

## COVER LESSON 1

**Name:**

- In this unit you are:
- Investigating how and why we use spreadsheets
  - Using a model to answer questions
  - Refining and developing a model
  - Using a spreadsheet to present information

This work is based on the unit you are doing in ICT at the moment.

You may not have done enough of the unit to complete all of today's work.

Try your best and do as much as you can

### Today's work: Using a spreadsheet model

Year 7 have asked if they can put on a concert to raise money for charity. The Head of Year 7 has agreed on the condition that the concert will cover its costs and make a reasonable profit.

The concert organisers have used a spreadsheet to model what might happen. Equipment needs to be hired. The Year Head has said that 1 teacher will be needed for every 10 people that come to concert. The caretaker will also need to be paid to clean up afterwards.

### TASK ONE

Here is a screenshot of the spreadsheet model created for the concert.

	A	B
1		
2	<b>Charity Concert</b>	
3		
4	Ticket Price	£3.00
5		
6	Number of Audience	200
7		
8	<b>Total Income</b>	<b>£600.00</b>
9		
10	Number of teachers needed	20
11	Cost per teacher	£5.00
12		
13	Sound Equipment	£150.00
14	Instruments	£100.00
15	Lights	£100.00
16	Cost of teachers	£100.00
17	Caretaker	£50.00
18		
19	<b>Total Costs</b>	<b>£500.00</b>
20		
21	<b>Concert Profit</b>	<b>£100.00</b>

For the cell references below, write whether each one contains:

A Variable

A Rule

A Label

A6 \_\_\_\_\_

B13 \_\_\_\_\_

A21 \_\_\_\_\_

B6 \_\_\_\_\_

B19 \_\_\_\_\_

### TASK TWO

Explain (either in your words or by writing a formula) how the following calculations are worked out on the Charity Concert model:

<b>Total Income</b>	
<b>Concert Profit</b>	

### TASK THREE

Now log on and go to **Year 7 >> ICT Cover Work** (change to reflect your own network area) and load the spreadsheet file **Charity Concert**. This is a spreadsheet model.

Use the model to complete the table.

- Estimate what would happen to the profit if you changed the values shown in column 1. Write your guess in column 2
- Change the variables and write what happens to the profit in column 3
- Write the actual profit figure in column 4

How much profit would be made if:	Estimate: Profit up or down?	Result: Profit up or down?	Actual profit figure
<b>Ticket price</b> is decreased to <b>£2.50</b>			
<b>Ticket price</b> is decreased to <b>£2.50</b> and there is no charge for <b>instruments</b>			
The <b>caretaker</b> and the <b>teachers</b> provide their services for free			
The audience is increased to <b>250</b>			
The cost of the <b>sound equipment</b> hire goes up to <b>£200</b>			

### TASK FOUR

Explain why a spreadsheet model is useful for solving problems, like the charity concert

### TASKS FIVE AND SIX

Below are examples of scenarios which could be simulated by a spreadsheet model. There are 5 scenarios below. For each one identify possible;

- **Labels**
- **Variables**
- **Rules**

- 1) A cake stall
  - 2) A school fete
  - 3) A football league table
  - 4) Your personal budget (what you earn/spend)
  - 5) A school sports day
- Type your answers in Word

In Word write a letter to your Year Head explaining whether you think the Charity Concert should go ahead

Give examples from the model to back up your answer.

In your letter explain, giving reasons:

- What scenarios might make the most profit
- Whether you would be likely to make that profit in real life

Give reasons for your answers!