



# Assessing pupils' progress in ICT at Key Stage 3:

Standards File  
Pupil F





# Pupil F Secure Level 7 ICT Standards File

First published in 2009

Ref: 00307-2009BKT-EN

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# Pupil F Secure Level 7

## ICT Standards File

### Summary

Pupil F's teacher designed an open-ended problem-solving activity, in a business context, that allowed the pupil to demonstrate the scoping and development of a solution. The teacher provided guidance in the requirements during the scoping of the solution and acted as a 'critical friend' during the development process. The file demonstrates that Pupil F is able to plan and develop an ICT-based system. While he has been effective in developing a system with a clear sense of audience, he needs to be given more opportunity to develop and apply success criteria linked to actual use by the user. The teacher's overall judgement places him at a secure level 7.

### The evidence

Torbay Travel Limited

1. Spreadsheet model
2. Mail merge
3. Advertising materials

# Torbay Travel Limited

## Assessment focuses

AF1, AF2, AF3

## Context

During a series of three units in which pupils were faced with increasingly more complex problems, Pupil F was set a problem to make a company more efficient through the use of ICT.

## Pupil F's work

Pupil F took part in teacher-led class discussion about the use of ICT in a business context and considered how increased use of ICT could assist business. He identified the following.

*'Torbay Travel is a small travel company that has three members of staff. They arrange coach trips for private hire. They offer a range of journeys to a range of destinations and advertise these in the local newspaper. Estimates are calculated manually when customers phone in and the record is kept and stored on a paper system. Marketing is based on simple adverts in the local newspaper.'*

Pupil F recognised that creating a system to calculate the ticket prices and produce estimates for customers would be more efficient for the company. He also recognised that they could use the customers' names and addresses for direct marketing.

He evaluated the strengths and weaknesses of ICT tools and chose to use a spreadsheet model to make it easier to calculate ticket prices; desktop publishing software to produce advertising materials and letters; and a database as a data source to mail merge information into letters and advertising materials.


Pupil F understood the need to develop a 'house style' for Torbay Travel Limited to brand the individual components. He created a suitable logo and colour scheme.

## Giving Torbay Travel An Identity

### Logo



The original idea, a standard coach driving towards us with Torbay Travel written across the side.




Here, a coach is driving towards us with Torbay Travel written across the middle.



This logo works on the idea of Torbay with its marine link.



A palm tree is associated to the south coast, and with that being associated with Torbay Travel.




A simple design to show Torbay Travel as a coach company.




This design is supposed to represent a firm with Torbay Travel written along the side.

### Development




A coach companies logo should really involve a coach, and this simple design is not just effective but very 'see remember'. The colours are natural, and work well together, the shape is simple and direct, the design is effective as it represents the company well, and is simple and easy to remember.

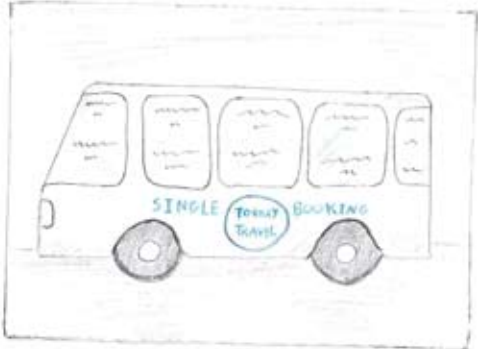


The palm tree is supposed to represent the English Riviera, which is the main location for Torbay Travel. So in the design, I have used a palm tree instead of a coach, and a bright sun to give the effect of the English Riviera. By putting Torbay Travel around the logo, it gives the impression of Torbay Travel covering the south coast.

## Torbay Travel House Style



Colours: Blue and White  
Logo: Palm tree logo but all in blue  
Main: The main colour is dark blue with a white font, the design is simple using one font and no pictures.  
Extra: A white strip to show all the results in one bulk, making them easier to use.  
Summary: A sleek, professional system designed to give results.



Colours: Blue, white, brown, black  
Logo: Palm tree logo but all in blue  
Main: The design is based around a coach, the white body has the logo in the middle, the windows are kept clear blue.  
Extra: All on the inputs and outputs involved are hidden in the windows, the font is black to not stand out.  
Summary: A friendly design that is simple to use. Although the basic design may seem childish to some.

The pupil chose to use a palm tree as the company logo.

