BLOOMSM4TH

Makes Maths Fun

Level 4

TIME

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

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BLOOMSM4TH Makes Maths Fun

Level 4

Time

Level 4 is designed for students in their fourth year at school often called Year 3. Students will read and record time in one-minute intervals and make comparisons between time units.

Knowledge: Students will read and record time to the nearest minute using digital, analogue and written notation.

Students who demonstrate proficiency in this activity move on to Comprehension.

STOP

Students stop here as they require additional teacher support to master this activity.

Comprehension: Students will use the poem "The Value of Time" to suggest new measures for each time segment.

Students who demonstrate proficiency in this activity move on to Application.

STOP

Students stop here if time has run out or they require additional support with this activity.

Application: Students will calculate whether we can ever be millionaires at The Time Bank.

Students who demonstrate proficiency in this activity move on to Analysis.

STOP

Students stop here if time has run out or they require additional support with this activity.

Analysis: Students will calculate a person's average life expectancy in hours, days, weeks and months.

Students who demonstrate proficiency in this activity move on to Synthesis.

STOP

Students stop here if time has run out or they require additional support with this activity.

Synthesis: Students will identify 10 activities and calculate how long they will spend on each activity over their lifetime.

Evaluation: Suggested questions provide a starting point for discussions related to Time.

Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.

All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

Name: _____

Knowledge

Each pair of clocks below should show the same time. Fill in the missing information so they match.

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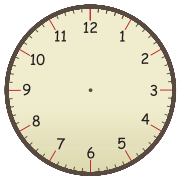
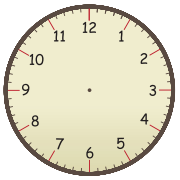
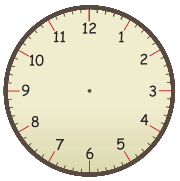
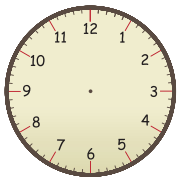
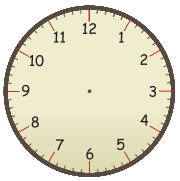
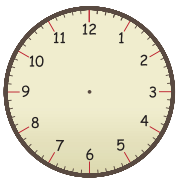
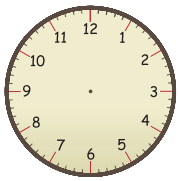
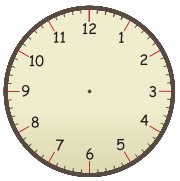
	8:00		6:49
	:		:
	:		5:20
	11:37		10:48
	:		:
	7 minutes before 10.		Quarter to 8.
	10 minutes before 3:30.		12 minutes past 2.

Let's Try This Again

Progress To Comprehension

Name: _____

Comprehension

Read the poem "The Value of Time" and then suggest new measures for each time segment.

The Value of Time

To realise the value of ten years, ask a teacher who just received long service leave.

To realise the value of one year, ask a student who has just completed their HSC.

To realise the value of nine months, ask a mother who just gave birth.

To realise the value of one month, ask the editor of a monthly magazine.

To realise the value of one week, ask a father who just spent their salary.

To realise the value of one hour, ask the student kept in over lunchtime.

To realise the value of one minute, ask a person who has just missed their train.

To realise the value of one second, ask the driver who survived a car crash.

To realise the value of one millisecond, ask the Olympian who won the silver medal.

To realise the value of ten years ask _____

To realise the value of one year ask _____

To realise the value of nine months ask _____

To realise the value of one month ask _____

To realise the value of one week ask _____

To realise the value of one hour ask _____

To realise the value of one minute ask _____

To realise the value of one second ask _____

To realise the value of one millisecond ask _____

Name: _____

Application

Read the information below and then work out if we can ever be millionaires at The Time Bank?

The Time Bank

Imagine there is a bank which credits your account each morning with $84,600. This account carries no balance from day to day, allows you to keep no credit and every evening cancels what ever part of the amount you were unable to spend during the day. What would you do? Draw out every cent and invest it wisely of course!

Well, everyone has such a bank account. It is called TIME. Every morning we are each credited with 84,600 seconds and every evening any time which has not been invested is written off or lost. There is no balance carried forward and no chance of saving for a rainy day. It is up to each person to invest their daily funds as wisely as possible.

In this analogy our lives are paralleled to an ever continuous yet none accumulating bank account. In our lives though there is a constant pressure to make lots of money and to save, save, save so that one day we might each be lucky enough to be a millionaire. We are bombarded with advertisements and competition prizes which would make us instant millionaires. Yet can we ever be millionaires at The Time Bank?

In the example it is shown that we each get 84,600 seconds per day but how many milliseconds is this? See if you can work it out below.

If you could accumulate time at the Time Bank and lived for 70 years. How much time would you have been given in total?

Name: _____

Analysis

In the application task you had to work out many seconds you would accumulate in 70 years. In this follow on task you will discover that if we could accumulate time we would all be multimillionaires in the time bank. The question is which currency would that be in? See if you can work it out below.

For each equations take 1,000,000 and divide it by the number of times that event occurs in 1 year. Ie. Fortnights. There are 26 fortnights in a year so

1,000,000 ÷ 26 = 38,461. A person would need to live for 38,461 years to live for 1 million fortnights.

How long does a person need to live to have lived for:

- A million months?
- A Million weeks?
- A Million days?
- A million hours?
- A million minutes?
- A million seconds?

In how many of these currencies are you already a millionaire or multimillionaire?

Name: _____

Synthesis

It is estimated that men live for an average of 70 years or 613,620 hours. Women live for 72 years or 631,152 hours.

Using this information choose 10 tasks that you do or will do and calculate how long you will spend doing each activity over your lifetime. Then order these more most time to least time to see where you will spend most of your life.

For example: If you are a girl and you chose "attend school". You do this for 13 years (not including university), 6 hours a day, for about 200 days a year.
So 13 x 6 x 200 = 15,600 hours 15600 ÷ 631152 x 100 = approximately 2.5% of your life will be spent at school.

Task	Hours per day Doing this Task	Times per year you do this task	Years spent doing this Task	Total hours	Total Hours ÷ hours in your life x 100	Most time (1) to Least time (10).

Let's Try This Again

Progress To Evaluation

Evaluation

The following questions and activities are provided as a starting point for fun discussions related to Time. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Time activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.

Compare the student's findings for the Synthesis activity. Which task did they expect to spent the most time on in their lifetime - was it sleeping or working?

How much time do they think that they will spend learning and does this ever stop?

How much time did they give themselves for eating over their lifetime?

Which activities could be combined to get more bang for their time buck ie. listening to an informative audio book / learning and exercise. Watching an informative TV show / relaxing and eating dinner.

Discuss the times students chose for the Comprehension activity "The Value of Time" and why they chose the values they chose.