

The next three weeks are going to be a maths investigation where you will be designing your own theme park

There are 20 parts to the theme park, some will take longer than others but the idea is to do 2 a day if it a shorter task and 1 a day if it a longer task. By the end of the summer term you should have completed the whole pack.

Week one of this investigation contains parts 16 - 20

You can either print this out and write on it or make a record of each section in your homework book, you will need to constantly refer back to this

Maths B week 4

Any questions please email

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Task 17 - How many visitors?

Here are your visitor numbers for each month.

May (31 days): 45 602 visitors

June (30 days): 49 891 visitors

July (31 days): 54 512 visitors

August (31 days) 87 003 visitors

September (30 days) 64 768 visitors

However depending on the improvements you made you may have attracted more people.

- If you bought a leaflet your attendance figures increased by 10%
- If you bought a radio advert your attendance figures increased by 20%
- If you bought a TV advert your attendance figures increased by 30%

BUT...

- If you purchased a website then you managed to get companies to pay for adverts on your website. You managed to raise £250 000 through this.
- You also managed to increase your attendance over the year by 15%. Each of these extra visitors paid a special price of £15 through offers on your website.

Write down your new attendance and money taken figures below

May (31 days): _____

Money taken this month: _____

June (30 days): _____

Money taken this month: _____

July (31 days): _____

Money taken this month: _____

August (31 days): _____

Money taken this month: _____

September (30 days): _____

Money taken this month: _____

Total number of visitors: _____

Total Money taken: _____

Number of extra visitors through owning a website: _____

Money made through owning a website (each visitor pays £15): _____

Total Money taken on the gate this year: _____

Task 18 - What are your profits?

Calculate your season 3 profits by completing the task below.

Here we go then...

Total income made on admissions/website £ _____

How much does it cost for you to open your park every day? £ _____

Your park is open for 153 days so you need to multiply the above figure by 153.

Total cost of opening your park for the season £ _____

- Total profit made in season 3 so far: £ _____
(total profit on admissions/website - total cost of opening park)

However....

$\frac{1}{2}$ of your customers spends £10 at one of your restaurants. Total income: _____

Every customer spends £5 at each café you have. Total income: _____

Every customer spends £4 at each shop you have. Total income: _____

Every customer spends £3 at each sweet shop you have. Total income: _____

Every customer spends £1 at each ice cream stand you have. Total income: _____

Every customer spends £3 at each photo kiosk you have. Total income: _____

Every customer spends £5 at the cinema. Total income: _____

Every customer spends £5.50 at the swimming pool. Total income: _____

AND....

15% of your total visitors also stayed at your hotel. How many people was this? _____

Each one of these customers paid £75 to stay 2 nights. How much was raised through your hotel? _____

What is the total profit made on all of your attractions? _____

Now add this amount to the figure at the top of the page (the figure next to the bullet point)

Current total profit in season 3: _____

Task 19: Taxes and Insurance!

At the end of season 3 you receive another letter from the inland revenue. These are the people who collect taxes for the government.

As you are in charge of your own company you have to pay tax on the profits you make.

30% of your profits in season 3 now have to be paid to the government.

Work it out.....

Total profits on season 3: £ _____

30% of your profits: £ _____

Total amount to be paid in taxes: £ _____



New current total profit for season 3: _____

Insurance renewal...

The insurance on your park is up for renewal. Insurance is a legal requirement and you are not allowed to open your park without a certificate. Therefore you have no choice but to renew the insurance certificate at the following costs.

Price Category 1: £250 000

Price Category 2: £200 000

Price Category 3: £175 000

Price Category 4: £150 000



Deduct the above costs from your yearly profits.

What are your final season 3 profits: _____

What money do you now have in the bank in total: _____

Task 20: Your loan!

At the beginning of season 1 you took out a £500 000 loan with Barclays Bank.

In season 1 it was interest free which meant at the end of season 1 you still owed £500 000 to the bank.

However in season 2 and 3 the loan is subject to 11% interest. This means that 11% is added onto the loan at the end of every season.

Work out how much you now owe:

Season 1: £500 000

Season 2: £555 000

Season 3: _____ (add 11% onto £555 000)



So...

You are now at the end of season 3.

What is the total amount in your bank? £_____

How much loan do you owe? £_____

You must now pay back the loan to the bank. (subtract the above two figures)

How much are you left with? _____

Total Money in the bank at the end of the Theme Park Maths: _____