*'The palm tree is supposed to represent the English Riviera, which is the main location for Torbay Travel Limited so in the design I have used a palm tree backed onto a clear sky and a bright sun to give the effect of the English Riviera. By putting Torbay Travel around the logo it gives the impression of Torbay Travel Limited linking with the South West.'*



Pupil F developed success criteria to evaluate the presentation of information across the system:

- Must have a clear house style:
  - it must use a set and consistent colour scheme
  - the design and layout on all pages must be the same
  - it should be easy to read, with the text and background colours making the text clear
  - the information calculated for customers should be easy to pick out, with different formatting from the cells where data is entered.

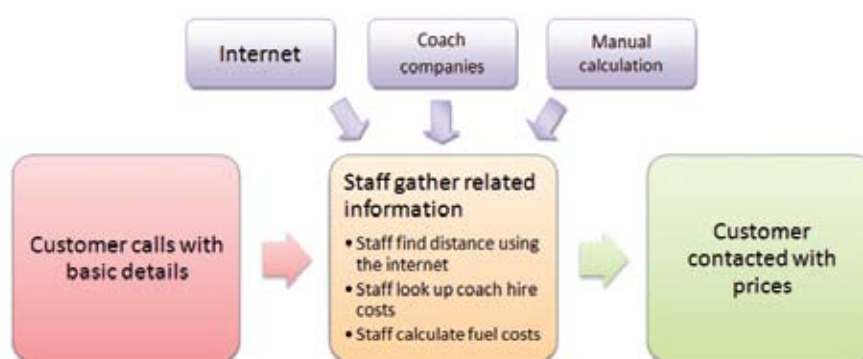


# 1 Torbay Travel spreadsheet model

Pupil F analysed current practice and scoped an outline solution to the problem, showing what would be needed in the solution and how they relate together.

*'Enquiries and bookings are mainly taken over the phone and written into a paper based system and written confirmation is then sent. They do not have an efficient system for providing estimates for customers enquiring about coach trips. They keep customer records in several spreadsheets that are prone to errors. They don't target specific customers as it's too difficult to sort the data from their multiple spreadsheets.'*

Information flow for an estimate



Pupil F decided how a spreadsheet would be used to calculate ticket prices.

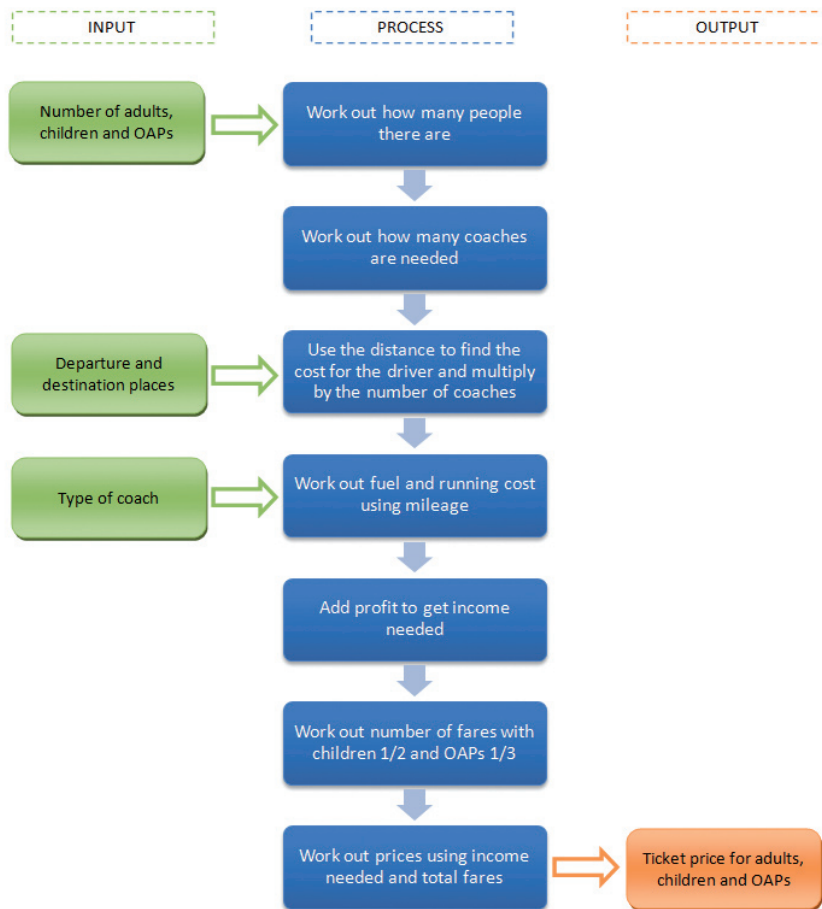
*'Beforehand Torbay Travel would use pen, paper and a calculator to work out an estimate for the amount they should charge per trip, that was long winded and it was very easy to make a mistake. They would also have to carry out all the calculations for each trip and if any value changed, such as the price of fuel, they would have to completely recalculate using the new values. With this new system it works out cost while they enter the basic details such as distance and entrance price, it's that simple...it can be used for any distances, plus any number of customers and it will automatically recalculate all the values including the number of coaches required.'*

The pupil then went on to scope the information flow through the system. He created a simple diagram that followed the 'input-process-output' model, identifying the input data, the processing required, and the outputs required by the user.

