

Lunar Theme Park



Name:

The year is 2050. Man is now colonising the moon and you have decided to open the first lunar theme park in history.

Your spending limit is £500 000

- You must carefully decide what sort of rides you are going to have. You also need to think about the other facilities visitors will need when they come to your theme park like toilets, cafes, shops and paths between all the facilities and rides.
- Many theme parks have different areas that are 'themed'. In other words they might have an African area, a wild west American area or an Old England area. Think carefully about what you want to have in yours.

Lunar Theme Park

1. Set up your theme park.

Your spending limit is £500 000. Design and draw your theme park on the squared paper. You must not go over your spending limit and you must have car parks, toilets, paths to connect all the items, cafes and shops for your visitors, not just rides.

| Item | Number of squares | Cost |
|-----------------|-------------------|--------------------|
| Major ride | 9 | £50 000 |
| Minor ride | 6 | £20 000 |
| Café | 4 | £10 000 |
| Shop | 4 | £ 7 000 |
| Vending machine | 1 | £ 500 |
| Toilets | 4 | £ 1 000 |
| Paths | | £ 200 per square |
| Lake | | £ 5 000 per square |
| Car park | | £ 500 per square |

2. Running your theme park

To run your theme park the following costs will apply to each item that you have every day. How much will it cost to run your theme park for one day?

ONGOING COSTS

| Item | Maintenance Costs | Electricity | Total Costs per day |
|------------|-------------------|-------------|---------------------|
| Major ride | £50 | £60 | £110 |
| Minor ride | £40 | £40 | £ 80 |
| Café | £30 | £20 | £ 50 |
| Shop | £20 | £20 | £ 40 |
| Toilet | £ 5 | £ 5 | £ 10 |

3. Decide on a price per person to enter your theme park.

You must make it cheap enough to attract visitors but enough to make a profit.

Decide on your price and enter it here £ _____

| Day | No of visitors | Profit | Day | No of visitors | Profit |
|-----|----------------|--------|-----|----------------|--------|
| 1 | 224 | | 16 | 854 | |
| 2 | 132 | | 17 | 375 | |
| 3 | 264 | | 18 | 855 | |
| 4 | 398 | | 19 | 964 | |
| 5 | 433 | | 20 | 433 | |
| 6 | 253 | | 21 | 275 | |
| 7 | 176 | | 22 | 843 | |
| 8 | 157 | | 23 | 1108 | |
| 9 | 524 | | 24 | 423 | |
| 10 | 732 | | 25 | 2867 | |
| 11 | 523 | | 26 | 3853 | |
| 12 | 689 | | 27 | 7443 | |
| 13 | 396 | | 28 | 8465 | |
| 14 | 265 | | 29 | 7423 | |
| 15 | 198 | | 30 | 9426 | |

4. Profit and Loss

Each visitor to your theme park will spend;

- £5 at each café you have
- £3 at each shop you have

Work out your total profit from the admission price (gate), cafes and shops. Then take away your total costs that you have already worked out and find your profit or loss for each day.

| Day | INCOME | | | | Total Costs (2) | Profit (1-2) |
|-----|--------|------|------|-----------|-----------------|--------------|
| | Gate | Cafe | Shop | Total (1) | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
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| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |

4. Profit and Loss - continued

| Day | INCOME | | | | Total Costs (2) | Profit (1-2) |
|-----|--------|------|------|-----------|-----------------|--------------|
| | Gate | Cafe | Shop | Total (1) | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
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| 29 | | | | | | |
| 30 | | | | | | |

5. Wages (part 1)

The rides will need to be maintained to prevent accidents.

Each major ride will need 2 mechanics, they are qualified to service up to three major rides.
Each minor ride will need 1 mechanic, they too are qualified to service up to three minor rides.

Any major ride mechanic can service both major and minor rides, but,
A minor ride mechanic can only service a minor ride.

A Major Ride Mechanic will earn £150.00 per day.

A Minor Ride Mechanic will earn £90.00 per day.

| Major Rides | Necessary Mechanics | Wage per day | Total |
|-------------|---------------------|--------------|-------|
| | | £150.00 | |

| Minor Rides | Necessary Mechanics | Wage per day | Total |
|-------------|---------------------|--------------|-------|
| | | £ 90.00 | |

Remember that some of the mechanics can be shared between major and minor rides so long as they are suitably qualified.

So what is the minimum number of mechanics needed...

Major Ride Mechanics:

Minor Ride Mechanics:

6. Wages (part 2)

Next the Shops and Cafés will need to be staffed.

