



### Theme

Classroom Census ~ Making Sense of the Census!

### Objectives

That the child will be enabled to:

- explain what the census is and outline the steps in the Census process
- examine Census form 2011
- ask and answer questions about Census 2011
- discuss the questions that will be asked on Census Form 2011
- discuss how census data could be used
- compose questions for the Classroom Census form
- collect, represent, analyse and interpret data.

### Methodologies

- ✓ Problem-Solving
- ✓ Collaborative Learning
- ✓ Using the Environment
- ✓ Active Learning
- ✓ Skills through Content
- ✓ Talk and Discussion

### Mathematical Skills

- ✓ Applying and Problem-Solving
- ✓ Communicating and Expressing
- ✓ Integrating and Connecting
- ✓ Reasoning
- ✓ Implementing
- ✓ Understanding and Recalling

### Tasks

- Talk and discussion – key ideas and steps in the census process; Census Form 2006; how to conduct a classroom census
- Individual/Pair Work – complete census form; create graphs using template provided
- Whole class activity – tally results from census forms, analyse data, create a concrete representation of data
- Plenary – discuss investigation / clarify steps in process

### You will need

- Resource 3.1 Census 2011 ~ New Questions
- Resource 3.2 Census 2011 ~ Key Questions
- Resource 3.3 Classroom Census Form
- Resource 3.4 Classroom Census Tally
- Resource 3.5 Family Tally Template
- Resource 3.6 Graph Templates ~ How many in our families?
- Resource 3.7 Line Plot template

### Key Messages

- A census can be carried out at different levels – national level, classroom level...
- It is important to ask questions that will provide the information needed.
- Every person must take part in the census.
- The information is collected and answers to all questions tallied.
- Information gathered is used to plan for the future.

### Integration and Linkage:

**English: Oral language:** Talk and discussion, asking questions, answering questions, reasoning, describing, explaining, comparing...

**Drama:** Conducting a classroom census – children can be given roles e.g. enumerator, CSO team...

**Mathematics:** Data collection and representation

### **Language Development:**

*Census, government, household, collect, question, information, form, ask, Sunday, April, population, record, plan, future, check, count, important, decisions, frequently asked questions, compulsory, confidential, returns, electronically, record, results, solve, prevent, problem, graph, block graph, bar chart, bar line graph, line plot, represent, interpret, analyse ...*

### Assessment

Children will be assessed as they:

- describe the steps in the Census Process
- discuss and analyse Census form 2006
- ask key questions which will provide the information required in the classroom census
- complete the census form
- tally the answers to the census questions
- represent data collected in concrete and graphical form
- describe how the classroom census was conducted

### Teacher Observation Tips

Record in a notebook any significant events you notice such as a child having difficulty asking and answering key questions, describing the process, completing the census form or tallying answers.

Note also children who may need to be challenged with the extension suggestions provided.

### Extension

- Create a Classroom Census Project display board/area.
- Collect data from another class or classes within the school and compare it with your own class data.
- Carry out school/class investigations which involve the collection of data

### Home/School Links

Children could design a census form with their families. Complete a sample census form for homework.

Visit [www.cso.ie](http://www.cso.ie) and examine some of the information collected by the Central Statistics Office.

# Teacher's Notes - Lesson 3



## Introduction

### *Talk and Discussion*

#### Revision of key messages from Lesson 1 and 2 - What do we remember?

- Children are asked to list the steps of the census process. The wall story the children have created in Lesson Two will guide them through the recount of the process [Resource 2.1].
- Using the 'History of the Census in Ireland' worksheet [Resource 2.2] and overview card of the 'History of Census Years' [Resource 2.3], the history of the census in Ireland can be revised.
- The children can also revisit the information they examined from Census 2006 population statistics [Resources 2.4 – 2.7].

## Development

- In Lesson One, the children will have learned that there are lots of questions on the Census form that will be used to help the government to plan for schools, hospital / health services, transport and other areas. For this reason, it is important to ask questions that will provide the information needed.
- Encourage the children to think about the questions that might be asked on the Census form.
- The children can examine a copy of the Census 2011 form.
- Visit the census website and download a copy of the form:  
[http://www.census.ie/uploads/documents/English\\_Household\\_form\\_with\\_do\\_not\\_complete\\_stamp\\_-\\_2011.pdf](http://www.census.ie/uploads/documents/English_Household_form_with_do_not_complete_stamp_-_2011.pdf)
- Children can work in groups on different sections of the census form and can discuss the questions presented. It is important that the children consider why each question is asked and what information is being sought.
- Ask the children if they think the same questions were asked on the Census 2006 form as on the Census 1911 form. Encourage the children to explain their answers. What questions do they think may have been added to the census form over the years? Why?
- Explain to the children that there are two new questions to be included on the Census 2011 form.