*'INPUT – from customer: where travelling to; type of coach; how many people; number of adults; number of children; number of OAPs;*

*PROCESS : calculate distance travelled; calculate mileage cost; calculate cost of coach hire; calculate customer price (children half price; OAPs third of price)*

*OUTPUT : customer ticket price'*



## Success criteria

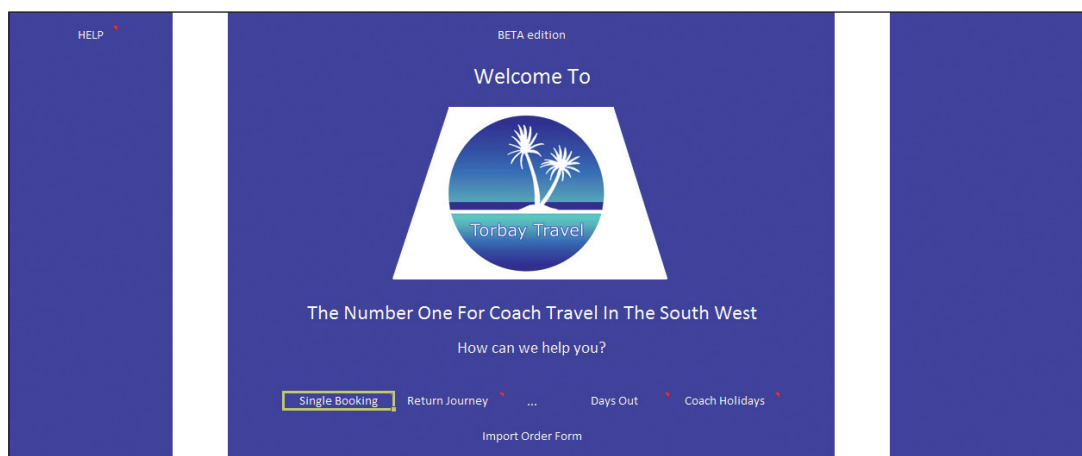
The pupil then developed success criteria to evaluate the effectiveness of the spreadsheet model and discussed these with the teacher. Pupil F decided that the solution:

- Must offer a full range of trips – single and return, days out, holidays.
- Must be able to accurately calculate different costs for different ages – children, adults, OAPs.
- Must be simple for the user:
  - the layout must be clear and effective
  - it must use validation on cells to check data entered
  - cells where data is entered must stand out and give clear instructions to the user
  - cells containing a formula must be locked
  - cells which don't need to be seen need to be hidden.
- Must do all the working out automatically:
  - correct formulae must be used for all calculations
  - it must be able to accurately calculate costs and revenue from the sheet
  - it must be able to accurately calculate the number of coaches required based on the total number of passengers
  - it must give the ticket price per customer rounded up to a whole number of pence.

Pupil F created a draft spreadsheet model to test the information flow. He tried out the formulae he was intending to use for each stage of the process. He refined the spreadsheet model, changing rules and variables as he developed it in order to check that it worked without errors and gave correct answers.

Pupil F applied the logo and house style to the spreadsheet model, refining the user interface as work progressed. Pupil F asked his peers to evaluate the system against the success criteria, particularly the ease of use. Amendments were made, for example, the pupil added help boxes to most cells where data needed to be entered in order to make it user-friendly.

*'In order to make data entry as simple as possible I designed individual pages for welcome, single booking, return journey, days out and coach holidays. As well as this, there are pop up guidance comments for the user. The sheet is protected to stop anyone from changing it.'*



*'The member of staff is required to input information into active cells and these calculate the costs involved for the journey and output the results in the white column called "Prices".'*



To calculate the mileage, Pupil F created two tables, one for points of departure and the other for destinations. He gave a distance for each taken from Torquay.

	S	T	U	V	W	X	Y
1							
2							
3							
4							
5		Departures	Distance		Destination	Distance	
6		Brixham	6		London	120	
7		Dawlish	12		Bristol	60	
8		Exeter	22		Lands End	80	
9		Newton Abbot	7		Alton Towers	250	
10		Paignton	3		Thorpe Park	105	
11		Torquay centre	0				
12		Torquay park and ride	2				
13							

The pupil then used a lookup function in the main spreadsheet to find values for the departure and destination distances to calculate the difference in order to represent an approximate distance between the two places.

