

A close-up photograph of several green fern fronds. The fronds are long and feathery, with many small, pointed leaflets. They are set against a dark, blurred background, which makes the green color of the ferns stand out. The lighting is soft, highlighting the texture of the leaflets.

**RICH MATHEMATICAL TASK BOOKLET**

# **MEASUREMENT TIME**

**YEAR 7-8 ODD YEARS**

**Copy Masters**

*Year 7-8 Copy Masters: Time Measurement: ODD YEARS*

**Task 1**

What can you do in a minute? Ten seconds? Thirty seconds? Five minutes?

Work with a buddy and make a table. Record five things you think you can do for the duration of each of the times.

After you have recorded a set use a stopwatch to test out how accurate you were with your prediction. Re-record and repeat each activity until you are almost accurate with your prediction.

**Task 1 (independent)**

How many minutes are there between each hour on an analogue clock? Make a number line of an analogue clock which shows from 6 A.M. to 11 A.M. Make sure you put all the markings in between. Record what the markings mean and then record the number they represent. What do you notice?

Use your timeline to show the activities you do between 8 and 9 o'clock on a school morning.

**Task 2**

With your group record 8 things you all do over 24 hours.

Record what time you start and finish each of these things in hours and minutes on a 24-hour clock. Record the duration of each of these things.

Now make a timeline which shows the start and finish and duration of each of these activities.

Match the start and finish time with what they would look like on an analogue clock.

**Task 2 (independent)**

Create a timeline for these birthdays

- 18 December 2011
- 29 October 2010
- 13 March 2011
- 17 February 2010
- 30 June 2010
- 27 June 2011
- 18 March 2010

What is the difference in time between your first date on the timeline and the mid-point date?

What is the difference in time between your first and last dates in months and days?

**Task 3**

Represent your answers on both an analogue clock and a 24-hour clock.

1. Our umukai was put down seven and a quarter hours ago. If it is 12.15 P.M now, what time was it put down? It needs another four and a half hours to finish cooking. What time will it be lifted?
2. If the umukai was put down at 4:45, what time would it be lifted if it needs 11 and a half hours to cook?
3. If the women started preparing all the other food for the umukai at 9:55 the previous day and finished preparing it at 18.17, how long had the preparation taken?

**Task 3 (independent)**

Every year our school has a fiafia night.

If it starts at 5.45 P.M. and goes for 2 hours and 22 minutes. What time does it end?

At the school down the road their fiafia night starts at 18.55 and goes until 20.17.

Which school has a longer fiafia night?

**Task 4**

Losi needs to accompany her Nan to the Hastings hospital for an appointment. They are going to take the bus from Flaxmere. The closest stop is opposite 292 Flaxmere Avenue.

The Hospital appointment is at 10.30 and should take about an hour. Nan has said that they can then go to Kmart at Bay Plaza as a thank you for helping out today. They will also have some lunch at Bay Plaza and then go home to Flaxmere.

Using the bus timetable, create a plan for Losi and her Nan showing where and what time they need to catch the bus at each stop and what time they will get home. Show how long they will spend at the hospital and at Bay Plaza.