- Use ‘Census 2011 – New Questions’ [Resource 3.1] to examine the two new questions i.e.

1. Do you speak a language other than Irish or English at home?

What is this language?

How well do you speak English?

Very well  Well  Not well  Not at all

2. How is your general health?

Very good  Good  Fair  Bad  Very Bad

- Encourage children to consider why these questions have now been included in the form and how the Central Statistics Office hope to use this information in the future. Use Resource 3.1 for an explanation as to why these questions have been included i.e.

### 1. Language Question

This question will ascertain what other languages are spoken in the home and the level of proficiency in spoken English of those who speak languages other than English or Irish at home.

The question will provide data on what languages other than English or Irish are spoken in households.

It will also provide information on how well English is spoken by people who have a language other than English as their mother tongue. This information can be used to target state resources in areas such as education and health to support people who may struggle speaking English.

### 2. Health Question

This question asks each person how their health is in general. Studies show strong links between how people view their health and the actual state of their health. The answers to this question will provide a country-wide picture of people’s health and how it is related to various factors such as age, etc.

There is evidence that the data gathered from this question corresponds with future health care levels. This is also a question used by Northern Ireland and including it will aid “whole island” statistics.

- Further discussion can involve an examination of all key questions to be included in the Census Form 2011 [Resource 3.2].
- Explain to the children that they are now going to conduct a classroom census.
- Discuss the steps in this census investigation process with the children:

The children will:

- Design a census form
- Distribute the census form to everybody present
- Complete the form
- Collect the census forms
- Count and record all the answers from the census forms
- Create graphs to show the information
- Decide on how this information could be used.



Note: It may be useful to take photographs of each step of this investigation process to help revise key concepts and as a resource to assist children when describing the process to others.

- Help the children to design a census form or use the Census Form provided [Resource 3.3]
- Conduct a classroom census and encourage role play of the census process i.e.
  1. Appoint a census enumerator to deliver the census forms.
  2. The enumerator will explain the census questions to the class.
  3. Individual children will complete the class census form [Resource 3.3].
  4. The enumerator will collect the completed census forms and bring them to a central census 'office'.
  5. A team of children will tally the answers using the tally sheet provided [Resource 3.4]. The tally sheet can be displayed on the Interactive Whiteboard and results of each question filled in as answers/responses are tallied.

Number of children in the class  
Number of boys in each class  
Number of girls in each class  
Birthday month  
Nationalities  
Languages spoken  
Method of transport  
Distances travelled  
Type of accommodation  
Ownership of PC / laptop  
Broadband



- Explain to the children that this information is also called 'data'. Ask the children to consider each question/response in turn and to explain why this piece of data has been collected and how it might be used e.g.
  - ✓ Names of children: To keep attendance records, to use class lists as checklists ...
  - ✓ Dates of birth: To establish ages of children, to place children at the correct class level...
  - ✓ Nationalities: To include all nationalities in our schools and to teach children about other countries and other cultures
  - ✓ Languages spoken: To provide for children who may not speak English, for communication with all families, to create classroom displays and a print-rich environment in other languages, to expose children to new languages...
  - ✓ Travel to school: To provide for all methods of transport e.g. car parking facilities, bus-stops, walk-ways and suggestions for car-pooling ...
  - ✓ PC Ownership: To provide educational activities that can be followed up at home using technology, to develop children's technical skills...
  - ✓ Broadband: To create links between home and school via email, school website, follow-up activities using interactive websites...
- Choose a piece of data from the census form to be represented in concrete, pictorial or graphical format e.g. How many in our families?

## Collecting Data

- Use the Classroom Census Tally Sheet [Resource 3.4] where the data has been collated from individual Classroom Census forms or use a separate tally sheet displayed on the interactive whiteboard to revisit the data in isolation [Resource 3.5]. This will give an opportunity to show children how to tally marking responses in groups of five (using four vertical strokes and one stroke across the group as a fifth) e.g.