The pupil used a combination of functions to determine the distance of the journey.

Cell F6 is the departure point and cell F8 the destination.

	L	M	N
14			
15		Distance calculation	
16		Start	=VLOOKUP(F6,T6:U12,2,FALSE)
17		End	=VLOOKUP(F8,W6:X10,2,FALSE)
18		Miles	=N17-N16
19			

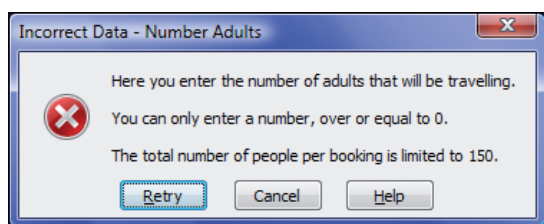
In addition to basic numeric functions the pupil applied a range of formulae in the development of the model including ROUNDUP, TODAY, LOOKUP, VLOOKUP and IF. For example using the IF statement to choose which set of costs apply to each coach and then looking up the correct cost, using:

=IF(F16="standard",LOOKUP(F24,L26:Q27),IF(F16="express",LOOKUP(F24,L30:Q31),IF(F16="First Class",LOOKUP(F24,L34:Q35),"ERROR")))

The pupil tested the functions of the spreadsheet by first checking the prices against some sample data where the correct price was known. He then tested it further by asking his peers to act as the client and to use the spreadsheet model to calculate the ticket costs for single and return journeys, trips and holidays. Feedback indicated that the functions worked correctly. However, some aspects were not clear and errors could be made such as adding incorrect data or allowing a date in the past. The pupil made amendments to make the instructions clearer by adding comment boxes, altering the layout by separating some of the functionality onto different worksheets, adding additional validation and applying conditional formatting to change cell colours from black (to show empty cells) to white (to show data has been entered).

The pupil used validation to ensure a date in the past cannot be added, and to restrict passenger numbers to the maximum allowed to fill the three available coaches.

*'It uses validation to stop the user entering incorrect data, as well as giving hints to make sure it's in the right format.'*



Microsoft product screen shot reprinted with permission from Microsoft Corporation

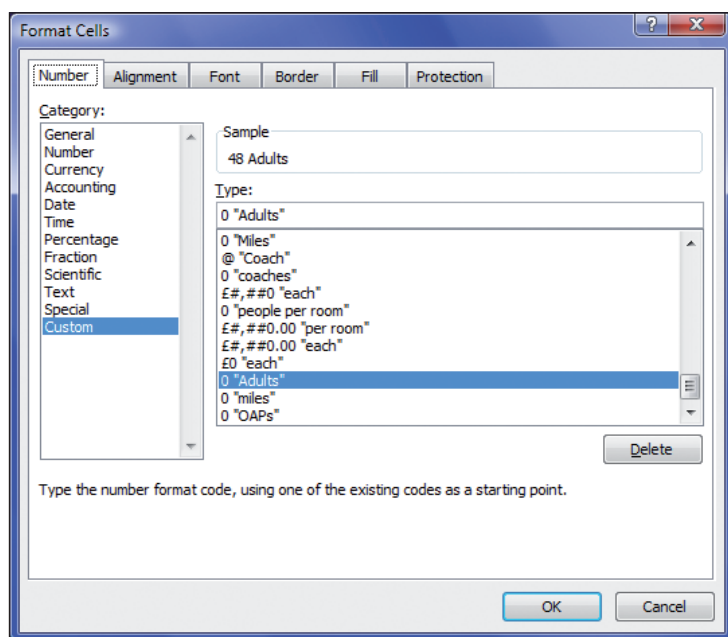
Pupil F used a variety of features in order to make the solution efficient, user-friendly and free from errors. In addition to creating an efficient solution, features were used to enhance the usability and ease of data entry.

- *'I've used macro buttons on the welcome page to make it easy for the user to link to the correct page;*
- *I used custom number formatting on the cells that hold numeric data so that text descriptions appear in the box which will help the user e.g if you put 40 in the box, it displays '40 Adults'.*
- *I used conditional formatting on cells to help users know which cells needed data to be entered. E.g. the input boxes are black until a number is typed in.*
- *I also used conditional formatting to display the prices in the white Prices section. This is because you get an error message until all the data has been put in.*
- *Validation was used to provide dropdown boxes, determine that the total number of passengers did not exceed 150 and to ensure that the departure date was in the future.'*

Conditional formatting was used by the pupil to provide an indication of where input was expected but had yet to be made. For example, here the number of adults has been entered but the number of children and OAPs has not.

