



# MATHEMATICS



**N.S. Yr. 6 P.89**

**Use all four operations to solve word problems involving time.**

## Equipment

Paper, pencil.

# MathSphere

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### **Concepts**

Children should be familiar with the units concerned with time and understand times written as both 12 hour and 24 hour clock times.

Children should be able to calculate the period between two times and add or subtract a period from a time.

Eg. How long is it between 16:35 and 19:25 ?

Eg. What time is it 37 minutes after 9.35 a.m. ?

Eg. What time is it 27 minutes before 13:45. ?

They should be able to use times involving tenths of a second for timing races etc and should be able to calculate times of repetitive and non-repetitive events and enter them into a table.

They should also be able to explain how they arrived at their answers.

1. What is 12:30 written as a 12 hour clock time?
2. A marble is put into a jar of treacle. It falls 2 cm every second through the treacle. Complete the table for the first eight seconds.

Time (secs)	1	2	3	4	5	6	7	8
Distance (cm)								

3. Each track on a French CD takes 3 minutes and 15 seconds.  
Complete the table for the time taken for all the tracks on the CD.

Track	1	2	3	4	5	6	7	8
Time	3m 15s							

4. Here is a timetable for sports at an activity centre.

Times	Group A	Group B	Group C
09:00 - 10:30	Hockey	Basketball	Netball
10:40 - 12:00	Basketball	Netball	Hockey
12:50 - 14:25	Trampolining	Hockey	Abseiling
14:40 - 16:00	Netball	Abseiling	Trampolining
17:50 - 19:35	Abseiling	Trampolining	Basketball

Answer the following questions:

- a. Which activity did Group B do between 10:40 and 12:00 ?
- b. What is Group C doing at 15:00 ?
- c. Which is the longest session?
- d. For how much longer does Group A play hockey than basketball?
- e. What is the total time in which games are played during the first three sessions of the day?
- f. How long do you think the lunch break is?

1. What is 8.35 p.m. written as a 24 hour clock time?
2. A parachutist opens his parachute and travels downwards at a speed of 7.2 metres per second. Complete the table for his jump.

Time (secs)	1	2	3	4	5	6	7	8
Distance (m)	7.2							

3. A bricklayer takes 5 mins 20 seconds to lay 10 bricks. Complete the table for his work.

No. Bricks	10	20	30	40	50	60	70	80
Time	5m 20s							

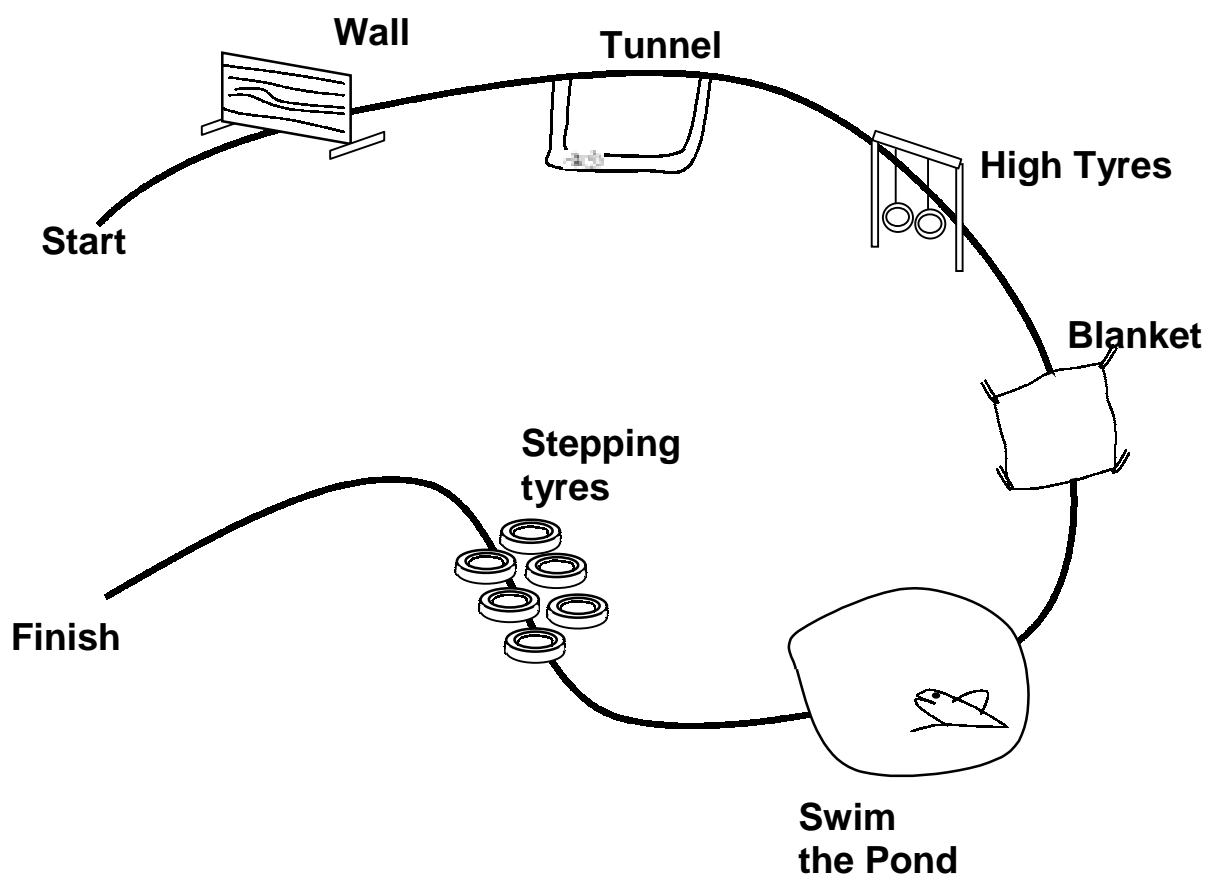
4. Here is a timetable for activities at a drama course for children.