Every Shop and Café will need 2 staff each per 400 guests. They receive £75.00 per day.

Number of shops_____ Number of cafés_____

| Day | No of visitors | Required Staff | | Wage £75.00 |
|-----|----------------|----------------|------|----------------|
| | | Shop | Café | |
| 1 | 224 | | | |
| 2 | 132 | | | |
| 3 | 264 | | | |
| 4 | 398 | | | |
| 5 | 433 | | | |
| 6 | 253 | | | |
| 7 | 176 | | | |
| 8 | 157 | | | |
| 9 | 524 | | | |
| 10 | 732 | | | |
| 11 | 523 | | | |
| 12 | 689 | | | |
| 13 | 396 | | | |
| 14 | 265 | | | |

6. Wages (part 2) - continued

| Day | No of visitors | Required Staff | | Wage £75.00 |
|-----|----------------|----------------|------|----------------|
| | | Shop | Café | |
| 15 | 198 | | | |
| 16 | 854 | | | |
| 17 | 375 | | | |
| 18 | 855 | | | |
| 19 | 964 | | | |
| 20 | 433 | | | |
| 21 | 275 | | | |
| 22 | 843 | | | |
| 23 | 1108 | | | |
| 24 | 423 | | | |
| 25 | 2867 | | | |
| 26 | 3853 | | | |
| 27 | 7443 | | | |
| 28 | 8465 | | | |
| 29 | 7423 | | | |
| 30 | 9426 | | | |

7. Additional Wages (part 3)

For every toilet block you will need to employ 1 attendant, however for every 600 guests you will need to employ a further attendant. They are paid £60.00 per day.

For every 500 guests you will need to employ a general cleaner. They are paid £50.00 per day.

For every 750 guests you will need to employ entertainers. They are paid £80.00 per day.

| Day | Visitors | Attendant | Wage £60.00 (1) | Cleaner | Wage £50.00 (2) | Entertainer | Wage £80.00 (3) | Total (1)+(2)+(3) |
|-----|----------|-----------|-----------------------|---------|-----------------------|-------------|-----------------------|----------------------|
| 1 | 224 | | | | | | | |
| 2 | 132 | | | | | | | |
| 3 | 264 | | | | | | | |
| 4 | 398 | | | | | | | |
| 5 | 433 | | | | | | | |
| 6 | 253 | | | | | | | |
| 7 | 176 | | | | | | | |
| 8 | 157 | | | | | | | |
| 9 | 524 | | | | | | | |
| 10 | 732 | | | | | | | |
| 11 | 523 | | | | | | | |
| 12 | 689 | | | | | | | |
| 13 | 396 | | | | | | | |
| 14 | 265 | | | | | | | |

7. Additional Wages (part 3) - continued

| Day | Visitors | Attendant | Wage £60.00 (1) | Cleaner | Wage £50.00 (2) | Entertainer | Wage £80.00 (3) | Total (1)+(2)+(3) |
|------------|-----------------|------------------|--------------------------------|----------------|--------------------------------|--------------------|--------------------------------|------------------------------|
| 15 | 198 | | | | | | | |
| 16 | 854 | | | | | | | |
| 17 | 375 | | | | | | | |
| 18 | 855 | | | | | | | |
| 19 | 964 | | | | | | | |
| 20 | 433 | | | | | | | |
| 21 | 275 | | | | | | | |
| 22 | 843 | | | | | | | |
| 23 | 1108 | | | | | | | |
| 24 | 423 | | | | | | | |
| 25 | 2867 | | | | | | | |
| 26 | 3853 | | | | | | | |
| 27 | 7443 | | | | | | | |
| 28 | 8465 | | | | | | | |
| 29 | 7423 | | | | | | | |
| 30 | 9426 | | | | | | | |

8. Month 1 - Grand Totals

Using the profit figures from Part 4 - Profit and Loss and the wage figures from Parts 5 - 7

| Day | Profit (1) | Wages (2) | | | Total Profit (1)-(2) |
|-----|------------|-----------------------|-----------------------|--------------------------|-------------------------|
| | (Part 4) | Mechanics (Part 5) | Shop/Café (Part 6) | Cleaners etc (Part 7) | |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |

8. Month 1 - Grand Totals - continued

| Day | Profit (1) | Wages (2) | | | Total Profit (1)-(2) |
|------------|-------------------|-------------------------------|-------------------------------|----------------------------------|---------------------------------|
| | (Part 4) | Mechanics (Part 5) | Shop/Café (Part 6) | Cleaners etc (Part 7) | |
| 15 | | | | | |
| 16 | | | | | |
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| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
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| 27 | | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |

