

ICT SCHEME OF WORK



Questions & Answers PoS: KS 1 1b 1c 2c 4a 4c	Yr 2: Unit 2E Questions & Answers	Class: Date:
<p>Theme:</p> <p>In this unit children develop their awareness of different types of questions, how they can be asked and how ICT can be used to answer them using different types of software. They learn that some of the programs they have used so far to present data cannot provide the answers to some specific questions. They begin to realise that programs have limitations and that it is knowledge of the facilities and tools offered that helps us to select the most appropriate tool for a task.</p> <p>Children learn how to ask questions that can be answered with yes or no responses. They have opportunities to work with a prepared file on a binary tree program to practise their questioning skills. Children will have opportunities to enter and store information using some of the different types of ICT information resources that are available. Children will use what they have learned in this unit to help them to ask more focused questions to find specific information when studying Units 2C 'Finding information' and 3C 'Introduction to databases'.</p> <p>A number of programs are appropriate for work on questions and answers. It is not suggested that they are all used by all of the children and, because of the scope of this unit, teachers may feel it is appropriate to break it down into sub-units that can be utilised over a slightly extended period.</p>		
<p>Where the unit fits in:</p> <p>This unit builds on Units 1C 'The information around us', 1D 'Labelling and classifying' and 1E 'Representing information graphically: pictograms'. It prepares children for Units 2C 'Finding information', 3C 'Introduction to databases' and 4C 'Branching databases'. The unit assumes that children:</p> <ul style="list-style-type: none"> • Can collect data and can sort and classify using a range of simple criteria • Can use a graphing program to create pictograms • Can explain data that is presented graphically and use print-based contents pages • Understand that questions can be asked in different ways. 		
<p>Vocabulary:</p> <p>information key words collect sort classify pictogram graph binary tree</p>		
<p>More obvious curriculum areas</p> <ul style="list-style-type: none"> • Numeracy: Handling data • Geography: Ways of getting to school. • History: Homes in different countries • Attributes of: Pets, Fruit, Pastimes/hobbies, Favourite breakfast cereals, Favourite choc-bars 		
<p>Resources</p> <ul style="list-style-type: none"> • A graphing program to create pictograms with a selection of prepared picture sets (NNS Interactive teaching programs provided in the resource file) • A binary tree program with a selection of prepared data files (<i>Decision Tree or flexitree</i>) • A database with a prepared data file for demonstration purposes and that allows simple files to be created on any theme (Information magic) • Resource Sheet: Activities to develop Questioning Skills 		
<p>Expectations</p> <p>At the end of this unit:</p> <p>Most children will: know that there are different programs for collecting and presenting data; ask questions in different ways to find things out</p> <p>Some children will not have made so much progress and will: know that there are different programs for collecting and presenting data; be aware that questions can be asked in different ways to find things out</p> <p>Some children will have progressed further and will: construct different types of questions for different purposes, e.g. questions that can only be answered by yes or no for use with a binary tree or questions that can only have one possible answer</p>		

YR2: Unit 2E – Questions & Answers

Key Understanding	Key Techniques	Activity
<p>That information can be represented as graphs but that this can only provide limited answers to questions</p>	<ul style="list-style-type: none"> • Be able to devise questions that relate to graphed information • Be aware of questions that can not be answered by graphical representations 	<p>1 Lesson</p> <p>Please Note: The QCA Unit bases this initial activity around the theme of Houses and Homes. As an alternative, the theme suggested here relates to transport to school. However, any generic data collection activity can work equally well. The NNS Interactive teaching Program Handling Data (provided in the resource file) provides ready-made pictograms on themes.</p> <p>Introduction</p> <ul style="list-style-type: none"> • Set the L.I. in simple terms. Explain to the children that they are going to create a graph using the computer. It is going to be based on real information about how the children travel to school. When the graph has been created the children are going to use it to find the answer to some questions. They will have to think very carefully about these questions because the graph may not be able to provide the answer to all of them! <p>Oral Activity</p> <ul style="list-style-type: none"> • Ask the children to think about how they travel to school. Ask them to suggest questions they would like answered about the travel arrangements used by the whole class. Display the suggested questions and keep this display, as it will be referred to in lesson 2. <ol style="list-style-type: none"> 1. <i>How do you travel to school – on foot, by car, by bus or by bicycle?</i> This type of question has several possible answers from the list. 2. <i>Do you travel to school with a brother or sister?</i> <ul style="list-style-type: none"> • Use the NNS Interactive teaching Program Handling Data to create a pictogram representation of the way the children travel to school. • As this is being done the teacher can emphasise the value of using a software program to do this i.e. the pictograms are clear and evenly spaced by the computer, they are organised into neat rows and columns, it is possible to change from one type of presentation to another very quickly etc • Ask the children some numerical questions that can be answered with reference to the pictogram e.g. how many children walk? How many more children come by car than walk? • Ask children questions, which cannot be answered from the graph, e.g. do the children walking to school come by the same route? • Refer back to questions displayed in the oral activity. As a whole class activity ask the children to rearrange them into two categories i.e. those that can be answered by referring to the graph and those that cannot. The teacher records these for the children at the front of the class. <p>Plenary A further pictogram could be created to represent the different colours of cars in which the children travel.</p> <ul style="list-style-type: none"> • Give the children a time limit to devise in pairs one question that can be answered by the displayed information and another question that cannot. Discuss some of the suggested answers as time allows. • Refer back to L.I. Has it been achieved?