## Year 7-8 Copy Masters: Time Measurement: ODD YEARS

### Task 4 (resource)

Hastings Library, Eastbourne Street	7:45 am	8:15 am	9:05 am	9:35 am	10:05 am	10:35 am	11:05 am	11:35 am	12:05 pm	1:05 pm	1:35 pm	2:05 pm	2:35 pm	3:05 pm	3:27 pm
Outside Hawke's Bay Hospital, Omahu Road	7:50 am	8:20 am	9:10 am	9:40 am	10:10 am	10:40 am	11:10 am	11:40 am	12:10 pm	1:10 pm	1:40 pm	2:10 pm	2:40 pm	3:10 pm	3:27 pm
Opposite 10 Wilson Road	7:55 am	8:25 am	9:15 am	9:45 am	10:15 am	10:45 am	11:15 am	11:45 am	12:15 pm	1:15 pm	1:45 pm	2:15 pm	2:45 pm	3:15 pm	3:27 pm
Opposite Police Station, Swansea Road	7:58 am	8:28 am	9:18 am	9:48 am	10:18 am	10:48 am	11:18 am	11:48 am	12:18 pm	1:18 pm	1:48 pm	2:18 pm	2:48 pm	3:18 pm	3:27 pm
Opposite 292 Flaxmere Avenue	8:01 am	8:31 am	9:21 am	9:51 am	10:21 am	10:51 am	11:21 am	11:51 am	12:21 pm	1:21 pm	1:51 pm	2:21 pm	2:51 pm	3:21 pm	3:27 pm
24 Bangor Street	8:03 am	8:33 am	9:23 am	9:53 am	10:23 am	10:53 am	11:23 am	11:53 am	12:23 pm	1:23 pm	1:53 pm	2:23 pm	2:53 pm	3:23 pm	3:27 pm
Opposite Service Station, Village	8:15 am	8:45 am	9:35 am	10:05 am	10:35 am	11:05 am	11:35 am	12:05 pm	12:35 pm	1:35 pm	2:05 pm	2:35 pm	3:05 pm	3:27 pm	3:27 pm
82 Folkestone Drive	8:16 am	8:46 am	9:36 am	10:06 am	10:36 am	11:06 am	11:36 am	12:06 pm	12:36 pm	1:36 pm	2:06 pm	2:36 pm	3:06 pm	3:27 pm	3:27 pm
325 Omahu Road, opposite Hawke's Bay Hospital	8:20 am	8:50 am	9:40 am	10:10 am	10:40 am	11:10 am	11:40 am	12:10 pm	12:40 pm	1:40 pm	2:10 pm	2:40 pm	3:10 pm	3:27 pm	3:27 pm
KFC, Heretaunga Street	8:22 am	8:52 am	9:42 am	10:12 am	10:42 am	11:12 am	11:42 am	12:12 pm	12:42 pm	1:42 pm	2:12 pm	2:42 pm	3:12 pm	3:27 pm	3:27 pm
Bay Plaza, Russell St	8:30 am	9:00 am	9:50 am	10:20 am	10:50 am	11:20 am	11:50 am	12:20 pm	12:50 pm	1:50 pm	2:20 pm	2:50 pm	3:20 pm	3:27 pm	3:27 pm
Opposite the Warehouse, Karamu Road	8:32 am	9:02 am	9:52 am	10:22 am	10:52 am	11:22 am	11:52 am	12:22 pm	12:52 pm	1:52 pm	2:22 pm	2:52 pm	3:22 pm	3:27 pm	3:27 pm
Hastings Library Eastbourne Street	8:37 am	9:07 am	9:57 am	10:27 am	10:57 am	11:27 am	11:57 am	12:27 pm	12:57 pm	1:57 pm	2:27 pm	2:57 pm	3:27 pm	3:27 pm	3:27 pm

**Task 4 (independent)**

Using the Flaxmere / Hastings bus timetable, plan your own adventure day. Remember to include what time you get on the bus and how long you will be at each stop.

**Task 5**

Parveen and her family are going to Fiji to have a holiday with their family.

They have two choices of flights.

Air New Zealand departs 12.55 and takes 3.1 hours.

Fiji Airways departs 11.35 and takes 3.2 hours.

Fiji is one hour behind NZ and the distance between Fiji and NZ is 2151 kms. The flying speed on average is 804.67 km per hour.

1. What time would they land in Fiji if they take either flight?
2. If they travelled at a constant flying speed of 804.67 km per hour, what time would they land on either flight?
3. What is the time difference between your answer to the first and second question?
4. Can you explain why the flight takes longer than their average flying speed?

**Task 5 (independent)**

After school Jessica watched three television shows.

The first started at 3:12 and went for three quarters of an hour. The next went from 4:03 and finished at 4:40 and the last one started at 5:07 and ran for seven minutes short of an hour.

How much television did she watch?

What time did she finish watching television?

*Year 7-8 Copy Masters: Time Measurement: ODD YEARS***Task 6**

In the Year 8 Girls 100m sprint finals, Mikayla had a winning time of 14.58 seconds.







Third place was Cara who had a time of 14.68 seconds.

Annah came second but wasn't sure of her time.

What are 12 different times Annah could have run the 100m to win second place?

*Year 7-8 Copy Masters: Time Measurement: ODD YEARS***Task 6 (independent)**

These are the race results from a Formula 1 race. How long did Lando Norris and Charles Leclerc take to complete the race?