Number Of Adults:	45 Adults
Number Of Children:	
Number of OAPs	

The pupil used custom number formatting to make numerical values more readable for the user by adding text (for example, making 48 appear as 48 adults), while maintaining the ability to reference and use the contents in formulae.



Microsoft product screen shot reprinted with permission from Microsoft Corporation

The pupil used the same principles to create a return journey worksheet, a further worksheet to calculate the cost to customers for a day trip which includes the cost of entry to an attraction and also additional costs such as food.

The pupil chose and used a clear house style across the workbooks.

*'The layout remains the same blue background with a white strip to show results. The titles are in the same place and all the boxes line up together. The logo is clearly displayed as it is the most important part of a corporate identity with it always keeping on the white background. Users liked the colour scheme saying it was easy to read and the text stood out against the background. It also went well with the logo.'*

## 2 Mail merge – Torbay Travel Limited

Pupil F had identified that as part of the solution to make Torbay Travel Limited more effective, they should use mail merge techniques to produce brochures and targeted letters. Pupil F decided how a database would provide the data source to mail merge information for letters.

*'If they wanted to write a letter which they could send to all their customers, they would have to print them one at a time, changing the detail as they went. This could take days depending on the number of customers they wish to send it to. But with the mail merge letter all they have to do is create one letter and a database with the details of all their regular customers, and the computer will print a personalised letter for each customer.'*

The pupil chose to use desktop publishing software to create advertising materials (including these letters) in order to combine images and text in the design that matched the requirements. The pupil initially identified some success criteria for the letters:

*'The letter must:*

- *be in the correct format of a formal letter*
- *contain the entire important details about the trip such as date, time etc*
- *be individually addressed to each customer*
- *be well presented and professionally written'*

The pupil created a set of test data (customers) and used this to mail merge a formal letter designed to persuade customers to book trips with the company.

*'Of course with databases holding most of the information including personal details you must make sure that they are kept safe and password protected because of data protection. Just in case of a problem, a backup copy must always be kept on a different computer.'*

The pupil used several features to make the database more efficient and to reduce input errors:

- Fields had appropriate data types and lengths set, to ensure that text could not be entered in numeric fields, for example.
- The customer ID number was assigned using an auto number field, so that members of staff entering data would not have to determine the next valid ID number.
- The telephone number fields both used an input mask to ensure that numbers were entered and displayed in the correct format.
- The postcode field had an input mask applied. However, in testing the pupil found that an input mask could not cope with all the test postcodes. A search on the internet for a solution gave the answer that an input mask cannot validate all possible UK postcodes.
- Fields with a limited number of possible inputs (such as the 'Title' field) were set up to use drop-down boxes.



12 The National Strategies | Secondary  
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Pupil F

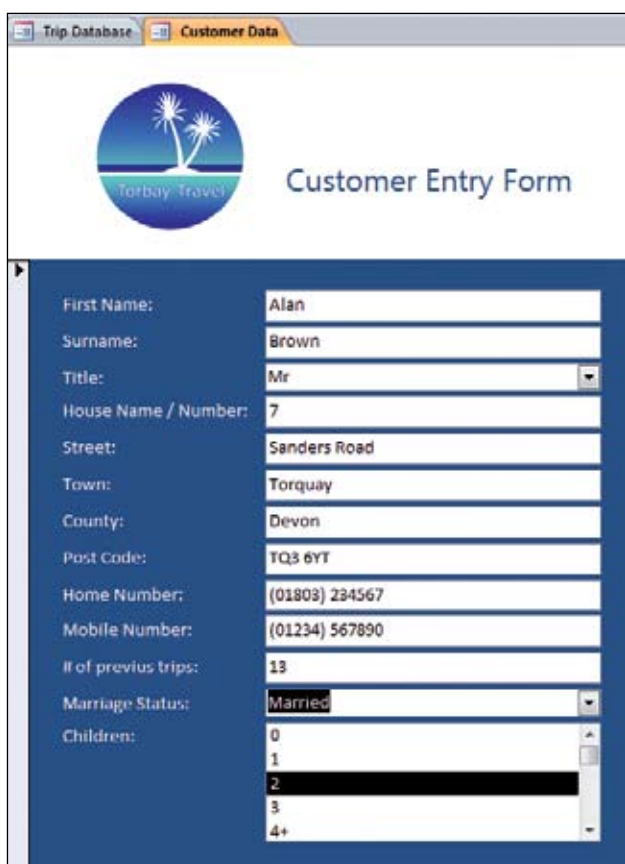


The screenshot shows the Microsoft Access interface with a table named 'Customer Data' open. The table contains the following data:

