

# Unit 3.6: We are opinion pollsters

## Collecting and analysing data



**Software:** Google Forms/Sheets/Slides/Drive (alternatives: Microsoft equivalents, j2vote, j2data and j2office)

**Hardware:** Laptop/desktop/Chromebook computers and iPads/Android tablets (optional)

### Overview

In this unit, pupils create their own online opinion poll, seek responses and then analyse the results, creating charts showing **data** and a brief illustrated report. In:

- **Session 1** they plan their **survey** on a topic
- **Session 2** they develop questions for their survey
- **Session 3** they create their online survey
- **Session 4** they collect data online
- **Session 5** they analyse and evaluate the data collected
- **Session 6** they present the data.

### Alternatives

The topic covered in the opinion poll should ideally be an issue of direct relevance to pupils. It might be a matter arising through work in PSHE, such as bullying or online safety. Providing pupils with a choice is recommended. If you do not want to use G Suite for Education, you could create a survey in Word to print out, or in Excel for classmates to complete on the computer. London Grid for Learning (LGfL) make the j2vote tool available to their subscribing schools. Schools that subscribe to Just2easy should also have access via their package.

### Knowledge, skills and concepts

In this unit, pupils will learn to:

- understand some elements of **survey** design
- understand some ethical and legal aspects of online **data** collection
- use the Internet to facilitate data collection
- gain skills in using charts to analyse data
- gain skills in interpreting results.

#### Progression

In Key Stage 1:

- Pupils work with data in **Unit 1.6: We are detectives.**
- Pupils record and present data in **Unit 2.6: We are zoologists.**

In Key Stage 2:

- Pupils will collect and work with data in **Unit 4.6: We are meteorologists.**
- Pupils will consider broader issues around 'big data' and privacy in **Unit 6.6: We are AI developers.**

### Assessment – by the end of the unit:

All pupils can:

- collect **data** via the web
- treat data collected in a way that shows respect for individuals
- use Google Forms to collect data
- use Google Slides to present their results.

Most pupils can:

- explain how the Internet has allowed them to work collaboratively on a number of different documents
- critique **survey** forms and presentations
- move information between different applications
- analyse the data collected.

Some pupils can:

- explain how they and their respondents have used services running on Google **data centre** servers via the Internet
- show an awareness of **data protection** issues raised by the use of online surveys
- review the data critically, looking for exceptions and patterns.

## Background information

- Computers make it easy to work with large amounts of structured **data**. One of the most common data structures is the table, where each row represents a **record** for a particular entity, such as a person, and each column presents the different attributes for that entity, such as responses to **survey** questions.
- Tables such as these can be completed by hand, but data can also be collected automatically, for example by individuals completing online surveys. For survey data to be meaningful and reliable, surveys need to be carefully designed so that all respondents interpret the questions in the same way and that questions are presented in an unbiased way. Survey designers should also consider the legal and ethical implications of collecting information, and those responding should take care when sharing **personal information**.
- Once data has been collected, it can be **filtered** (searched), sorted and further analysed to identify patterns and exceptions.

## Key vocabulary

**Data:** structured information gathered for analysis, often, but not always, as numbers

**Data centre:** warehouse of computer storage and processing connected to the Internet

**Data protection:** safeguarding personal information – the Data Protection Act (DPA) controls how personal information can be used and your rights to ask for information about yourself

**Digital footprint:** a trail of data you create while using the Internet

**Filter (database):** to identify a subset of data based on one or more criteria

**Personal information:** information relating to an identified or identifiable individual to one individual or case

**Survey:** questions for a group of people to learn their opinions or experience

## Differentiation

See each session (pages 63–68) for ways to increase support and add challenge to this unit.

Google Translate (see *Useful links* page 62) could be used to allow pupils whose first language is not English to participate fully in this unit.

The unit makes some demands on pupils' language and mathematics knowledge. Consider using mixed-ability pairing.

## Cross-curricular opportunities

**English:** Pupils can apply their knowledge of sentence structures by creating well-structured and unambiguous questions. Reporting on the results of the **survey** provides an opportunity to participate in presentations.

**History/geography:** Pupils could check understanding of a history or geography topic, especially if it has local relevance.

**Maths:** This unit allows pupils to apply work in statistics on interpreting and presenting data.

**PSHE:** The topics pupils choose to investigate may be concerned with the broader aspects of school life, such as enjoyment of lessons, school food, play time or homework.

# Preparation for teaching the unit



## Things to do

- Decide which software/tools are most accessible/appropriate for use with your class.
- If you are using Google Drive, you will need to create accounts for pupils through G Suite for Education. Alternatively, you can create a single shared survey on behalf of the class using your own Google account, and subsequently share responses with pupils without their needing to log in.
- If using Google Drive, consider whether you wish to provide account details for pupils to access the survey at home. If so, check this complies with your school's Acceptable Use Policy, and ensure that parents and carers are fully informed.
- Download your chosen software/tools.
- Read pages 60–61 to get an overview of the unit.
- Read the steps in the unit sessions (pages 63–68) and look at the associated online resources, printing out the worksheets as required.
- Watch the videos.
- Spend some time familiarising yourself with your chosen software/tools.
- Ensure you have sufficient computers/laptops/tablets and other equipment booked in advance.
- Ensure appropriate software is installed.
- Consider using the free resource G Suite for Education (see *Useful links*).