9. The 2nd Month

| Day | No of visitors | Profit | Day | No of visitors | Profit |
|-----------|----------------|--------|-----------|----------------|--------|
| 1 | 8457 | | 16 | 5857 | |
| 2 | 8288 | | 17 | 6375 | |
| 3 | 9015 | | 18 | 5855 | |
| 4 | 8542 | | 19 | 5964 | |
| 5 | 7689 | | 20 | 5433 | |
| 6 | 7201 | | 21 | 5275 | |
| 7 | 6897 | | 22 | 5843 | |
| 8 | 7456 | | 23 | 5108 | |
| 9 | 7064 | | 24 | 5423 | |
| 10 | 6759 | | 25 | 4867 | |
| 11 | 6532 | | 26 | 4453 | |
| 12 | 6245 | | 27 | 4243 | |
| 13 | 6845 | | 28 | 4965 | |
| 14 | 6588 | | 29 | 4223 | |
| 15 | 6198 | | 30 | 3826 | |

10. Profit and Loss - 2nd Month

Remember each visitor to your theme park will spend;

- £5 at each café you have
- £3 at each shop you have

Work out your total profit from the admission price (gate), cafes and shops. Then take away your total costs that you have already worked out and find your profit or loss for each day.

| Day | INCOME | | | | Total Costs (2) | Profit (1-2) |
|-----|--------|------|------|-----------|-----------------|--------------|
| | Gate | Cafe | Shop | Total (1) | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
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| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |

10. Profit and Loss - 2nd Month - continued

| Day | INCOME | | | | Total Costs (2) | Profit (1-2) |
|-----|--------|------|------|-----------|-----------------|--------------|
| | Gate | Cafe | Shop | Total (1) | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |
| 21 | | | | | | |
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11. Wages (part 1) - 2nd Month

The rides will need to be maintained to prevent accidents.

Each major ride will need 2 mechanics, they are qualified to service up to three major rides.
Each minor ride will need 1 mechanic, they too are qualified to service up to three minor rides.

Any major ride mechanic can service both major and minor rides, but,
A minor ride mechanic can only service a minor ride.

A Major Ride Mechanic will earn £150.00 per day.

A Minor Ride Mechanic will earn £90.00 per day.

| Major Rides | Necessary Mechanics | Wage per day | Total |
|-------------|---------------------|--------------|-------|
| | | £150.00 | |
| Minor Rides | Necessary Mechanics | Wage per day | Total |
| | | £ 90.00 | |

Remember that some of the mechanics can be shared between major and minor rides so long as they are suitably qualified.

So what is the minimum number of mechanics needed...

Major Ride Mechanics:

Minor Ride Mechanics:

12. Wages (part 2) - 2nd Month

Next the Shops and Cafés will need to be staffed.

Every Shop and Café will need 2 staff each per 400 guests. They receive £75.00 per day.

Number of shops_____ Number of cafés_____

| Day | No of visitors | Required Staff | | Wage £75.00 |
|-----|----------------|----------------|------|----------------|
| | | Shop | Café | |
| 1 | 8457 | | | |
| 2 | 8288 | | | |
| 3 | 9015 | | | |
| 4 | 8542 | | | |
| 5 | 7689 | | | |
| 6 | 7201 | | | |
| 7 | 6897 | | | |
| 8 | 7456 | | | |
| 9 | 7064 | | | |
| 10 | 6759 | | | |
| 11 | 6532 | | | |
| 12 | 6245 | | | |
| 13 | 6845 | | | |
| 14 | 6588 | | | |

12. Wages (part 2) - 2nd Month - continued

| Day | No of visitors | Required Staff | | Wage £75.00 |
|-----|----------------|----------------|------|----------------|
| | | Shop | Café | |
| 15 | 6198 | | | |
| 16 | 5854 | | | |
| 17 | 6375 | | | |
| 18 | 5855 | | | |
| 19 | 6964 | | | |
| 20 | 5433 | | | |
| 21 | 5275 | | | |
| 22 | 5843 | | | |
| 23 | 5108 | | | |
| 24 | 5423 | | | |
| 25 | 4867 | | | |
| 26 | 4453 | | | |
| 27 | 4243 | | | |
| 28 | 4965 | | | |
| 29 | 4223 | | | |
| 30 | 3826 | | | |

13. Additional Wages (part 3) - 2nd Month

For every toilet block you will need to employ 1 attendant, however for every 600 guests you will need to employ a further attendant. They are paid £60.00 per day.

For every 500 guests you will need to employ a general cleaner. They are paid £50.00 per day.

