}$ of POPULATION
4. First $\frac{1}{4}$ of OFFICIAL	11. Last $\frac{2}{9}$ of STATISTIC
5. Middle $\frac{3}{5}$ of OTHER	12. First $\frac{1}{5}$ of TALLY
6. First $\frac{2}{5}$ of BIRTH	13. Middle $\frac{1}{3}$ of SOURCE
7. First $\frac{1}{10}$ of GOVERNMENT	14. First $\frac{1}{10}$ of ENUMERATOR

Decode the Message!

Fractured Fractions – Solution

Be Part of the Bigger Picture

First $\frac{1}{3}$ of BETTER	=	B E
First $\frac{2}{4}$ of PAGE	=	P A
Last $\frac{2}{5}$ of COURT	=	R T
First $\frac{1}{4}$ of OFFICIAL	=	O F
Middle $\frac{3}{5}$ of OTHER	=	T H E
First $\frac{2}{5}$ of BIRTH	=	B I
First $\frac{1}{10}$ of GOVERNMENT	=	G
First $\frac{2}{6}$ of GENDER	=	G E
Middle $\frac{1}{5}$ of APRIL	=	R
First $\frac{1}{10}$ of POPULATION	=	P
Last $\frac{2}{9}$ of STATISTIC	=	I C
First $\frac{1}{5}$ of TALLY	=	T
Middle $\frac{1}{3}$ of SOURCE	=	U R
First $\frac{1}{10}$ of ENUMERATOR	=	E