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| <p>Timing</p> <p>2 sessions of approximately 40 minutes</p> | <p>Children will</p> <ul style="list-style-type: none"> • Collect data about the children’s favourite games, as created in Kodu (Year 4 Programming 2) • Add data to a graphing program and use to interrogate the data • Create a branching database to sort and classify game characters |
| <p>e-safety links</p> <p>I choose websites and games that are appropriate to my age</p>  | <p>Objectives</p> <p>Handling Data</p> <ul style="list-style-type: none"> • Organise data in different ways. • Plan, create and search a database to answer questions. • Choose the best way to present data to my friends. |
| <p>Links to other learning</p> <p>Computing: Programming 2</p> <p>Maths: Use appropriate software and apps to present and interpret data. Use the information to solve one and two step problems</p> <p>Science: Seek answers to questions through collecting, analysing and presenting data.</p> | |
| <p>Resources</p> <p>Excel, Google sheets, 2Graph, https://www.i2e.com/jit5#chart or Textease Spreadsheet</p> <p>Images of games characters</p> | <p>Preparation</p> <p>Before the lesson, children will have created games in Kodu as a basis for collecting data on their favourite games. If children have not created Kodu games, they could collect data on their favourite online games (which could lead to an e-safety discussion about age-appropriate games).</p> <p>Session 2 builds on children’s database skills developed in Year 3 Handling Data 2 – you will need pictures of famous games characters such as Mario, Sonic, Pikachu from Pokemon, Lara Croft, Donkey Kong, Crash Bandicoot, Spyro.</p> <p>Optional session 2 uses a branching database or a Scratch branching database created with year 5 or 6 learners.</p> |

| Expectations | Activity | Success Criteria | | | | | | | | | | | | |
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| <p>Handling Data</p> <p>1 I can organise data in different ways</p> <p>I can choose the best way to present data to my friends,</p> | <p>Collecting data about my game</p> <ul style="list-style-type: none"> Having made and promoted their Kodu games, the children should now analyse the success of their game and that of others in the class. Ask children to put together a tally chart and frequency table to collect data as to the children's favourite games. You may wish to briefly show again a snippet of each game, or the adverts made by the children. Children go around the class collecting children's votes for their favourite game... <table border="1" data-bbox="595 571 1402 903"> <thead> <tr> <th></th> <th>Tally</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Tables Blaster</td> <td> </td> <td>6</td> </tr> <tr> <td>Multiple Mayhem</td> <td> </td> <td>3</td> </tr> <tr> <td>etc</td> <td></td> <td></td> </tr> </tbody> </table> <ul style="list-style-type: none"> Once the children have collected their data demonstrate how to input their data into a graphing program – Excel, Google sheets, JIT5Chart, 2Graph or Textease Spreadsheet. Talk to the children about the purpose of using a graph – to compare data quickly and easily. Briefly show children the graphs available in spreadsheet by clicking on 'Insert' and scrolling through what is on offer OR chart options in software. Suggest that for the data collected, a bar graph could be the most appropriate, but there may be others that show what they are trying to show just as well, if not better. Once children have made chart and pasted into publishing software or app, ask them to write a brief analysis of the data...e.g. the most popular game was....with 5 votes etc. See options below | | Tally | Frequency | Tables Blaster | | 6 | Multiple Mayhem | | 3 | etc | | | <p>Gold: Can I represent my data effectively by using the most appropriate graph available to me?</p> <p>Silver: Can I create an appropriate graph to represent my data?</p> <p>Bronze: Can I create a bar chart using Excel?</p> |
| | Tally | Frequency | | | | | | | | | | | | |
| Tables Blaster | | 6 | | | | | | | | | | | | |
| Multiple Mayhem | | 3 | | | | | | | | | | | | |
| etc | | | | | | | | | | | | | | |

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| | | <ul style="list-style-type: none"> • Spreadsheet: <ul style="list-style-type: none"> ○ Input the names of the games that were created by the class anywhere on the spreadsheet sheet. Type in the number of votes each one got next to its name. ○ Highlight the data, including names of the games and the 'Number of Votes' title. ○ Click on 'Insert' and then select the 3D column bar chart. In Google Sheets select Insert Chart. ○ Double click on the title and axes to edit. Right click on the chart to copy. Paste it into a word document, or other publishing software/app. • Chart app or software <ul style="list-style-type: none"> ○ Use snipping tool or screen capture to paste into software or publishing app. | |
| 2 | <p>Handling Data</p> <p>I can plan, create and search a database to answer questions</p> | <p>Creating a branching database</p> <ul style="list-style-type: none"> • <i>Note for teacher: this is an optional session that builds on learning from Year 3 Handling Data 2. This example uses Textease branch/Just2Easy JIT5 Branch.</i> • <i>Alternatively, children could work with year 5 or 6 pupils who could create a 'branching database' in Scratch software.</i> • Display a page of images of famous computer games / game characters e.g. Sonic / Mario Kart etc. Tell the children that I am thinking of one of the computer games and ask them to ask questions, of which I can only answer Yes or No. Count how many questions it takes them to reach the answer. Repeat with children playing in pairs, each having a go and seeing who gets to the answer in the fewest questions. | <p>Gold: Can I use yes/no questions effectively to divide a set of objects into sub-sets and identify an object using a sequence of yes/no questions?</p> <p>Silver: Can I use yes/no questions to divide a set of objects into sub-sets and identify an object using a sequence of yes/no questions?</p> <p>Bronze: Can I use a branching database to identify an object?</p> |

- Draw the children together again and ask whether there were any good questions that helped get to the answer sooner. Which weren't very good questions to ask? Why?
- Tell the children about branching databases by displaying Textease Branch and demonstrating how to create one using the computer game characters / games explored earlier. Ask again for some of the questions suggested by the children and use them to construct the database. Test it out to see if it works. Now show children how to add pictures of the game characters by dragging it into the box with the name of the character / game in it in the finished database.