POS.	NO.	DRIVER	TEAM	LAPS	TIME / RETIRED
1	1	 Max Verstappen	 Red Bull Racing	56	1:34:00.161
2	4	 Lando Norris	 McLaren	56	+7.959s
3	16	 Charles Leclerc	 Ferrari	56	+15.373s

**Task 7**

What is the time difference?

- You get up at 6.16 A.M. and you go to bed at 9.05 P.M?
- You go to the library at 12:47 and you leave it at 13: 25?
- You have dinner at 6.39 P.M., and you clear the table at 19:21?
- You go to bed at a quarter to 10 and wake up at 8:01?
- This month is November 2025. Covid began in January 2020?
- You were born in 2012, your mother was born in 1986, and your nana was born in 1961 and great grandmother was born in 1933?
- This is 2025. The first Olympic games were believed to have begun 2800 years?
- The next Winter Olympics are in 2026. The first Winter Olympics were held in 1924. How many decades ago was that?
- My family all live in New Zealand, but my grandparents left Niue to live in New Zealand 5 and a quarter decades ago?
- Abel Tasman was the first of the European explorers to visit New Zealand. He arrived almost 3 and a half centuries ago. If we are in 2022, when did he first come to New Zealand?

**Task 7 (independent)**

Aotearoa has a sad history shown in the Land Wars which took place in the 18th Century.

Make a timeline beginning with the first events in the Land Wars in Wairau and include in your timeline the events in the Northern War, Wellington, and Whanganui.

What was the duration of time from the first event to the last event across the timeline?

What other lengths of time can you notice across your timeline. Record at least five of these.

<http://newzealandwars.co.nz/land-wars-timeline/full-timeline/>



**Task 8**

Use the Air New Zealand flight chart to plan a return trip to Tonga and back for you and your family. The distance to fly from New Zealand to Tonga is 2383 km. The flight to Tonga takes approximately 2 hours and 55 minutes. The back from Tonga takes approximately 3 hours and 15 minutes.

Choose a day to travel on and a day to return.

Make a timeline which shows in both analogue and on a 24-hour clock the flight to Tonga and the flight back to New Zealand. Include on the timeline the distance you have travelled:

The time you need to be at the Airport to check in.

The time you need to be in the departure lounge ready for boarding.

The time you would board before take-off.

The time the meal is served a quarter of the way through the flight.

The time you have to get ready for landing after you have completed 5/6 of the flight.

The landing time.

The time it takes to get through immigration and collect your luggage.

Write some statements you can make from your timeline.

**Task 8 (independent)**

What is the time difference?

1. You get up at 6.16 A.M. and you go to bed at 9.25 P.M?
2. You start playing tag at 12:52 and you stop at 13: 25?
3. You have dinner at 6.39 P.M., and you do the dishes at 19:21?
4. You go to bed at a quarter to 9 and wake up at 7:01?
5. This month is May 2022. Covid began in January 2020?
6. I was born in 2013 my nana was born in 1947 and my great grandmother was born in 1925?
7. Queen Elizabeth the 2<sup>nd</sup> died in 2022. Her predecessor Queen Elizabeth the 1<sup>st</sup> died in 1663?
8. It is February. We had our Kapa Haka competition in April last year?
9. My family all live in New Zealand but my grandparents left Samoa to live in New Zealand 3 and a quarter decades ago?
10. Abel Tasman was the first of the European explorers to visit New Zealand. He arrived almost 6 and a half centuries ago. If we are in 2022, when did he first come to New Zealand?

**Task 9**

Is Strickland, right?

He says that if the time has a 4 in it, it must be 4 o'clock in the afternoon.

Don agrees with him, and he says he has a way of proving it. What might he say?

Generosa disagrees with him, and she says she can give lots of times it might also be. What times might she use to justify her disagreement?

**Task 9 (independent)**

Maria has dance class at 4.15pm every Wednesday. She takes 17 minutes to walk to class from home. What time must she leave home to get to dance class?

George runs around the block 3 times every evening. The first lap takes him 9 minutes. The second lap takes him 11 minutes. The final lap takes him 15 minutes. How much time does it take for George to complete his 3 laps?

**Task 10**

Villiami and Tevita live in different villages.

Both villages are 9 kilometres away from the nearest market.

Villiami rides his bike at 6 kilometres per hour and Tevita rides his at 4 kilometres an hour.

They both want to arrive at the market at exactly noon.  
What time should each of them start riding?