	bian: introducing data pi	rocessing
Year Levels: Years 5 & 6	Date: 16/05/2016	Learning Area: Digital Technology.
Duration: 1x 60 minute lesson		
Curriculum Descriptor/ Outcomes/ Learning Sl	kills:	
 Define problems in terms of data and fun (ACTDIP017) Describing in simple terms the <u>r</u> the problem is associated with, <u>would need to include</u> Investigate the main components of com systems may connect together to form need to include the central components for inputtir include the central processing uninformation storage components Lesson Objective: 	nctional requirements, and identify nature of a problem and what a so who the solution is needed for, wh mon digital systems, their basic fu etworks to transmit data (ACTDIK aving internal and external compor- ing data including keyboard, microp unit; external output components in s include cloud and external devic	features similar to previously solved problems <u>lution needs to achieve</u> , for example what need hat data are needed and what features the solution unctions and interactions, and how such digital 014) hents that perform different functions, for example bhone, stylus; internal processing components including speakers, projector, screen; and data and es
all whilst being responsible technology users	as stated within the Information a	itly formatted through utilising computer programs nd Communication Technology (ICT) capabilities
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 What students need to be able to know and do Students need to know How to locate and describe information a 	and data data bases, and ender Students nee • Undustry • Use to in	atly formatted through utilising computer programs and Communication Technology (ICT) capabilities and to be able to tess data through manual and automatic input erstand how coding formulas provide mathematica touts to solve equations external inputs such as the keyboard and mouse put important data
What students need to be able to know and do Students need to know • How to locate and describe information a Evaluation/ Monitoring and Assessment:	and data data bases, and enicier as stated within the Information a Students new • Undustant • Undustant • Use to in	atly formatted through utilising computer programs and Communication Technology (ICT) capabilities and to be able to tess data through manual and automatic input erstand how coding formulas provide mathematica touts to solve equations external inputs such as the keyboard and mouse put important data

Resources	IWB, WALF WILF TIB chart, Youtube: Access: Introduction to Databases, Greenhill Bay's Biggest Moring Tea, 22
Needed:	boxes of Smarty's – one for each student, Microsoft Excel, student laptops

Data Processing: Teacher notes

Achievement Standard						
 Students define problems in terms of data and functional regime in terms of data. 	quirements and design solutions by developing algorithms to					
address the problems.						
They incorporate decision-making, repetition and user interf	They incorporate decision-making, repetition and user interface design into their designs and implement their digital solutions					
including a visual program.						
General Capabilities: Organising elements						
Literacy	Numeracy					
 Comprehending texts through listening, reading, viewing Navigating websites to locate necessary information and data Interpret visual texts 	 Estimating and calculating with whole numbers Using computational calculations to retrieve totals 					
 Text knowledge Comprehend multimodal texts Interpret information in written structures 	 Using fractions, decimals, percentages, ratios, and rates Calculating averages Displaying fractions through graph formats 					
 Word knowledge Describing forms of products Visual knowledge Interpreting graph and table representations and 	 Interpreting statistical information: Collecting, recording, displaying and comparing, and evaluating displays of data 					
finding relevant meaning						
Information and Communication Technology	Critical and creative thinking					
 Investigating with ICT Locate and organise data and information Evaluate data and information Plan information searches 	 Inquiring – identifying, exploring and organizing information and ideas Organising and processing information Use questioning to assess information 					
 Creating with ICT Create solutions to tasks 	 Reflecting on thinking and processes Reflect on processes and strategies 					
 Managing and operating ICT Develop understanding of software components Apply technical knowledge to securely manage and maintain digital data 						

Introduction	Teaching and Learning strategies	Catering for varied learning
10 minutes: Introduce students to the Digital Technology of data processing.	 Introduce the topic of lessons through WALT, WILF, TIB. Today we are learning about how we can find, collect and record data to answer questions and provide information I am looking to see that students can carefully read websites to find information and represent their found data through individual EXCEL spread sheets By creating tables with data, we are able to regularly change and update information on a day-to-day basis Think-Pair-Share – Reflect: what is data? Watch: Access: Introduction to Databases 	Explicitly introduces lesson goals, criteria for success and explains the purpose of learning for students
Body of Learning Experience	Teaching and Learning strategies	Catering for varied learning needs

15 minutes Students learn how to retrieve and manually input relevant data to solve problems	Teacher explains that students will be locating information for <i>Greenhill</i> <i>Bay's Biggest Morning Tea</i> , where students will manually record data. I do: Teacher provides demonstration while explaining the meaning of vocabulary and where to find the necessary information We do: As a class, locate the necessary information You do: Students complete the remainder of the task individually. Teacher continues to guide students where necessary	Explicitly describes, demonstrates and verbalizes learning tasks for students through guided instruction, providing students opportunities to scaffold independence and perform skills. <i>You do</i> instruction provide time and scaffolding for working one-on-one or in small groups
Conclusion	Thinking and learning strategies	Catering for varied learning needs
35 minutes Students input data into spreadsheet using simple coding 10 minutes	Teacher explains: Now that you have worked out how to manually calculate, input and process data, we will look at how we can input data into a spreadsheet. We will do this by investigating if all the smarty containers contain the same number of all the colours. You (Students) will work on individual sheets, which will be automatically organized onto a master spread sheet, displayed on the IWB. Instructions will be provided on the WB Instructions: Teacher instructs students to follow instructions, crossing off each step as class progress – Remember to add the title. Teacher hands out smarty containers in a small bowl to students – students empty contents of the container, and begin recording how many of each colour	Ongoing formative assessment monitors student strengths and progress Organised instruction to meet all reading and comprehension levels Guided instruction supports scaffolding of lesson, ensuring students progress one step at a time
10 minutes	Once master spreadsheet contains all student data, each student will save a copy	students are provided with manipulative materials to set context for learning - engaging visual and
5 minutes	Provide students the formula to automatically calculate data: =sum(:) Students use formula in the tab and select 'average' to find the average colour of the classes total amount of Smarty's If time remains:	kinesthetic learners
	Using this average still, instruct students to move over to the 'charts' tab so students can see the visual representation through various data formats.	