Work Program for B2FMaths@Home   Week 5   Year 2

Contents – click on the link below

How to use this work program

Accessing the online resources

To access the online resources, please go to: https://www.backtofrontmaths.com.au/b2fmathshome

Running the program each week

Each week is designed with five maths lessons so that you can do it each day. Different days have different types of lessons to make sure that students experience the kind of thinking that they need to continue growing in maths. The types of lessons include:

- **At-home investigation:** This is a hands-on task where students explore a new idea before they are taught that skill. They need to come up with an idea to try to solve the problem, try out their idea, decide if it worked or not, try again if needed, and explain what they did.
  If your child has time with your teacher with a webcam, the teacher will generally be doing this lesson with your child. This is the lesson that will require the heaviest input from you to help your child think through an idea and generally requires the use of some hands-on materials that are listed in the information page.
- **Connecting lesson:** This type of lesson has questions that lead students to develop their ideas and learn a new skill. It should be fairly easy for a student to do, but you will need to be available to read the question to your child as needed, encourage them to think further, and make sure that they complete the work. Most of these lessons will include 10 minutes of practising number operations or concepts through activities or games.
- **Interleaved practise lesson:** This type of lesson provides 8-10 questions from different areas of maths so that students practise remembering what they have previously been taught. Some of the questions may not be easy for your child, so feel free to help whenever you see them struggling.
- **Number practice:** This lesson contains games and number tasks to do regularly with your child. Number is the most important concept to establish in Foundation, so we will be using similar activities each week to help your child develop a very firm understanding of "how many", to be able to picture that amount in their head, and to be able to add and subtract small amounts very flexibly. **These sessions will not focus heavily on counting, as counting is far less important than making amounts, drawing those amounts and recognising that the amount is still the same when the objects move.**

Getting help

The website above will have answers to frequently asked questions as well as videos to help you successfully teach your child at home. If you have further questions or need support, please contact your child's teacher directly using the contact details that they have provided to you. If they can't answer your questions, they will contact the B2FMaths@Home team directly to get an answer within 3 days.

What you need to know this week

Week overview

This week we are teaching the concept of time. In the early years we are considering sequence and time of the day (morning, midday, afternoon, night), time duration, and for Years 1-3 telling the time with clocks. Many familiar social contexts use time references that are not always accurate (e.g. "Wait a minute" and "In a second") or use non-standard terms for duration (e.g. "I've been waiting for ages"). Distinction will need to be drawn between these social contexts and more formal situations. Discussion of time concepts can include an outline of the planned activities for the day, the order in which they usually occur and discussion of upcoming events including how long students have to wait until they happen and what days they are scheduled for.

Students need to work out:

Time duration:

- Some words help us to understand how long something will take (e.g. 'day', 'week', 'month', 'year' or parts of days including 'morning', 'afternoon', 'evening', 'night') or how long it will be until an event occurs (e.g. 'soon', 'later')
- Durations can be compared using words such as 'longer' and 'shorter'. *We need children in Year 2 to explain time duration in 15 minute intervals.*
- Durations can be directly compared only if the activities you are timing begin at the same time (e.g. the time it takes for different people to walk a prescribed distance).
- Familiar durations can be used to estimate and/or measure how long something will take (e.g. the duration of a favourite television show can be used to gain an idea of how long something will take "It will take the same amount of time as Play School to drive to Grandma's")

Sequence and time of day:

- There are words we use to indicate points in time (e.g. 'today', 'yesterday', 'tomorrow', 'morning', 'afternoon', 'night', names of the days of the week, 'week', 'weekend'). *We need children in Year 2 to tell the time on analogue and digital clocks to the 15 minute mark.*
- There are words we use to indicate order and that can be applied to events (e.g. 'before', 'after', 'next', 'early', 'earlier', 'late', 'later')
- Familiar events can be sequenced according to when they usually occur.
- Familiar events are made up of components which usually happen in a predictable sequence.
- Timetables and calendars help us to record when events will occur.

