


Year 2 Handling Data 1 Sorting my birds (Core)

<p>Timing</p> <p>5 sessions of approximately 30 – 40 minutes</p> <p>Allow a week or 2 weeks after session 3 for children to be spotting birds. Sessions 5 can be done during this time.</p>	<p>Children will</p> <ul style="list-style-type: none">• Investigate and sort pictures of birds that can be found in the school grounds or in gardens• Talk about types of data• Make a paper decision tree• Use a branching database online (and debug a branching database)• Talk about how our data can be used with data collected by other people to provide important information• Generate questions to be answered• Collect, record and present data• Compare different ways of presenting information
<p>e-safety links </p> <p>I can talk about why it is important to be kind and polite online and in real life.</p>	<p>Objectives</p> <p>Handling Data</p> <ul style="list-style-type: none">• I can make and save a chart or graph using the data I collect.• I can talk about the data that is shown in my chart or graph.• I am starting to understand a branching database.• I can tell you what kind of information I could use to help me investigate a question.
<p>Links to other learning</p> <p>Mathematics: Construct and interpret pictograms and block diagrams.</p> <p>Science: Living things and their habitats - use age-appropriate websites to raise and answer questions about living things and their habitats. Observe local environment closely using simple equipment. Sort and classify living things using branching trees and databases.</p> <p>English: Add to Cheeky sparrow story to identify other birds – sequencing sentences and planning what they want to write. Sorting activities will support children to maintain attention and participate actively in collaborative conversations together with using spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas</p> <p>Design and Technology: Design purposeful, functional, appealing products – make bird seed product such as bird cake or an apple bird feeder, or a bird table</p>	


Resources	Preparation
<p>Photos of garden birds from Pixabay</p> <p>Presentation of garden birds</p> <p>Big bird watch jpegs</p> <p>RSPB introduction slides</p> <p>Birdwatch data collection sheet – or simple version</p> <p>Textease Branch Or https://www.j2e.com/jit5#branch</p> <p>http://bit.ly/BirdWatchBranch</p> <p>2Simple Infant Video Toolkit or PurpleMash 2Count Or https://www.j2e.com/jit5#pictogram Or EasyGraph / Teaching Graphs</p>	<p>This is planned based on Big School Bird Watch 2019 but can be updated to following years</p> <ul style="list-style-type: none">• Sign up to Big School Bird Watch – if you are doing this at the beginning of the spring term you will be collecting data to add to national data set. At other times of the year you will be collecting data to compare to the results online• Pass on link to resources for EYFS if reception / year 1 class want to be part of the project. This includes a simpler data collection sheet• Plan for time between sessions 3 and 4 for children to be spotting birds and recording using the appropriate data collection sheet you have chosen.• Prepare learners who may need additional support to understand yes/no questions (session 2):<ul style="list-style-type: none">○ Use 'Headband game' to scaffold yes/no questions. Make a headband for each bird OR put birds on post-it notes on forehead of the guesser.○ Can they guess their bird?○ Model questions that can be answered or cannot be answered with yes/no○ What is different about these two birds? ... Does it ...?• Prepare copies<ul style="list-style-type: none">○ Big Bird Watch data collection sheet.○ Laminated copies of birds ready for sorting - twenty birds, need at least two sets. Or you may want to limit to the first 10 birds which correspond to the simpler data collection sheets• Create a short cut or QR code for:<ul style="list-style-type: none">○ https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/ (Optional: Plan times for pairs/groups of children to be supported to use this online database to answer questions)○ JIT branching database○ https://scratch.mit.edu/projects/289064367/ for garden birds branching database.• Download<ul style="list-style-type: none">○ RSPB introduction presentation (free sign up to TES to download)○ eLIM slides of bird photos

Or Doodlebuddy with photo of a table to add counts of birds
Or [Google Big Birdwatch sheet](#) Or [Excel Big Birdwatch sheet](#) Or Textease spreadsheet

- Outcomes for 2018 [in England](#), in [the UK](#)
- Optional for session 4: Add [appropriate photos](#) to a 2Count 2Simple Infant Video Toolkit or PurpleMash or a j2e JIT
- Optional for session 4: check access to [Google sheet](#) for recording, or [Excel](#) for recording
- Other resources to extend / reinforce learning:
 - [Top trump cards](#)
 - [Matching pairs game](#)
 - [Poem/story 'Cheeky Sparrow'](#) could ask children to add other birds to the story
 - [Bouncy blackbird](#) to read about what birds eat
- Note: children may find the Starling difficult to identify as mainly black. You will need to take time looking at this bird carefully. Look at other websites / in books to see other pictures of a starling. You want to talk about the difference between baby and adult starlings. Look out for European starling.