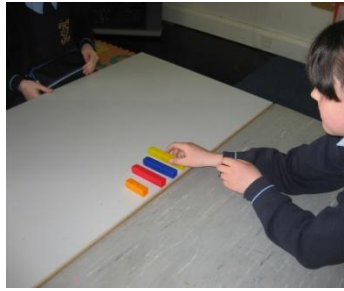
- Ask a number of children to call out how many in their families and record each response on the tally sheet. Each time a number is called draw a stroke in the correct tally column.
- When every child has given a response, the totals for each category may then be calculated e.g.



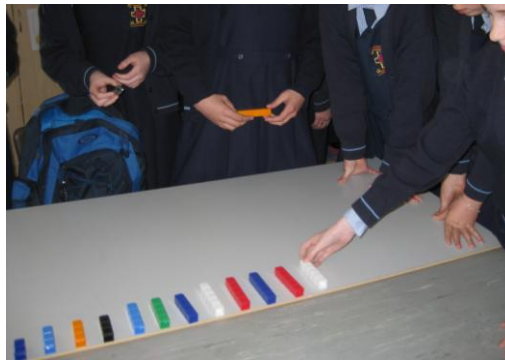
## Representing Data

- When the data has been collected, discuss the best ways of representing this data e.g. block graph, bar chart, bar-line graph... It might be useful to have some examples of each type of graph for discussion – you could use some they have constructed in other contexts or examples from magazines.
- Use graph templates to assist children in creating one of the above graphs. Different graph types can be produced by groups of children. These could then be displayed in the classroom and provide a focus of discussion [Resource 3.4].
- This activity provides the perfect opportunity to introduce the line-plot. Line plots are useful ‘counts’ of things along a numeric scale. To make a line plot, a number line is drawn and an X is made above the corresponding value on the line for every data element. One advantage of the line plot is that every piece of data is shown on the graph. It is also a very easy type of graph for students to make.

- Children work in small groups and use cubes to show how many in each of their families e.g.



- The class then collate their results with each child using the stick of cubes to represent how many in his/her family e.g.



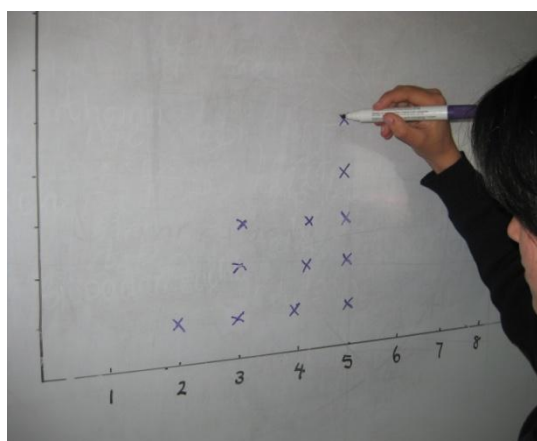
- It is then possible to examine and interpret this data and represent it more concisely e.g. one person has 2 in the family, three people have 3 in the family, three people have 4 in the family ... This can also be represented with another set of cubes:



- This can also be represented very simply by using coloured ribbon and clothes pegs e.g.



- When children fully understand the process, they can then represent this data in graphical format e.g. line plot:



Use the Line Plot Template provided [Resource 3. 7]



### Interpreting and using the data to solve problems

- Decide how the data might now be used to plan for the future of the school.

Discussion ~

What are the advantages of having this information?

Would this information be similar every year?

Would the same information be similar in another local urban school?

How could we find out?

### **Plenary Session**

In this session, the children discuss elements of the lesson.