You will need the following objects:

- Printed out cards showing events (included)
- Access to a 1 minute timer (e.g. the stopwatch function on a phone)
- A paper plate or cut out paper circle, and something to act as an hour hand (e.g. pipe cleaner, Lego block, stick) for lesson 2

Monday: At-Home Investigation

You will need:
- A copy of the pictures from the page, cut into cards to sort out
- Something to time activities with (e.g. stop watch function on your phone)

Steps:
1. Make sure you have read "What you need to know this week" so that you know what to emphasise with your child.
2. Read the sheet to your child. Ask for their ideas on which activities might take the longest time and which would be the quickest. Discuss any ideas that they might have about time, including thinking about how to work out which activities would be quick and which would take more time.
3. Ask your child to choose 5 activities to do today. Choose another 5 for later in the week. We have tried to suggest activities that would encourage helping around the house as well as including normal weekly tasks.
4. Time each task and ask your child to explain whether the time spent was 'longer', 'shorter', or 'about the same' as an hour or half hour. Explaining durations of time with reference to whole and quarter hours (15 minutes) is an important part of achieving the "C" standard. Feel free to do the writing for your child and record the numbers.
5. Discuss **when** you could do each task, making sure to refer to days of the week and times of day using the vocabulary from the "Students need to work out" section.
6. Discuss what your child found out with them. Keep in mind the ideas from the "What you need to know this week" section so that you can ask questions that are appropriate to the issues identified.

At-Home Investigation

Some activities take a long time and some are very short. Look at the pictures and decide which activities will take the most time and which ones will be the quickest.

Pick 5 activities to do today, and 5 more to do later this week from the pictures.
Time how long they take and record your findings below.
Write the activities you completed here in order from shortest to longest amount of time. Describe what you found. Record the time that you spent on each activity.

Less than a quarter of an hour	About half an hour
About three quarters of an hour	**One hour or longer**

sleeping	**writing a story**	**combing hair**	**brushing teeth**
Watching one tv show	**eating breakfast**	**drinking milk**	**cooking with my family**
setting the table	**tidying up**	**making the bed**	**riding a bike**
running around outside	**doing a puzzle**	**playing a game**	**reading a book**

For free use in 2020 during the virus pandemic

Tuesday: Connecting Lesson

Number focus: *relative size with collections*   15-20 minutes
You will need: 5 ziplock bags or see-through containers, 50 small items to fit in the bags/containers, a way of labelling the bag/container (e.g. masking tape and a pen to write with)

1. Show your child the items and ask them to put 15 in one bag/container. Write 15 on the label.
   a. If your child cannot collect 15, try 10.
2. Ask your child to collect 'more than 15' in a second container. Ask your child how many they have collected and record the amount on the label. Please note, you might have to count the items with your child to make sure.
3. Ask your child to collect 'less than 15' in a third container. Repeat the labelling process.
4. Repeat the process by asking your child to make 'more than ___' or 'less than ____' until you have at 5 different amounts.
5. Find a line that stretches across your floor (e.g. the length of one wall). Place the smallest amount at one end and the largest at the other end.
6. Ask your child to organise the remaining containers from the smallest amount to the largest amount, thinking about how large they are compared to one another. For example, if your gap stretches from 6 to 20, the mid-point would be 13.

Worksheet task: 20 minutes

Please note: your child might need up to 10 attempts to write the numbers correctly on the clock face. Let them try quite a few times before intervening as they will be able to tell the time more easily if they construct a clock by themselves. *You should allow extra time for this part of the task.*

In this task your child will explore how a clock is structured (writing the numbers on the face) and telling the time to the half hour using only the hour hand. While it might seem strange to ignore the minute hand, we find that it is much easier to teach telling the time with the hour hand to start with, then reintroduce the minute hand when they are confident. Check out the video online for more information as needed.

As many children struggle to read analogue clocks, we are going to start just by looking at the hour hand and how it moves. The idea is to figure out that over the course of one hour, the hour hand moves between 2 numbers on the clock (e.g. between the 5 and the 6). By looking at how close the hour hand is to those numbers we can figure out roughly what the time is.