	Expectations	Activity	Success Criteria
1	<p>Handling Data</p> <p>I can tell you what kind of information I could use to help me investigate a question.</p>	<p>Investigate and sort data</p> <ul style="list-style-type: none"> • Talk about birds that children may have seen in the school grounds, in a garden or at the park • Look at the slides together. Have children seen any of these birds? Photos have been sized so that smaller birds are smaller images although, where a larger bird has a background, the actual size of the bird may be smaller. • Children work in groups with set of bird pictures. This could be half of the photos or the whole set but make sure all the photos are being sorted within the class. • How will you sort the birds? colour, size • Play collecting game. (Or split class into two groups and play swapping game between two groups, you will probably need an adult for each group.) <ul style="list-style-type: none"> ○ Use two sets of photos which have been ‘shuffled’. Deal out so that two tables have six photos and four tables have seven photos. Tables are assigned birds to collect, two tables for each category. <ul style="list-style-type: none"> ▪ Mainly black ▪ Mainly brown ▪ Has some bright coloured feather ○ Each table to look at their photos and talk about the birds. Practise the names of the birds they have. Tell them their table is a bird table. Which birds have landed on their bird table? ○ Tell the children they will be passing on one of their photos which doesn’t fit with their category. Each table decides who is going to be ‘the passer’ and who will be ‘the receiver’. The table decides one photo to pass on to the next table. Which bird is going to fly to the next table? 	<p>Gold: Can I sort data in different ways?</p> <p>Silver: Can I sort data?</p> <p>Bronze: Can I sort pictures?</p>


	<ul style="list-style-type: none"> ○ At an agreed signal each table passes a photo (sends a bird) to the next table. The group practises the name of the new bird and says the names of all the birds they now have. ○ Repeat the process until a table has a complete set of the birds for their category. You may want to set a rule that they can only have one bird of each species/type. ● Ask the children what kind of data have we been looking at? <i>Photos</i>. What other kinds of data could we look at about birds? <i>You could look at one of the birds on the RSPB bird guide where you will find audio, video, and measurements.</i> ● Reinforce knowledge of garden birds through Top Trumps or matching pairs game – see link in preparation section. Or play ‘Who am I?’ headband game. 	
<p>Handling Data</p> <p><i>I can create paper decision trees and am starting to understand a branching database.</i></p> <p>2</p>	<p>Make a decision tree</p> <ul style="list-style-type: none"> ● Look at a few of the slides together. For each slide ask questions that have a yes or no answer. eg Does it have any white feathers? ● Give each child a photo and put children into pairs. They mustn’t show their photo to their friend. The children take it in turns to ask questions with yes or no answers. Can they guess the bird that their friend has? ● Tell the children that we are going to make a decision tree. If this is the first time they have sorted data in this way you could show them how you make a decision tree using https://www.j2e.com/jit5#branch . Select animals and choose the birds to sort to make the decision tree. You will not be able to save this unless you subscribe to j2e but you could take a screen shot if you would like to keep the outcome. ● Make a paper decision tree with the children with a selected set of the birds they have been sorting. A suggested set would be: blackbird, sparrow, black-headed gull, magpie, blue tit, robin, chaffinch, starling, great tit, wood pigeon which are the first 10 photos in pdf/PowerPoint. You may need to do this in the hall to spread out a set of the photos or have a display board cleared to use. Children will need to suggest questions with a yes or no answer. You may want to start by 	<p>Gold: Can I sort garden birds using a decision tree and think of alternate ways of sorting?</p> <p>Silver: Can I create a simple decision tree to sort garden birds?</p> <p>Bronze: Can I think of questions to sort garden birds?</p>

		<p>modelling a question that will split the set of photos into about half eg Is it a big garden bird?</p> <p>Optional additional activity to debug a program for the bird branching database can be found in appendix 1 at end of this block planning.</p> <p>Or continue with activity to:</p> <ul style="list-style-type: none"> • Show children the branching database which has been made in Scratch. https://scratch.mit.edu/projects/289064367/ . <ul style="list-style-type: none"> ○ Click on the green flag. ○ Select the four arrows to run the branching database in full screen.  ○ Additional support can be provided by giving the children a choice of the birds from the laminated photos: Blackbird, Crow, Starling, Bluetit, Chaffinch, Robin, Sparrow. ○ Model entering “Yes” or “No” for each question. ○ Play it together three or four times. ○ Ask the children which questions have been used to sort the birds. Are these the same questions they used? Different questions? • Plan for all children to have the opportunity to work in pairs to play with the branching database. 	
3	<p>Handling Data</p>	<p>Ask and answer questions</p> <ul style="list-style-type: none"> • Look at Big School Bird Watch website and the RSPB introduction PowerPoint. • If you are doing this at the beginning of the spring term talk about how the children will be collecting data to add to national data set. At other times of the year children will be collecting data to compare to the results online. • What are the questions we want to investigate? eg 	<p>Gold: Can I create and answer my own question using a graph?</p> <p>Silver: Can I think of a question about shapes?</p> <p>Bronze: Can I make a graph showing the number of the different shapes I have found?</p>