- “What did we do today?” Elicit the key messages from the children through questioning.
- “Pretend you are explaining the data collection cycle to your partner – can you tell him/her the sequence in which the cycle happens?”
- “Data can be used to show the opinions or characteristics of a group of people – how did we do that in our class? How is data used at school level?”
- “Collecting and interpreting data can help to plan for the future– how could the data we collected in our Classroom Census be used to plan for the future?”
- “There are different ways of representing data – what types of graph did we use? Which ones do you think work best? Why? “

### *Extension work*

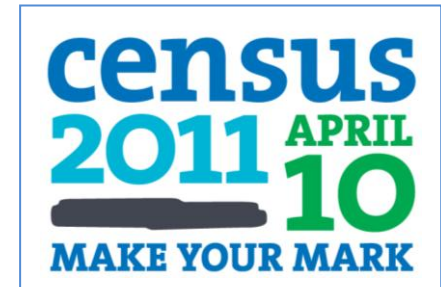
- Create / add to a Classroom Census project board.
- Consider what other problems could be solved using data collection. Three or four groups of children could identify a problem to solve and they could then follow the process through and present their finished graphs as a presentation to the class.
- Collect data from another class or classes within the school and compare it with your own class data. This could be done by pairs or groups of children. Are the results the same or are there any differences? Why / why not?

### *Home/school links*

- Children could design a census form with their parents/guardians.
- Discuss the Classroom Census form at home with family and decide on what other questions might be included.
- Photocopy the group graphs so that each child can bring one home and discuss it with their family.
- Visit [www.cso.ie](http://www.cso.ie) and examine some of the information collected by the Central Statistics Office.

Census 2011 New Questions																																										
Topic	Question	Comments																																								
Qu. 15. Other language	<p><b>15 Do you speak a language other than English or Irish at home?</b></p> <p>1 <input type="radio"/> Yes</p> <p>2 <input type="radio"/> No <b>▶ Go to Q16</b></p> <p><b>What is this language?</b></p> <table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p>(e.g. POLISH, GERMAN, IRISH SIGN LANGUAGE)</p> <p><b>How well do you speak English?</b></p> <p>Mark <input type="radio"/> one box only.</p> <p>1 <input type="radio"/> Very well</p> <p>2 <input type="radio"/> Well</p> <p>3 <input type="radio"/> Not well</p> <p>4 <input type="radio"/> Not at all</p>																																									<p>New question for 2011. This question will ascertain what other languages are spoken in the home and the level of proficiency in spoken English of those who speak languages other than English or Irish at home.</p> <p>The question will provide data on what languages other than English or Irish are spoken in households.</p> <p>It will also provide information on how well English is spoken by people who have a language other than English as their mother tongue. This information can be used to target state resources in areas such as education and health to support people who may struggle speaking English.</p>
Qu. 18 General health	<p><b>18 How is your health in general?</b></p> <p>Mark <input type="radio"/> one box only.</p> <p>1 <input type="radio"/> Very good</p> <p>2 <input type="radio"/> Good</p> <p>3 <input type="radio"/> Fair</p> <p>4 <input type="radio"/> Bad</p> <p>5 <input type="radio"/> Very bad</p>	<p>New question for 2011. It asks each person how their health is in general. Studies show strong links between how people view their health and the actual state of their health. The answers to this question will provide a country-wide picture of people's health and how it is related to various factors such as age, etc.</p> <p>There is evidence that the data gathered from this question corresponds with future health care levels. This is also a question used by Northern Ireland and including it will aid "whole island" statistics.</p>																																								

# Census 2011 ~ 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
- + Language other than Irish or English
- + Disability
- + General Health
- + Means of travel to work, school or college
- + Distance travelled
- + Time taken
- + Education
- + Caring for others with an illness or disability
- + Occupation



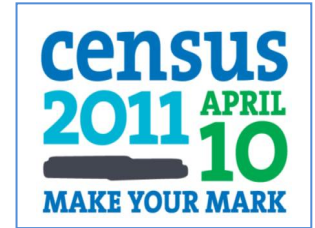
## Household Characteristics

- + 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



1. Name: \_\_\_\_\_

2. Are you male or female? \_\_\_\_\_

3. Nationality \_\_\_\_\_

4. How many in your family? \_\_\_\_\_

5. Languages Spoken other than Irish or English:  
\_\_\_\_\_

6. How healthy do you think you are?

Very healthy  Healthy

Not very healthy  Very unhealthy

1. What type of accommodation do you live in?

Detached  Semi-detached  Terraced

Flat/Apartment  Other \_\_\_\_\_

2. Tick the box if you have (you may tick more than one box):

Mobile phone without Internet  With Internet

Home computer without Internet  With Internet

Your own computer  Your own television

An i-pod/portable media player  Games console

3. Which of these methods do you use to most often communicate with your friends (Tick one):

In person  Telephone (landline)

Text messaging  Email

Mobile phone conversation  Internet chat / MSN

## 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 in your family?:

1	2	3	4	5	6
7	8	9	10	Other	

Nationalities in our Classroom:

Ireland					

Languages Spoken by children in our Classroom:


This is how healthy we think we are!