For every 750 guests you will need to employ entertainers. They are paid £80.00 per day.

| Day | Visitors | Attendant | Wage £60.00 (1) | Cleaner | Wage £50.00 (2) | Entertainer | Wage £80.00 (3) | Total (1)+(2)+(3) |
|-----|----------|-----------|-----------------------|---------|-----------------------|-------------|-----------------------|----------------------|
| 1 | 8457 | | | | | | | |
| 2 | 8288 | | | | | | | |
| 3 | 9015 | | | | | | | |
| 4 | 8542 | | | | | | | |
| 5 | 7689 | | | | | | | |
| 6 | 7201 | | | | | | | |
| 7 | 6897 | | | | | | | |
| 8 | 7456 | | | | | | | |
| 9 | 7064 | | | | | | | |
| 10 | 6759 | | | | | | | |
| 11 | 6532 | | | | | | | |
| 12 | 6245 | | | | | | | |
| 13 | 6845 | | | | | | | |
| 14 | 6588 | | | | | | | |

13. Additional Wages (part 3) - 2nd Month - continued

| Day | Visitors | Attendant | Wage £60.00 (1) | Cleaner | Wage £50.00 (2) | Entertainer | Wage £80.00 (3) | Total (1)+(2)+(3) |
|------------|-----------------|------------------|--------------------------------|----------------|--------------------------------|--------------------|--------------------------------|------------------------------|
| 15 | 6198 | | | | | | | |
| 16 | 5857 | | | | | | | |
| 17 | 6375 | | | | | | | |
| 18 | 5855 | | | | | | | |
| 19 | 5964 | | | | | | | |
| 20 | 5433 | | | | | | | |
| 21 | 5275 | | | | | | | |
| 22 | 5843 | | | | | | | |
| 23 | 5108 | | | | | | | |
| 24 | 5423 | | | | | | | |
| 25 | 4867 | | | | | | | |
| 26 | 4453 | | | | | | | |
| 27 | 4243 | | | | | | | |
| 28 | 4965 | | | | | | | |
| 29 | 4223 | | | | | | | |
| 30 | 3826 | | | | | | | |

14. Month 2 - Grand Totals

Using the profit figures from Part 10 - Profit and Loss and the wage figures from Parts 11 - 13

| Day | Profit (1) | Wages (2) | | | Total Profit (1)-(2) |
|-----|------------|------------------------|------------------------|---------------------------|-------------------------|
| | (Part 10) | Mechanics (Part 11) | Shop/Café (Part 12) | Cleaners etc (Part 13) | |
| 1 | | | | | |
| 2 | | | | | |
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| 5 | | | | | |
| 6 | | | | | |
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| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |

14. Month 2 - Grand Totals - continued

| Day | Profit (1) | Wages (2) | | | Total Profit (1)-(2) |
|-----|------------|------------------------|------------------------|---------------------------|-------------------------|
| | (Part 10) | Mechanics (Part 11) | Shop/Café (Part 12) | Cleaners etc (Part 13) | |
| 15 | | | | | |
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| 30 | | | | | |

15. Ways of improving the Park

It has been noticed that attendance figures are falling dramatically, and who employ a team that will look at ways of improving this.

The research team consists of a manager and 5 assistants together with a research budget.

The manager receives £220.00 per day
The assistants all receive £150.00 per day

Salary of the manager, remember this is over the 30 days: _____

Salary of the assistants, remember this is over the 30 days: _____

The research budget has been set at 500,000

Subtract all these values from your total profit. (Months 1 and 2).

| | |
|-------------------------------|-------|
| Total Profit (months 1 and 2) | _____ |
| Research Budget | _____ |
| Research Team (month 2) | _____ |
| New Profit Total | _____ |

The research team have come up with some ways of improving your park and therefore your attendance figures. Use your profit to improve your park.

| Item | Number of Squares | Cost |
|------------------------|-------------------|-------------------|
| Major High Thrill Ride | 12 | £150,000 |
| Minor High Thrill Ride | 8 | £120,000 |
| Children's Ride | 6 | £ 25,000 |
| Monorail | | £ 300 per square |
| Monorail Station | | £ 600 per square |
| Additional Land | | £ 3000 per square |

ONGOING COSTS

| Item | Maintenance Costs | Electricity | Total Costs per day |
|------------------------|-------------------|-------------|---------------------|
| Major High Thrill Ride | £120 | £ 80 | £200 |
| Minor High Thrill Ride | £100 | £ 60 | £160 |
| Children's Ride | £ 40 | £ 50 | £ 90 |
| Monorail | £120 | £120 | £240 |