Customer ID	First Name	Surname	Title	House Name	Street	Town	County	Post Code	Home Num1	Mobile Num	# of previous	Marriage St
3	Alex	Jones	Mr	7	Sanders Road	Torquay	Devon	TQ3 6YT	(01803) 234567	(01234) 567890	13	Married
4	Harry	McMillan	Rev	6	Worner Road	Otter Town	Devon	EX1 1UY	(09876) 123567	(01234) 567890	3	Married
5	Sally	Jones	Ms	12	Banks Street	Exeter	Devon	EX2 7PX	(01808) 456747	(01803) 548294	7	Single
6	Malcolm	Brooks	Mr	445	High Street	Paignton	Devon	TQ2 7JH	(01823) 563876	(01846) 817004	1	Divorced
7	Sam	Jones	Mr	61	Loop Road	Salton	Devon	TW5 7YY	(01816) 794912	(01676) 312945	32	Single
(New)												

Microsoft product screen shot reprinted with permission from Microsoft Corporation

The pupil decided to create a simple form using a wizard to allow easy data input by staff, and then customised it to reflect the corporate identity of Torbay Travel Limited.



The screenshot shows a customised 'Customer Entry Form' for Torbay Travel. The form includes the following fields:

- First Name: Alan
- Surname: Brown
- Title: Mr (dropdown menu)
- House Name / Number: 7
- Street: Sanders Road
- Town: Torquay
- County: Devon
- Post Code: TQ3 6YT
- Home Number: (01803) 234567
- Mobile Number: (01234) 567890
- # of previous trips: 13
- Marriage Status: Married (dropdown menu)
- Children: 0, 1, 2, 3, 4+ (list box)

He tested the mail merge using the test data set in the database. The resulting letters were checked for layout, and some adjustments made where text boxes were not aligned.

The final version contained text and images, and mail merge fields, and used the logo to maintain the corporate image.





«Title» «Surname»  
«House Name / Number», «Street»  
«Town», «County»

Torbay Travel  
3, Regent Close  
Torquay, Devon  
TQ5 8JU

Wednesday, 11 June 2008

Dear «Title» «Surname».

As a loyal Torbay Travel customer we are delighted to inform you of an up and coming family trip to the Eden Project, in Cornwall. Booked for the 15th of August, our pick up point will be Torbay coach station, Lymington road, at 7:30 am.

The Eden project is hidden deep in Cornish countryside. Located in a disused china pit, the site contains a collection of domes, housing a range of plants from around the world.

The trip is limited to 100 people so don't miss out on this truly remarkable experience. Included in the price is entrance costs and a free cream tea in their new fair-trade restaurant.

To reserve your place, fill out the slip below and send it to our address, or phone us on (01803) 623 747. (normal office hours apply)

Yours sincerely,

*Nick Worth*

Nick Worth  
Head of Bookings

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**Torbay Travel Reservation Form**

Name: «Title» «First Name» «Surname»      Signature \_\_\_\_\_

Address: «House Name / Number», «Street»,  
«Town», «County»      Date \_\_\_\_\_

Contact Number: «Home Number»  
Mobile Number: «Mobile Number»  
Trip Code: **612453**

## 3 Advertising – Torbay Travel Limited

Pupil F considered the advantages of using ICT for advertising.

*'Imagine creating a leaflet to advertise one, two maybe three separate trips, you would have to decide all the trips details, write out all the information, and give it corporate identity, every time. They would probably have to arrange for a specialist printing company to print their leaflets for them. This would be very expensive especially if they are handing them out at random or putting them through letter boxes. Not all of the people who receive a leaflet will want one, and they will be wasted. By keeping a database of regular customers, leaflets can be targeted at people who are likely to be interested and so little money is wasted. Also using a DTP program means they can create their own professional looking leaflets without having to get a specialist printing company to do it for them.'*

The pupil responded to the need to advertise in a more targeted way by choosing to create a four-side advertising leaflet that could be sent with the mail merged letters and also be given to customers to interest them in forthcoming trips. The pupil decided to produce a template that could be used to mail merge blocks of text and images from a database and decided this needed to fit with the corporate identity, keeping a consistent colour scheme and logo.

*'My brochure must:*

- Be clear and easy to read*
- Use the company logo so people know who it is from*
- Look like a brochure that is advertising holidays, so have blue sky and the sun in it*
- Use details of the trips from the database so they don't have to be typed in again'*

To begin with, the pupil created a database to hold details of the trips.