Very healthy	Healthy	Not very healthy	Very Unhealthy

This is how we travel to school:

Walking	Cycling	Bus	Car	Other

Distances we travel to school:

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

What type of accommodation do you live in?

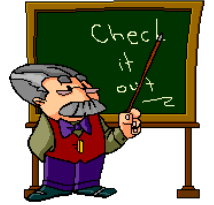
Detached	Semi-detached	Terraced	Flat/Apartment	Other

How many have a P.C. at home?

How many have access to the internet at home?



# Family Tally



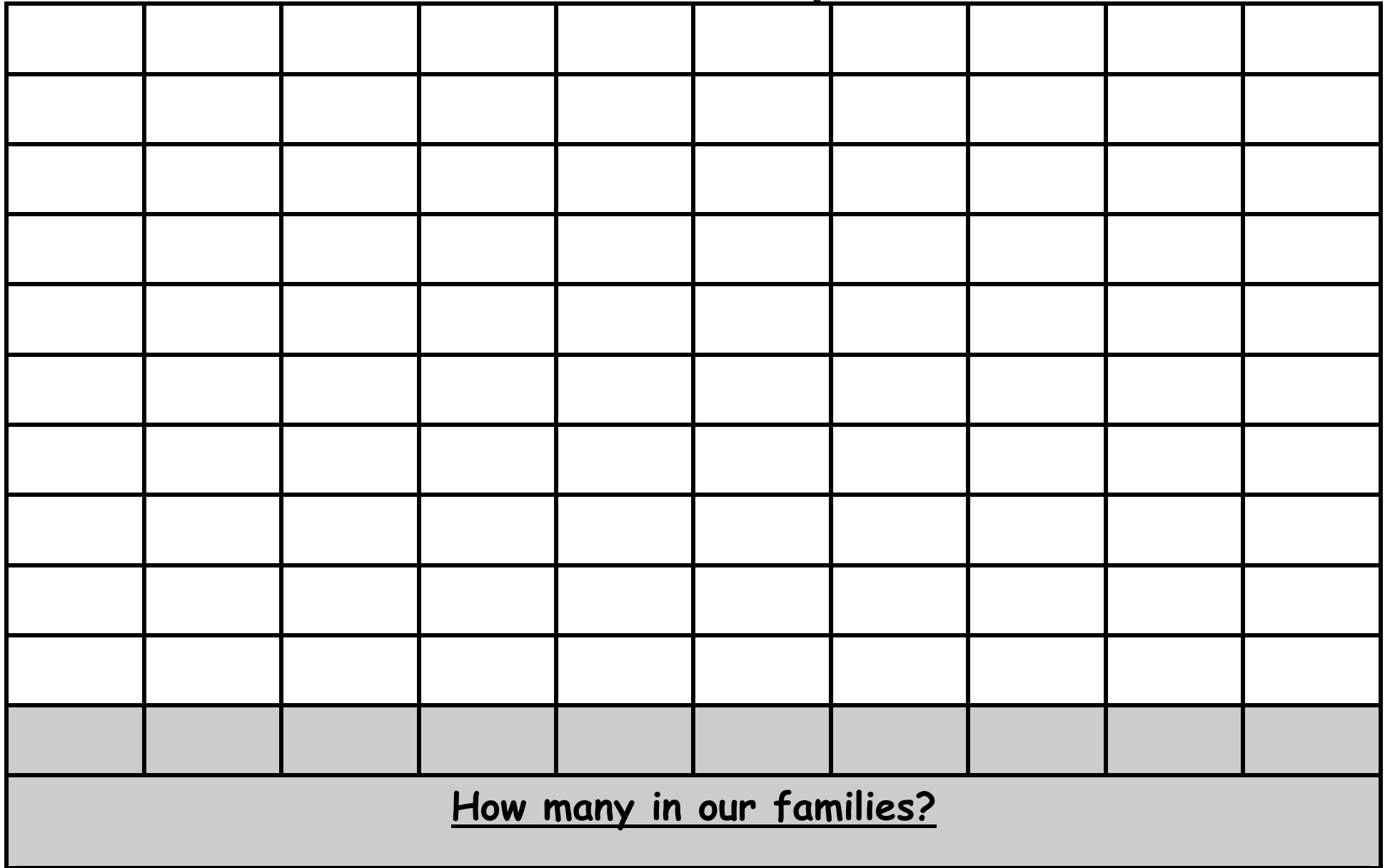
**Investigate how many people are in our families...**

In this investigation, the word 'family' means the people you live with OR the number of people in your household.

