

Subject: Computing Year Group: Year 3/4		Area of learning: Collecting and analysing data "We are opinion pollsters" (RS 3.6)
Links to previous work/Remember when		
Term	Year	Key Skills to be taught
Summer 2 (Cycle A) 2022/23	Y3/4	In this unit, the children create their own opinion poll, seek responses, and then analyse the results.
What the children should know at the end of this series of lessons		

Vocabulary: Survey, mind-mapping, design, multiple choice, feedback, digital footprint, data, responses, charts, opinion, results

Sequence of learning	Objectives and suggested details provided by the subject leader.
1	Lesson 1 Planning the survey w/c 19-6-23
	Share the Learning expectations for the unit (see page 62) and explain the success criteria.
	Explain to the children that they are going to create a survey to find out what other people think of a particular topic. If necessary, explain what a survey is and give some examples.
	Show them the
	Ask the children what subjects they have concerns about or are interested in (typically related to school life). Discuss whether it would make a difference if others agreed with them. Ask the children to suggest ways they could find out what other people think: in the class, in the school, across the country or around the world.
	Introduce the idea of a web-based survey of opinions, exploring the key ideas of allowing people to answer anonymously and keeping individual answers confidential.
	Group children together to work on shared surveys with a common theme (e.g. school food, attitudes to lessons, bullying, etc.).
	Ask each group to brainstorm questions they would like to ask, perhaps using a mind-mapping technique and tools such as FreeMind (see Useful links on page 63).
2	Lesson 2 - Developing questions



	Display the reverse side of the unit poster and discuss the principles of good survey design. Also draw on the poster to highlight poor survey questions (ambiguous questions, loaded questions, requests for identifying information, questions that do not make sense, inappropriate question types, mandatory questions, results that will be hard to analyse, etc.) Discuss the ways in which the good survey questions are better. Demonstrate Google Forms to give the children an idea of how their questions might appear online. Show the different question types that can be included, such as text, paragraphs, multiple choice (where only one option can be chosen), choosing from a list, checkboxes (where several options can be chosen), scales, and grids (where several questions can be answered using the same options). Ask the children to think of examples of each type of question. Encourage them to consider how easy or hard it is likely to be to analyse responses in each format. Ask the children to look critically at their own and others' questions. Encourage them to look for any questions that aren't clear, appear biased or make implicit assumptions. Introduce the idea of a rating scale to measure agreement/ disagreement, and ask the children to rephrase some or all of their questions in this form, i.e. as statements with which respondents will agree strongly, agree, have no opinion, disagree or disagree strongly. Discuss the advantages of this approach, explaining that this will make it much easier to analyse the results.
3	Lesson 3 - Creating the online survey
	Model creating a survey on Google Forms. Start by logging in and creating a new survey form. Show the range of choices available, and provide an opportunity for the children to discuss them. Show how to give the form a title and a description, discussing what would be appropriate for these fields. When writing questions, discuss the difference between the question text and the help text. Remind the children of the question types discussed in Step 2. Draw the children's attention to the Add Other option in some questions, asking the children to guess what this might do. Discuss the pros/cons of the Other option. Draw the children's attention to the Make required question box, and discuss the advantages and disadvantages of this. Discourage the children from making any questions required, as this invalidates the principle of respondents being able to choose for themselves whether they participate. Ask the children to log in and create their survey questions using Google Forms. Although each child should log in separately, groups of children can work together collaboratively by using the Add collaborators tab under the File menu. Some groups may need additional support in finding or using the correct question tool. Ask the children to test out their surveys with one or two other groups, providing feedback and receiving feedback they receive.
4	Lesson 4 - Collecting data
	Discuss data protection and the idea of a 'digital footprint' with the class, stressing the need to
	consider what use will be made of any information entered online. It's worth explaining to the
	children that everything they do online leaves a data trail behind. Explain that if they upload a
	picture or some text to the web, others can see it and use it. It may pop up when someone does
	a search for them when they're older, perhaps when they are applying for university or for a job.



Reiterate that the surveys here are anonymous, and that responses will be confidential. When the children's surveys are ready for data collection, ask each group to share their survey's address with others, perhaps just within the class, but more usefully across the school or with a partner class. If possible, ask the children to follow in real time the responses being entered on their survey form by refreshing the results page. It's worth setting a time frame for the survey, typically a week from this lesson to the next. The children could distribute the link to the survey through the school's learning platform, via the class blog or by email. You could create a short URL using a service like bit.ly, or generate a QR code so that the children can access the survey from tablets (see Useful links on page 63). Google Forms' built-in charts provide another way for the children to track survey responses as they are entered.

5 Lesson 5 - Analysing and evaluating data

Ask the children to review the completed survey forms for incomplete or suspicious data, e.g. where some lines of the spreadsheet are empty because a user gave up completing the form, or where data such as age looks too high or too low to be sensible for the target group. Show the children how to analyse the results of their survey using Google Forms' built-in tools, under Summary of Responses. Encourage them to think about what the charts reveal, particularly if there are any unexpected findings. Show the children how they can analyse the data further by exporting it to Google Sheets (or Excel), demonstrating some of the tools that are available. You may find this is quite challenging for some children at this age, in which case consider demonstrating these tools and techniques to a small group. The children could use charts from Google Forms to illustrate a report on their survey findings, or alternatively they could export data to Excel to create charts. Ask the children to copy and paste the chart from Google Forms into Google Slides (or another presentation program), and provide a short summary of what each chart shows. Provide some time for the children to show their presentations to one another, perhaps making some changes.

Learning Outcome/product

This unit will enable the children to: understand some elements of survey design, understand some ethical and legal aspects of online data collection, use the web to facilitate data collection and gain skills in using charts to analyse data and gain skills in interpreting results.



Assessment records	List only those children who have not achieved the expected outcomes
	Children working above.

End of unit assessment question
I can collect data through the internet.
I can show respect for the information people tell me.
I can use software to collect data.
I can use software to present the results of my data.
I can judge how useful my survey forms and presentations are.

I can move information between different applications.