Trip	Trip is to	Street Name	Town	County	Post Code	Date	Maxim	Cost per	Trip time	Departing fr	Sr	S	S	
1	Lands End	Lands End	Sennen	Cornwall	TR1 7AA	15 August 2008	110	£8.00	09:30	Union Street				Lands End, a mix of peaceful countr
2	Crealy Devon	Sidmouth Roar	Exeter	EX5 1DR		31 July 2008	50	£12.00		Strand				Devon's biggest outdoor adventure
3	Explore Bristol	Harbourside	Bristol	Devon	PL4 0LF	10 September 2008	200	£12.00		Union Street				Science for all the new exhibition, E
4	National Marine	Rope Walk	Plymouth	Devon	PL4 0LF	07 August 2008	160	£14.00		Shiphay Manor				With over 4000 animals in 400 exhib
5							0	£0.00						

Pupil F created a three-fold leaflet using desktop publishing software. Initially, he applied formatting to be consistent with the corporate style that he had used elsewhere, and included the company logo that he had designed. He then set up a catalogue merge to use the trip data from the database in the publication.

After an initial test, he decided that he would like to improve the leaflet by including some pictures of the locations alongside the trip details. Having investigated how he would do this, he added an extra field to the trip database table that contained the filename of the image he wanted to use. He found some suitable images for each trip by searching on the internet and saving the images as files. Then, a picture field was added that referenced the filename from the database of the appropriate image. The pupil acknowledged that he would have to check with the copyright holder whether the images could be used in the brochure.

The pupil mail merged images and text into the template creating a leaflet advertising four attractions in Devon.

*'The front of the brochure must be brief and attractive to the customer. The middle must give basic information and be quick to the point, too much text and the customer is put off. The back only needs the company logo and contact details. Put them together to get a simple brochure not too in your face but with all the necessary information.'*



## Evaluation of the system

Throughout the development of the system Pupil F used testing and success criteria to refine and amend his work.

Pupil F concluded by considering improvements that could be made to further refine the system, based on feedback from his peers and teacher.

*'The spreadsheet could have buttons that would allow the user to print the finished order form with the price and a button to clear all the input boxes so they could enter a new trip in. And adjust the pricing to make it more expensive to travel at weekends and at certain times of the year.'*

*Although the mail merge lets you send the letter automatically to all the customers in the database, due to limitations with the software, it is not possible to import the information about the trip from the spreadsheet, where there is all the details including date, time and cost. This is because the mail merge can use only one data source and it is more important to personalise the letter with the data about the individual customer.'*

*It would also be better if the brochure was expanded to offer a whole page about each trip with details such as, is there a restaurant, or is it wheelchair accessible. With this information it would be easier for the customer to decide which trip is more suited to them.'*

*Lots of people use the internet to find out about travel, and I could use the database about trips to provide information automatically to a web page. This would suit more people and always be up to date as long as the staff changed the details on the database regularly.'*

## Teacher's notes

### AF1

Pupil F was able to plan an ICT-based system, identifying the individual component parts, scoping the information flow and processes within them to develop a quality solution. He developed a complex spreadsheet model to calculate the costs of a single journey, which was then extended to more complex journeys. Pupil F planned two mail merges to promote the business, applying automation to the document production. He has identified the need for branding and a consistent style across the components in his solution. Pupil F has tested and refined the components as work has progressed using feedback from his peers and the teacher. He has identified success criteria

and understands the need to evaluate his work against them. He has responded to feedback, for example developing additional error trapping features such as validation and cell protection. As part of the evaluation, he has identified limitations of the system that could be addressed if further time were available, including using another channel of communication (a web page). He understands the use of ICT in a business environment.

## AF2

Pupil F developed a system where several of the manual processes outlined to him have been automated. He has selected applications based on prior experience and the project brief, and developed and refined his solution. He has created a spreadsheet model with automation and efficient formulae and then tested the model with sample data. He has identified the relevant variables and assumptions and used these with a set of rules to create the solution. This has also been tested with sample data and some resources sourced from the internet. He understands the importance of having data presented in the correct format and has applied this throughout.

## AF3

Pupil F understands the need to develop an appropriate interface. He has used a range of features to enable efficient data input. For example, in the spreadsheet model he has used conditional formatting, drop-down boxes and validation; in the database he has used input masks and data entry forms. He can explain the reasons for including features in the user interface in order to make the solution fit for purpose and easy to use. He understands the need for a corporate style, and has applied the style across a range of different software applications. His use of validation techniques in the spreadsheet and database demonstrate that he understands the need for reliable and consistent data in the system. The display of the resulting output of ticket prices is clear and easy to read, suiting the purpose and audience. His overall solution shows that his thinking has moved on from making the solution work to considering how people will interact with it in the most effective way.