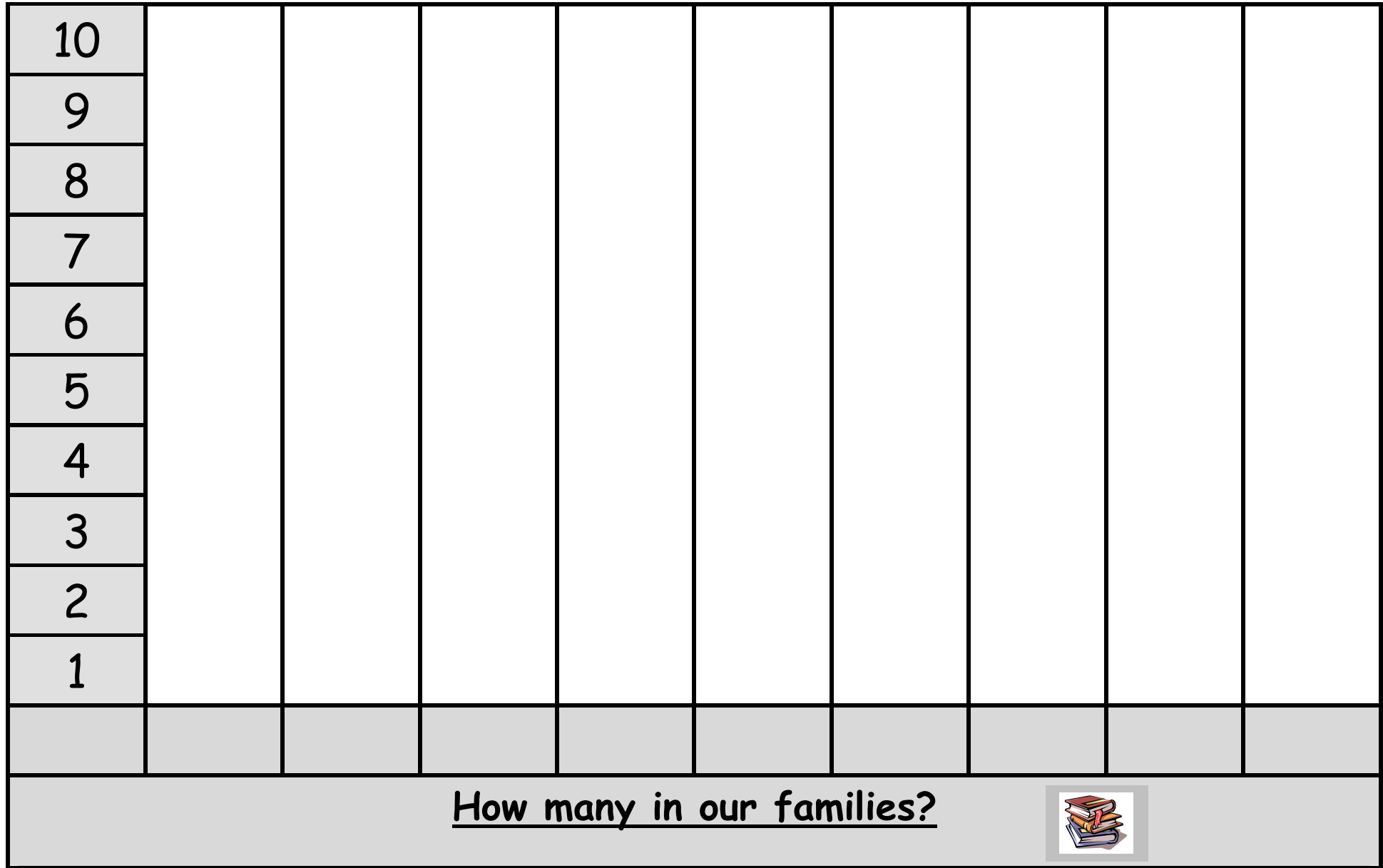
How many in your family?		
Number of People	Tally	Total
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		