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<p>Know that there are different types of questions which can be answered in different ways</p>	<ul style="list-style-type: none"> When questions are asked answers can be: a word, yes or no, a number, a sentence or a description Understand the difference between an open and closed question Be able to construct appropriate questions 	<p>1 Lesson</p> <ul style="list-style-type: none"> The focus in this session is for children to understand that when questions are asked answers can be: a word, yes or no, a number, a sentence or a description <p>Introduction</p> <ul style="list-style-type: none"> Explain to the children that they are going to be thinking further about information and creating questions and answers. Set the L.I. in simple terms emphasising that the way a question is asked will determine whether the answer is: a word, yes or no, a number, a sentence or a description <p>Oral Activity</p> <ul style="list-style-type: none"> Refer back to the questions generated in lesson 1 based around the travel arrangements used by the whole class <p>3. <i>How do you travel to school – on foot, by car, by bus or by bicycle?</i> This type of question has several possible answers from the list.</p> <p>4. <i>Do you travel to school with a brother or sister? This type of question is yes/no only.</i></p> <ul style="list-style-type: none"> The teacher selects one of the open questions and asks what type of answer would be required. The children discuss the range of plausible answers. The teacher then selects one of the closed questions that requires a different type of answer e.g. one of two possible answers such as yes or no. To consolidate the learning so far a “Guess Who or What” type game could be played. This could help the children to practise asking questions that require a yes or no answer. <p>Plenary Further activities to develop questioning skills are attached as an appendix at the end of this unit. Choose one to consolidate the main learning intention</p>

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<p>Know that some questions have only yes/no answers and have to be phrased carefully</p>		<p>1 Lesson</p> <p>Introduction</p> <ul style="list-style-type: none"> Explain to the children that the Learning Intention for this activity is to improve the questioning skills that they have used in the previous sessions. They are going to concentrate on the types of questions that can only be answered yes or no. <p>Paper- Based Activity</p> <ul style="list-style-type: none"> Construct a paper-based binary tree using a set of objects such as fruit. Prepare some strips of paper for recording the questions. Cut a set of red arrows for 'no' answers and green arrows for 'yes' answers. Collect a set of fruit, such as banana, apple, apricot, grapefruit, grape. Select two of these pieces of fruit, <i>e.g. the banana and apple</i>. Ask a question to distinguish between them (the answers can be yes or no), <i>e.g. Is it yellow?</i> Put down a red and a green arrow leading from the question strip. Put the banana at the end of the green (yes) arrow and the apple at the end of the red (no) arrow. Now choose another piece of fruit such as a grape. Ask the first question again. This time the answer will be 'no'. Follow the 'no' arrow and construct a question to distinguish between the apple and the grape. The question might be <i>Is it small?</i> Position this question strip at the end of the red arrow with a red and green arrow leading from it. The apple should follow the red 'no' arrow and the grape should follow the green 'yes' arrow. Repeat this process with each piece of fruit in turn. <p>Computer Activity</p> <ul style="list-style-type: none"> The above activity can be consolidated using a binary tree database such as <i>Decision Tree or flexitree</i>. Using the same group of objects (fruit) demonstrate to the children how the software can replicate the paper-based activity. Use a prepared file that begins with two different fruits and a different starter question to the paper activity. The focus will then be on the questions needed to identify them. They should then select another fruit and follow the question and answer sequence in order to identify it. Repeat this until all of the fruits are named. <p>Plenary</p> <ul style="list-style-type: none"> Name a completely different fruit. Use the facility to add objects. Ask the children to consider carefully the question needed to identify the new fruit. Has the L.I. been achieved?

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<p>Know that some questions can have only one possible answer from a selection and others can have more than one answer from a selection</p> <p>Know that a database provides a means of storing information and can be searched</p>	<ul style="list-style-type: none"> Be able to use the search tool to find the answers to simple questions 	<p>1 Lesson</p> <p>Introduction</p> <ul style="list-style-type: none"> Briefly remind the children of the learning covered so far in this unit. Explain that they are going to be using a computer program that stores information. This is called a database. Remind children they used an electronic database during unit 2c - To compare the speed of finding information from a paper database and an electronic database. During this lesson they are going to learn how to search for information by using some of the skills developed in understanding different types of questions. They are going to learn that some questions can have only one possible answer but other questions can have more than one answer from a selection <p>Computer Activity</p> <ul style="list-style-type: none"> Refer to the original set of questions generated by the children in lesson 1. Perhaps one question might be, <i>How do you travel to school – on foot, by car, by bus or by bicycle?</i> This type of question has several possible answers from the list. Prepare for the next activity on “Ourselves” by pointing out that questions can also be posed which are answered more easily by using a tick-box approach, where more than one choice may be appropriate, eg <i>Which of these foods do you like – chips, pizza, chicken, salad, curry, hamburger, carrots?</i> However, by adding one word to the question a single answer would be required e.g. <i>Which of these foods do you like BEST – chips, pizza, chicken, salad, curry, hamburger, carrots?</i> Show the children a simple database on the theme of “Ourselves.” Using 2 options: The children could provide the information although teachers will need to prepare the data files in advance. An easier option is to use the completed Information magic file called ‘Survey’ contained in the resource file. Demonstrate how the search tool enables specific questions to be answered e.g. How many children are aged 5? Encourage children to ask their own questions in pairs and see if they can use the search tool to find out the answers. Provide a simple aide-memoir to illustrate the process of asking questions using the search tool. Draw up a short list of questions from those suggested by the children with a simple means of recording their answers. <p>Plenary</p> <ul style="list-style-type: none"> Ask the children to share some of the questions devised. After discussing the type of answer expected, ask them for answers found. Check whether L.I.’s achieved.