For this activity, your child needs to determine if the hour hand is showing "o'clock" (pointing exactly at a number) or "half-past" (pointing half way between 2 numbers). If possible, please also explore pointing somewhere that is not exactly half way or exactly on a number. This will allow for discussions such as, "the hour hand is a little bit past the 3, so it must be a bit after 3:00", "the hour hand is almost at the 4, so it must be almost 4:00".
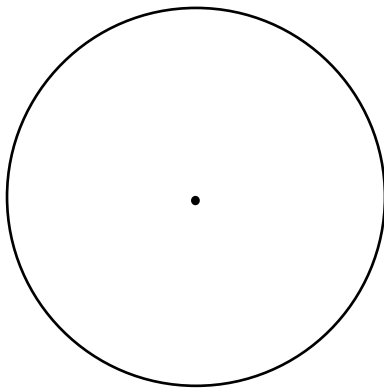
Connecting the hour hand

How a clock works
Draw the numbers on this clock face.
You might need to try a few times, so use a pencil.
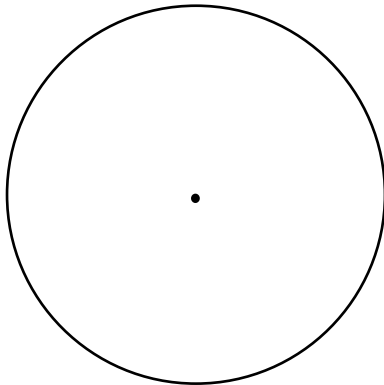Draw where the **hour hand** would point for 3:00.
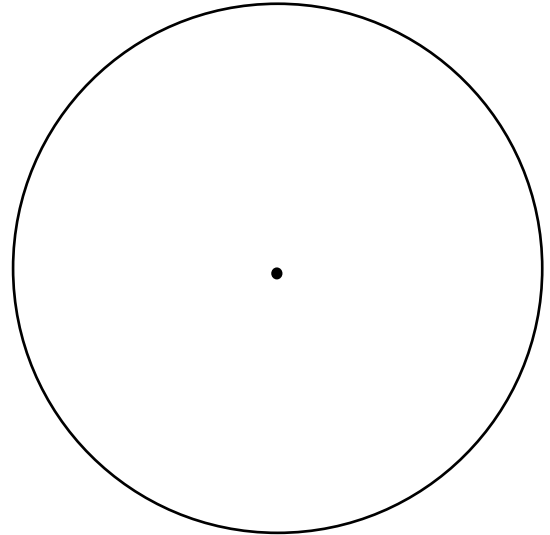
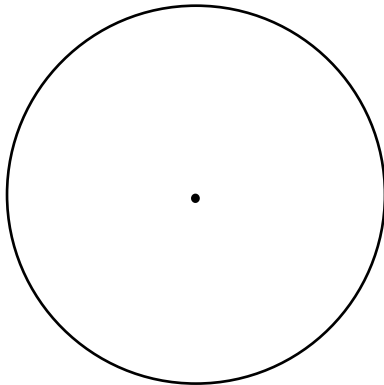**How will the hour hand move to get to 4 o'clock?**
Think about this then answer the following questions:

Where might the **hour hand point** when it was half-past 3? How could you work it out?
Draw on the hour hand and explain what you did.

Where might the **hour hand** point when it was a quarter-past 5?
Draw on the hour hand and explain what you did.

Where might the **hour hand** point when it was a quarter to 7?
Draw on the hour hand and explain what you did.

If you understand how the minute hand works, you can also add that on.

For free use in 2020 during the virus pandemic   www.backtofrontmaths.com.auv

Wednesday: Number focus and Connecting Lesson

Comparing amounts to 20   **<u>This task is repeated from last week</u>**
You will need: Up to 20 small items (e.g. spoons, toy cars, buttons, balls of paper, toothpicks) and a copy of the 20 frames sheets to put the objects in.

Make to 20:
Ask your child to collect 15 objects and place them in the tens frames pictured. Ask them how many spaces are left. State this as a sentence to model the idea, "15 objects and 5 spaces makes our 20". Have your child colour in the squares on the tens frame and fill in the numbers.
1. Next, ask your child to place some objects in while you look away. Look back and state the amount of objects and spaces out of 20. Swap roles, so that you put the objects in and they state how many objects and spaces there are. Your child should still do the colouring and writing.
2. Ask your child what other numbers you could make that haven't been used yet. Continue until you have found them all.
3. Display your picture somewhere in the house so that your child regularly sees the pairs of numbers that make twenty.

Teen numbers are particularly important for children to understand by the end of early primary, so a heavy focus on them is appropriate.

Worksheet Task:
In this lesson children work on telling time on analogue clocks to the quarter hour. If your child has already mastered clocks, you can use the time to practice addition and subtraction instead.