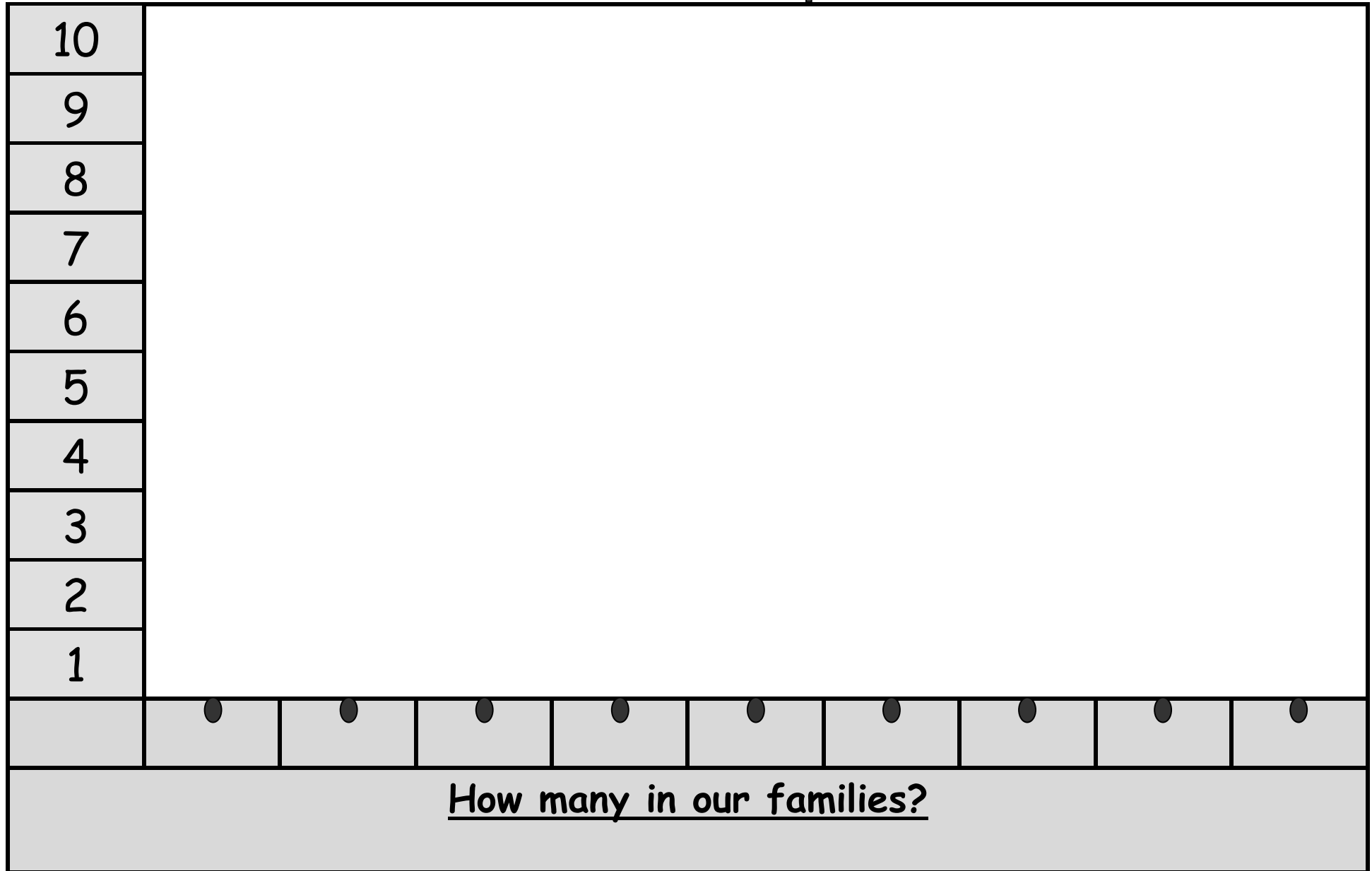
# Block Graph



# Bar Chart



# Bar Line Graph



# Line Plot