## Next steps

To make further progress the pupil will need opportunities to:

- determine user requirements and develop a specification from them
- develop a more systematic approach to success criteria and related testing
- increase automation and integration of applications, combining components of the system, for example to produce and store estimates and create personalised documents using customer data
- develop a user guide including how to modify information if it changes, for example the cost of fuel
- consider the impact of ICT on people, communities and culture.

# Assessment summary

## AF1 Planning, developing and evaluating

Pupil F has shown that he can scope the information flow and processes required to develop his system, and that he can implement a quality solution. He has identified success criteria for each part of the project, even if there are places where these could be more focused. He has used feedback throughout the development and testing process and acted upon it to refine the solution. He has an understanding of how businesses can use ICT to make them more efficient and shows some awareness of limitations that could be addressed given further development time. Pupil F is working at secure level 7 in this AF.

## AF2 Handling data, sequencing instructions and modelling

Pupil F has demonstrated an understanding of a wide range of tools and techniques and is able to select and apply them to produce an ICT-based system to solve a problem. He has automated the flow of data in each of the components of the solution. He understands how to create and refine a model, automate processes, and how assumptions, variables and rules are used. Pupil F is working at secure level 7 in this AF.

## AF3 Finding, using and communicating

Pupil F has used the features of the software to ensure efficient data input with the minimum of errors and to create an interface that is easy for users to work with. He demonstrates a clear sense of audience in both the design of the corporate identity and the application of this across all components. Pupil F is working at secure level 7 in this AF.

## Overall assessment judgement

This work has been assessed as a secure level 7. Pupil F has planned and implemented an ICT-based system consisting of several components which when combined provide a quality solution for Torbay Travel Limited. The interface is of high quality, enabling efficient data input and displaying system outcomes that are fit for purpose and audience.

## ICT assessment guidelines: Levels 6 and 7

Pupil name: .....Pupil F.....

	AF1 – Planning, developing and evaluating	AF2 – Handling data, sequencing instructions and modelling	AF3 – Finding, using and communicating information
<b>L7</b>	<b>Across a range of contexts pupils:</b> <ul style="list-style-type: none"> <li>Design and plan an ICT-based system by:               <ul style="list-style-type: none"> <li>scoping the information flow through the system</li> <li>devising and applying success criteria to ensure a quality solution, refining work as it progresses</li> <li>identifying the advantages and limitations of the system</li> </ul> </li> <li>Identify the impact of ICT on people, communities and cultures</li> </ul> <input checked="" type="checkbox"/>	<b>Across a range of contexts pupils:</b> <ul style="list-style-type: none"> <li>Select appropriate tools and techniques to implement an ICT-based system in which:               <ul style="list-style-type: none"> <li>data flow is automated</li> <li>sequences of instructions are developed, tested and refined</li> <li>assumptions, variables and rules are identified</li> </ul> </li> </ul> <input checked="" type="checkbox"/>	<b>Across a range of contexts pupils:</b> <ul style="list-style-type: none"> <li>Develop an appropriate user interface for an ICT-based system which:               <ul style="list-style-type: none"> <li>enables efficient data input</li> <li>displays system outcomes that are fit for purpose and audience</li> </ul> </li> </ul> <input checked="" type="checkbox"/>
<b>L6</b>	<b>Across a range of contexts pupils:</b> <ul style="list-style-type: none"> <li>Plan and develop solutions which show efficiency and integration of ICT tools and techniques</li> <li>Use criteria and feedback to improve the effectiveness and efficiency of solutions</li> <li>Explore the impacts of the use of ICT in work, leisure and home</li> </ul> <input type="checkbox"/>	<b>Across a range of contexts pupils:</b> <ul style="list-style-type: none"> <li>Devise a data handling solution to test hypotheses that uses techniques to reduce input errors</li> <li>Create efficient sequences of instructions including the use of subroutines</li> <li>Test predictions by varying rules in models and assess the validity of the conclusions</li> </ul> <input type="checkbox"/>	<b>Across a range of contexts pupils:</b> <ul style="list-style-type: none"> <li>Use complex lines of enquiry efficiently to interrogate information</li> <li>Explain choices when presenting information for different purposes and wider or remote audiences</li> </ul> <input type="checkbox"/>
<b>BL</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>IE</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Key: BL – Below Level IE – Insufficient Evidence

**Overall assessment**  
(tick one box only)
☐ Low 6

☐ Secure 6

☐ High 6

☐ Low 7

☒ Secure 7

☐ High 7





Audience: Secondary ICT subject leaders  
Date of issue: 03-2009  
Ref: **00307-2009BKT-EN**

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