If your child struggled in the task yesterday, use that as a discussion starter before trying today's task. There is a video online to offer additional help on teaching time.

## Number focus worksheet: making 20

[ ] objects and [ ] spaces makes [ ]

[ ] objects and [ ] spaces makes [ ]

[ ] objects and [ ] spaces makes [ ]

[ ] objects and [ ] spaces makes [ ]

For free use in 2020 during the virus pandemic   www.backtofrontmaths.com.auv

| Work out how many minutes are in the following fractions of an hour. |

1. Draw the **minute hand** on the clock below to show the start of an hour. How many minutes are there in an hour?
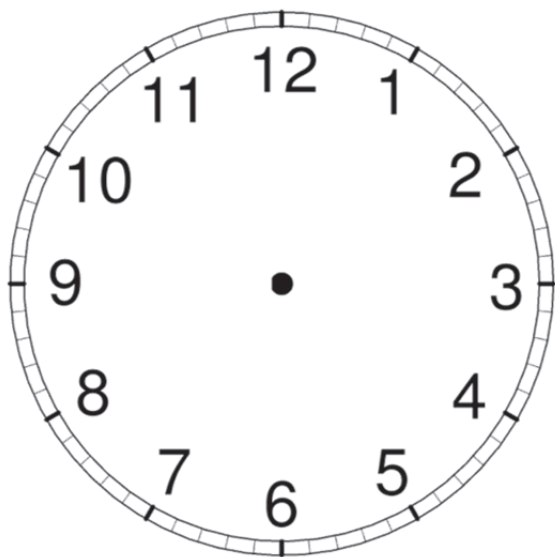
2. Now draw in the hand to show half an hour. How many minutes would there be in half an hour?

3. Now draw in the hand to show quarter of an hour. How many minutes would there be in quarter of an hour?

4. Now draw in the hand to show when there is a 'quarter to' the next hour. How many minutes would have passed altogether to get to that point?

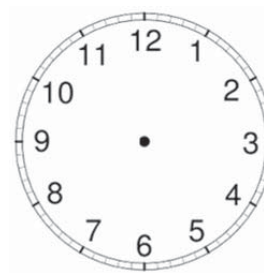Draw in the following times on the following clocks:
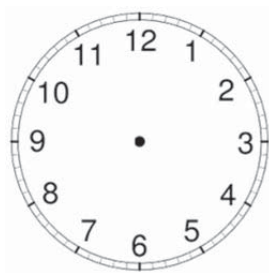
half past
seven
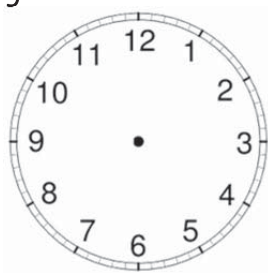
quarter past
nine
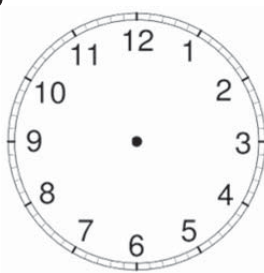
quarter to
five

quarter to
twelve

BACKWARDS QUESTION:
A father needed to get to school at 2:45 to pick up his children. He needed to allow half an hour for the traffic. What time did he need to leave home? Explain:

Thursday: Interleaved Practice Questions

Why we are using mixed up questions:
In this lesson your child will be reviewing a range of skills that they have learned previously. Each question is unrelated to the previous question, because we want your child to have to *think hard* about what to do. Mixing up questions like this, rather than just practising related questions, has been shown in research to improve student retention of concepts by 60% over a 4 month period.

What to expect:
Your child will probably have forgotten how to complete quite a few of the questions. If needed, change the numbers in each question to make them easier because this will still require your child to think hard and remember a process. If they still can't work it out, feel free to show them, but try using different numbers rather than the exact same question. There are answers to each question on the website in case you get stuck.

Time worksheet:

An additional practice sheet for time has been provided to reinforce what we have been learning. On Friday we have 2 tasks on time to do, and you will need to pick which one to use with your child, so please use this sheet to practise skills and to help you decide which task to choose tomorrow.