## Resources needed

- **Software:** Google Forms/Sheets/Slides/Drive (see *Alternatives* on page 60)
- **Hardware:** Laptop/desktop/Chromebook computers, iPads/Android tablets (optional)



## Online resources provided

### Session resources

- Worksheet 3.6a: Question bank and stems for the topic 'Breaktime Toys'
- Worksheet 3.6b: End-of-unit quiz
- Worksheet 3.6c: Pupil self-assessment
- Teaching slides 3.6a–3.6f
- Walkthrough videos 3.6a–3.6b
- Interactive end-of-unit quiz 3.6

### Additional resources

- CPD video: Writing good questions
- CPD video: Analysing data
- Software in 60 seconds: Google Forms
- Software in 60 seconds: Google Sheets and Slides



## Online safety

- Discuss the ethics of surveys – anonymity, confidentiality, informed assent and data privacy/protection. Does it matter who knows what they think about possibly controversial topics?
- Emphasise that surveys should not include questions that could identify someone.
- Talk through the responsibility of completing surveys honestly and sensibly. Emphasise that not all surveys/questions have to be answered.
- If pupils include open-text questions in their survey, limit the survey to responses in school, or moderate responses before data analysis.
- If pupils are to be provided with access to Google Drive for home use, ensure this complies with your Acceptable Use Policy, and that parents and carers are fully informed.



## Collaboration

In this unit, pupils will work in pairs, and groups will work collaboratively to create their own online opinion poll, seek responses and then analyse the results. Pupils will also create data charts and work together to create a brief illustrated report.



## Useful links

### Software and tools

- Google Education: [edu.google.com/products/gsuite-for-education/?modal\\_active=none](https://edu.google.com/products/gsuite-for-education/?modal_active=none)
- Google Translate: [translate.google.com](https://translate.google.com)
- FreeMind: [www.FreeMind.sourceforge.net/wiki/index.php/Main\\_Page](http://www.FreeMind.sourceforge.net/wiki/index.php/Main_Page)
- QR code generator: [qrcode.kaywa.com](https://qrcode.kaywa.com)
- Popplet: [www.popplet.com](https://www.popplet.com)

### Online tutorials

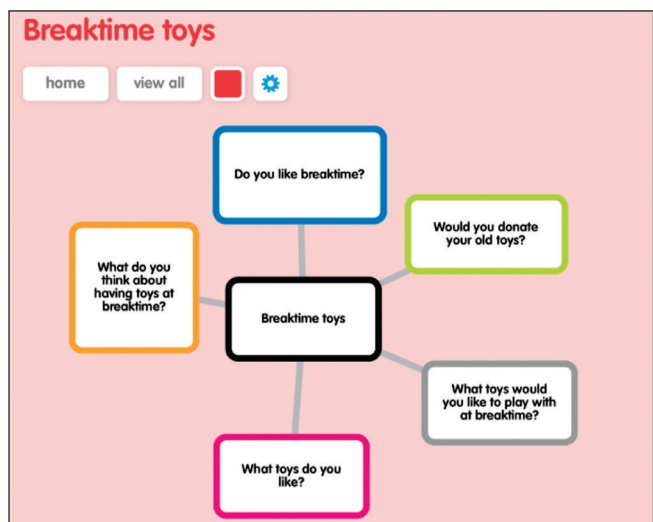
- Google Slides: [gsuite.google.com/learning-center/products/slides/get-started/#!](https://gsuite.google.com/learning-center/products/slides/get-started/#!)
- Google Forms: [support.google.com/drive/answer/87809?hl=en](https://support.google.com/drive/answer/87809?hl=en)
- Google Sheets: [support.google.com/docs/?hl=en#topic=1382883](https://support.google.com/docs/?hl=en#topic=1382883)

### Information and ideas

- Background information on surveys: [www.socialresearchmethods.net/kb/survrit.php](http://www.socialresearchmethods.net/kb/survrit.php)

## Unit outcomes

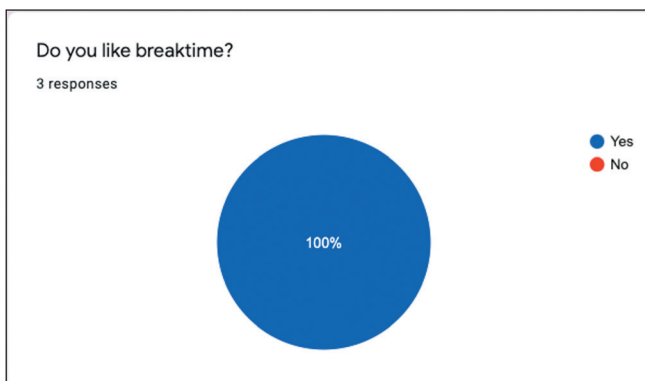
Below are some examples of the outcomes you could expect from this unit.



**Session 1:** Planning the questions to ask

**Session 2:** Looking at Google Forms and different types of questions

**Session 3:** Creating the survey in Google Forms



**Session 4:** Viewing data in Google Forms

Breaktime would be made better with better toys. Do you agree?	Which of the current breaktime toys do you like using?	What other toys would you like at breaktime?
Agree	Balls	Dolls
Strongly agree	Skipping ropes	Hoops
Agree	LEGO	Board games
Have no opinion	Balls, Books, Skipping ropes	Bat and balls
Disagree	Cars, LEGO, Balls, Books, Skipping ropes	None

**Session 5:** Viewing data in Google Sheets



**Session 6:** Presenting the survey results