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Know that a database can only answer questions if appropriate data has been entered		<p>1 Lesson</p> <p>Introduction</p> <ul style="list-style-type: none"> Explain in simple terms that the children are going to use the same database as Lesson 4 to consolidate their skills. Remind them of what was learned in the previous lesson. Set the L.I. by saying that a database can only provide answers to questions if certain information has been added. <p>Computer Activity</p> <ul style="list-style-type: none"> Describe the activity to be done as a challenge. The children are going to be given a worksheet with some questions related to the database. The teacher should ensure that some of the questions set will not be able to be answered due to lack of appropriate data. However, questions need to be kept simple so that the children can discover quickly that they cannot be found. Explain that they may find that they are not able to answer all the questions. They should work with a partner to answer as many questions as possible. They should record the questions that they are not able to answer and explain to their partner why an answer cannot be found. <p>Plenary</p> <p>Review the answers that the children have recorded. Discuss the questions that could not be answered. Ask the children to explain why they were not able to record answers for all the questions. Has the L.I. been achieved?</p>

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Key Understanding	Key Techniques	Activity
<p>Be able to prepare data for a database</p> <p>Be able to use the search tool on a simple database to find out answers to specific questions</p> <p>Be able to present findings</p>		<p>1 Lesson Integrated Task</p> <p>Introduction</p> <ul style="list-style-type: none"> Brief review of learning covered in the unit so far regarding different types of questions and answers. Remind the children that information on a computer is stored on a database. Explain in simple terms that the children are going to draw together all the skills / knowledge developed so far by drawing up some questions for a class questionnaire. After the replies have been entered on a database the children will then use a search tool to find out the answers to certain questions. <p>Paper activity</p> <ul style="list-style-type: none"> Discuss with the children how they might set up a questionnaire about a favourite Teddy Bear (real or imaginary.) Guide the children towards the different types of questions and answers covered in the unit. Produce (have pre-prepared) a paper-based copy of the questionnaire for the children to complete. The questions might ask, <i>e.g. the name of the child, the name of the teddy if it has one, the teddy's height and weight, its favourite sandwich (from a choice of four varieties) and its favourite jelly (from a choice of four varieties)</i>. Replicate the questionnaire structure in a simple database program and enter the data ready for the next lesson with the children's help, if possible. The keywords option can be used for some questions to create a range of choices so that the children have to simply click to choose. <p>Computer Activity</p> <ul style="list-style-type: none"> Show the children the completed database and demonstrate how the search tool enables specific questions to be answered. Encourage children to ask their own questions and see if they can use the search tool to find out the answers. Produce a list of questions with the children. These questions should be used as a starting point for a question and answer investigation. They should record their own questions and the answers they found. <p>Plenary</p> <ul style="list-style-type: none"> Ask some children to present findings. Were all questions able to be answered? If not, why not?

RESOURCE SHEET

Activities to develop Questioning Skills for QCA Unit 2E



Pass the Parcel

Sit in a circle. Have a selection of interesting or unusual objects. Ask children to pass one object from one person to the next; each time a child receives the object they have to say one descriptive word about it.

Malley's Mallet

Two children sit opposite each other and pass an object between them as quickly as possible. Each child says a word describing the object. If they repeat or can't think of a word, they get a 'bonk' on the head with a balloon.

The Elimination Game

Place lots of objects on the floor. One child thinks of an object. The others have to ask 'yes/no' questions to try to identify it, e.g. Is it red? If the child says no, eliminate all of the objects that are red. Continue until the object is identified.

Sorting Game

Place lots of objects on the floor. One child divides the objects into 2 or more groups. The rest of the children must work out what criterion was used to divide them.

Twenty Questions

Someone thinks of an object in the classroom (or a person, piece of fruit, etc). The rest of the class must ask 'yes/no' questions to try to identify the object. They only have 20 questions in total.

Questions about photos

Provide the class (could be done in groups) with a variety of photos. On the worksheet, the children write down as many questions that they can think of about each photo. Discuss with the children the type of questions that were asked, e.g. 'yes/no', open and closed, etc.

What's the Question?

Either in groups or as a class activity. Provide an answer and the children must come up with the questions. Use different types of answers, e.g. 35, yes/no, a pineapple, Islington.