Interleaved practice

Number:

1. Draw 16 counters arranged as a square, then again as a rectangle.

2. One flower had 32 petals. Another had 18. How many more petals did the first flower have?

3. What number comes before 110?

Measurement/Geometry:

4. How many handprints long is your bath or shower? Measure it and record your answer.

5. Draw a clock to show a quarter-to 5.

6. Draw a shape with 6 sides, where the sides are not all the same length. What is it called?

Chance/Data:

7. What are 3 things that you think will happen tomorrow? How likely are they?

Time Practice

Some activities can be done anytime. Some are done at specific times. Write the time shown on the clock and list 3 activities in each box that you would do at that time. Draw a picture of one of them.
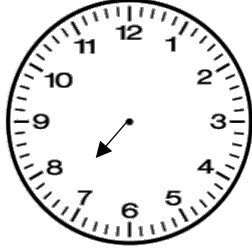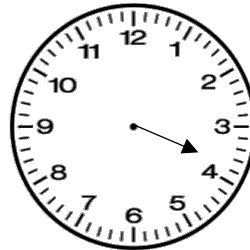
Night
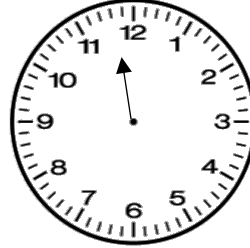
Day
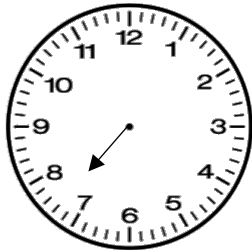
Morning

Afternoon

Friday: Connecting and Generalising Lesson

This week we have provided two worksheets on time. You will need to choose which sheet to use.

- The first is to be used if your child is still struggling with telling the time on analogue clocks to the quarter hour.
- The second is an extension task if your child has mastered telling the time and is ready for a challenge.

Please make sure that you let your child's teacher know which worksheet you are using.

Friday: Connecting and Generalising Lesson

Problem 27: Elapsed time

Lachlan is planning a party for next Saturday.
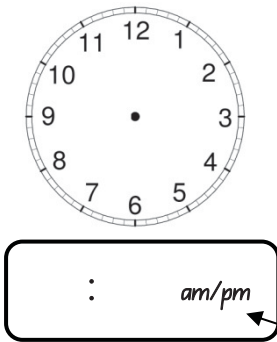
The party will start at 11 o'clock in the morning. What will these clocks look like when the party starts?
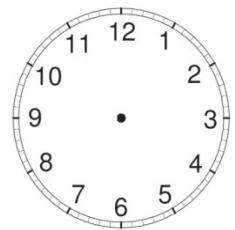
: am/pm

✏ Draw the hands on the clock face and the numbers on the digital clock.
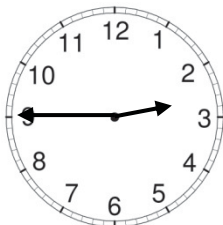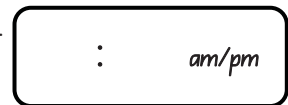
✏ Draw a circle around am or pm.

Lachlan plans to wait for a quarter of an hour for everyone to arrive and then play games for an hour. What time will the games finish?

✏ Draw the hands on the clock face and the numbers on the digital clock to show what time the games will finish. Show whether it will be **am** or **pm**.

: am/pm

Lachlan's party will finish at the time shown on the clocks.

✍ Is this before or after 3:00?

✍ What time is it?

✍ How long will the party go for?

Problem solving:

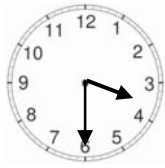Teacher initials:
Date:

Student solved the problem with:
○ Minimal help
○ Some prompting
○ Solved after explanation
○ Did not work out a solution by themselves
○ N/A – not a novel problem
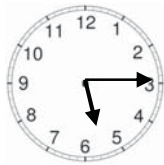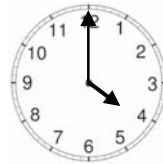
Peer Assessment

Name:

Manipulation problem

Bella got home from school at

✍

How long did it take for Bella to eat, do her homework and play?

☞ or ✍ Show how you worked it out.

She had afternoon tea until

✍

Bella did her homework and then played until

✍

Bella goes to bed at 7:45pm. How much time is left before bedtime?

☞ or ✍ Show how you worked it out.

Backwards question

Bella's school concert went for 2 hours and finished at half past 8. She arrived at the concert a quarter hour before the concert started.

What time did Bella arrive at the concert?

☞ or ✍ Show how you worked it out.