	<ul style="list-style-type: none"> ○ Which birds come into our school grounds? ○ Which birds can we see from our home? ○ Which birds do children see in other parts of our country? ○ What do the birds eat? ○ Which are the biggest birds? Smallest birds? ○ What do the birds sound like? <ul style="list-style-type: none"> ● Which questions can we research? Which questions will we need to plan an investigation to collect data? ● Show the RSPB database again and talk about which questions we can find out from here. Plan times during the week when children can be appropriately supported to use the database online. ● How will we investigate the other questions? (These will be the questions about numbers of birds although the children could also plan an investigation to find which food birds prefer) ● Review the bird photos again, as a class using the slide set and / or in pairs or groups using the laminated photos. ● Give children the data collection sheet you have selected to use. Can they spot the bird in the slide / laminated photo on the sheet? ● Over a week, support children to note any birds they spot in school or at home on the data collection sheet. 	
<p>Handling Data</p> <p>4 I can make and save a chart or graph using the data I collect.</p>	<p>Present your data</p> <ul style="list-style-type: none"> ● Add the data collected to the Big School Bird Watch if you are doing this block at the beginning of the spring term. Model how you are doing this in a way that sticks to all the online safety rules that you have agree as a class. ● At any time of year, children can present their data individually, as pairs, a group or as a whole class. 	<p>Gold: Can talk about what I have found out from a pictogram or bar chart I have made?</p> <p>Silver: Can I make a pictogram of our data?</p>

<p>I can talk about the data that is shown in my chart or graph.</p>	<ul style="list-style-type: none"> • Select one of the data collection tool listed – 2count can have images of birds added, or use one of the prepared spreadsheets to add number of birds observed Google Big Birdwatch sheet Or Excel Big Birdwatch sheet. For bar chart in spreadsheet, drag over names of birds and total count, select insert chart and choose bar chart. • Look at the charts created to answer the questions set in session 3. • Which are the birds that we are most likely to see around the school grounds or looking out of the window at home? • Compare the results to the outcomes for 2018 in England, in the UK. Which is most appropriate for comparison with the numbers we have counted? • Which birds do you most want to spot when you are out with your family? 	<p>Bronze: Can I add information to software or an app?</p>
<p>Handling Data</p> <p>I am starting to understand a branching database.</p> <p>5 I can tell you what kind of information I could use to help me investigate a question.</p>	<p>Using a branching database / online database</p> <p>Provide opportunities for children to use both type of database</p> <ul style="list-style-type: none"> • Following session two, children will have used the prepared branching database to identify garden birds. • Use online RSPB database to find information about birds. • What is the difference between the branching database and the RSPB database? What would you use each for? • What is the difference between a database and a pictogram or bar chart? • Talk through what the children have discovered about garden birds. • What else would you like to find out about garden birds? Which database will you use? 	<p>Gold: Can I use a branching database and a big online database to investigate a problem?</p> <p>Silver: Can I use a branching database to ask questions to identify an object?</p> <p>Bronze: Can I look at a database and see different types of information?</p>

Appendix 1: Children will spot the errors in a branching database program and ask the programmer to debug them. They will identify how the program could be improved. You will need to provide guidance so that after you ‘have contacted the programmer with improvements’, they can see the debugged and improved program as per session 2.

- Show children the branching database which has been made in Scratch, [https://scratch.mit.edu/projects/296745949/](https://scratch.mit.edu/projects/296745949) and play it together a few times until they spot the mistake.
 - Click on the green flag.
 - Select the four arrows to run the branching database in full screen. 
 - Additional support can be provided by giving the children a choice of the birds from the laminated photos: Blackbird, Crow, Starling, Bluetit, Chaffinch, Robin, Sparrow.
 - Model entering “Yes” or “No” for each question.
 - Play through sufficient times for children to spot error – when they are answering questions for chaffinch.

Two things to spot:

- *Children will see that when chaffinch is the answer they are looking for, other birds will be shown at the end of the sort.*
 - *Are the questions for blackbird helpful? A male blackbird has an orange beak not yellow.*
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- Is there anything that could be improved. Encourage them to think about the start of the program. They must wait while they decide the bird they want to find. They may need all the time the first time but after that it can be annoying to wait before program runs. Can they think of a better way to do this? *They could press something to start the program once they have chosen their bird. Guide them to choose ‘press the space bar’.*
 - Model writing an email to the programmer to ask them to correct the mistakes and to improve the problem