Times	Group A	Group B	Group C
09:15 - 11:35	Make scenery	Rehearse	Make scenery
11:45 - 13:15	Rehearse	Fit costumes	Rehearse
14:10 - 16:35	Fit costumes	Make scenery	Apply makeup
17:20 - 20:00	Apply makeup	Apply makeup	Fit costumes
20:15 - 21:25	Perform	Perform	Perform

Answer the following questions:

- a. Which activity did Group C do between 14:10 and 16:35 ?
- b. What is Group A doing at 10:25 ?
- c. Which is the shortest session?
- d. For how much longer does Group B make scenery than Group C?
- e. How long is the performance?
- f. How long is the morning break?

The Maths Rats are demonstrating their new assault course.

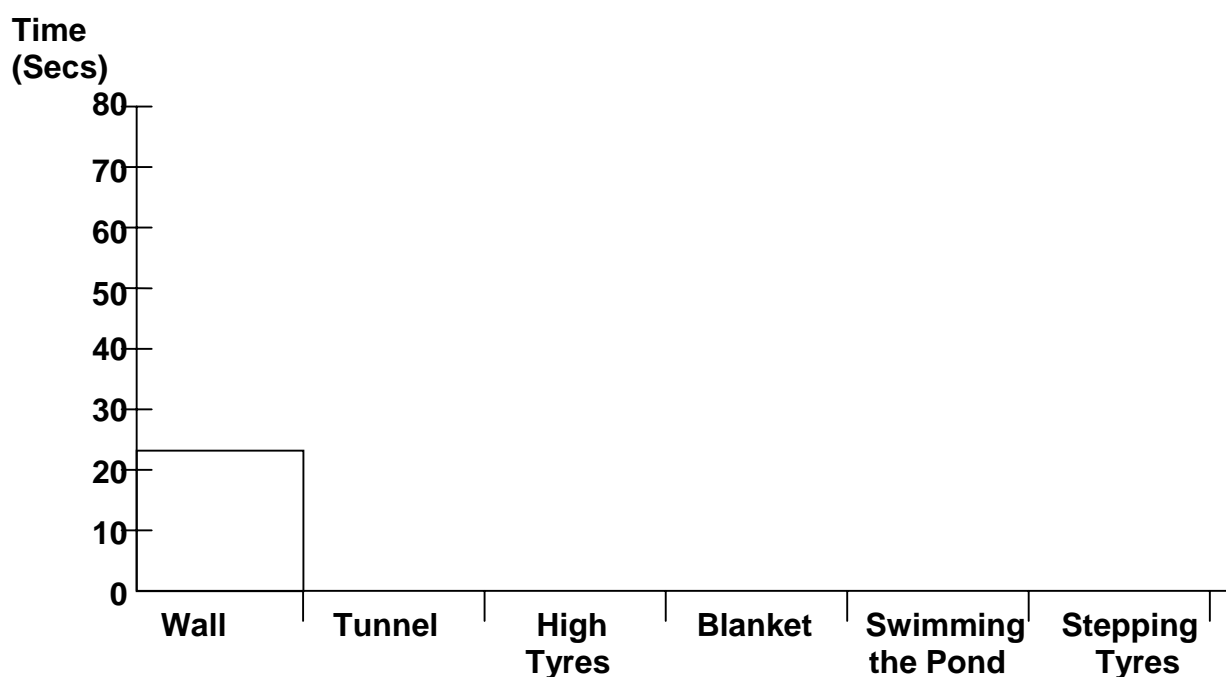


Here are the Maths Rats times (in seconds) at each obstacle:

	<b>Addy</b>	<b>Divvy</b>	<b>Multy</b>	<b>Subby</b>
Wall	25.2	37.5	23.9	22.8
Tunnel	67.3	55.8	53.7	62.9
High Tyres	45.9	46.8	51.1	43.7
Blanket	28.7	26.5	31.3	32.5
Swimming the Pond	73.9	78.3	67.4	74.8
Stepping Tyres	15.8	21.7	18.5	23.7

Answer the questions on the next page.

1. How long did Divvy take to get over the wall?
2. How long did Multy take to swim the pond?
3. What was the total time taken by each Maths Rat for the course?
4. Which rat had the best time and which the worst?  
What was the difference in these time?
5. What was the average time taken to get through the tunnel?
6. Put the times taken for the stepping tyres in order with the shortest first.
7. Put the times taken for swimming the pond in order with the longest first.
8. Put Subby's times for each obstacle on this block graph. The Wall time has been done for you.



One of these  
guys is a  
champ! →



**1. Here are the rules to decide if a year is a leap year or not:**

Normally a year is a leap year if its number is divisible by 4, but.....

it is **not** a leap year if it divisible by 100, unless .....

it is **also** divisible by 400 !

Which of these years will be or were leap years?

1980, 1986, 1950, 1900, 2000, 2400, 3000, 3444, 3560

**2. Copy and complete this rhyme:**

30 days hath September.....

**3. Here's a puzzle to finish with.**

A woman has a clock that strikes the number of hours every hour (e.g. it strikes four times at four o'clock). It also strikes once every half hour.

She goes into her house and as she opens the front door she hears the clock strike once.

Half an hour later it strikes again.

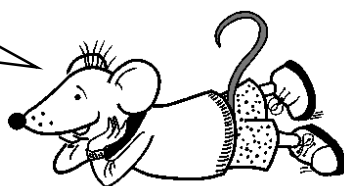
Half an hour later it strikes again.

Half an hour later it strikes again.

Half an hour later, just as she is going out of the door, she hears it strike once again.

What time was it as she entered the house and what time was it as she left again?

And, just in case you are wondering, there's nothing wrong with the clock!



**Answers****Page 3**

1. 12.30 p.m.

2.   1   2   3   4   5   6   7   8  
     2   4   6   8 10 12 14 163.   1           2           3           4           5           6           7           8  
     3m 15s   6m 30s   9m 45s   13m 00 s   16m 15s   19m 30s   22m 45s   26m 00s4. a. Netball   b. Trampolining   c. 17:50 to 19:35   d. 10 minutes  
   e. 4 hrs 25 mins   f. 50 mins**Page 4**

1. 20:35

2.   1           2           3           4           5           6           7           8  
     7.2   14.4   21.6   28.8   36.0   43.2   50.4   57.63.   1           2           3           4           5           6           7           8  
     5m 20s   10m 40s   16m 0s   21m 20 s   26m 40s   32m 00s   37m 20s   42m 40s4. a. Apply makeup   b. Making scenery   c. 20:15 to 21:25   d. 5 minutes  
   e. 1 hrs 10 mins   f. 10 mins**Page 6**

1. 37.5 secs   2. 67.4 secs

3. Addy 256.8s   Divvy 266.6s   Multy 245.9s   Subby 260.4s

4. Best: Multy   Worst: Divvy 20.7 secs   5. 59.925 seconds

6. 15.8s, 18.5s, 21.7s, 23.7s

7. 78.3s, 74.8s, 73.9s, 67.4s

8. Draw the graph

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1. 1980, 2000, 2400, 3444, 3560

2. Thirty days hath September, April, June and November.

All the rest have 31, except in February alone,

Which has but 28 days clear and 29 days in each leap year.

3. She arrived on the last stroke of 12 o'clock and left on the first stroke of 2 o'clock.