

# Work Program for B2FMaths@Home Week 5 Foundation

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Week overview

Students need to work out:

We are also hoping that students will learn the following aspects of number:

You will need the following objects:

Monday: At-Home Investigation

Tuesday: Connecting Lesson

Wednesday: Number focus

Thursday: Interleaved Practice Questions

Friday: Extension and Generalising Lesson

## 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’.
- 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’)
- 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.

### We are also hoping that students will learn the following aspects of number:

- Quantity: The idea of “how many” each number represents. This is very different to counting. This will be focusing on making and ordering collections:
  - Collecting or making a quantity: Try asking your child to collect a certain number of objects (6 spoons, 8 pencils, 12 cards...). Do this as often as you can, in as many circumstances as you can (e.g. setting out the cups for dinner).
  - Ordering quantities from smallest to largest

### 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)

## Teacher Overview

Students will be thinking about time duration, sequencing and telling the time. Time is a particularly difficult concept to teach, so it makes sense to teach it regularly and build in activities that help students develop a sense of time. This week in Foundation we are focusing on recording duration of events and ordering them. In years 1-3 we will be learning to tell the time with just the hour hand before introducing the minute hand.

Students need experience in time in different ways. This includes sequencing activities or events, experiencing the duration of events, developing comparison points and developing appropriate vocabulary to describe time.

- Students need to develop an appropriate vocabulary to describe time duration, sequence and times of the day. See the “students need to work out” section for good terms to use.
- Students need to experience time duration and pay attention to length of time to develop estimation skills
- Students from Years 1-3 should also develop familiarity with clocks and calendars as well as time tables and schedules

While it is commonly understood that telling the time with analogue clocks is difficult to teach, you will also need to **watch out for students who:**

- have difficulty naming, describing and ordering routine daily activities
- have difficulty using or interpreting common words that describe duration
- do not yet understand vocabulary associated with points in time
- do not yet know or may confuse the order in which the days occur
- have an unrealistic idea of how long activities will take and how many can be engaged in during a specified time

## What to emphasise

### If you have time online with a webcam

Discuss the at-home investigation on keeping a diary of events and their duration. Use the pictures provided to order and sequence events and to discuss whether each event is a ‘long time’ or ‘short time’. Try to use vocabulary of times of the day and days of the week with children.

Check that the parents understand how the number games for the week work and make sure that you ask the student if they have played them yet.

### If you have only email or phone contact

Check that parents have read the “What you need to know this week” section. Check that they understand the importance of using the number tasks and interleaving sheet so that students retain what they have learned and think regularly about number.

## Tracking student achievement

Check if students can:

- Connect events and days of the week (**M4C**), and explain the order and duration of events (**M5C**)
- If they can connect multiple events within a week to their days (**M4A**) and explain duration in half hours what would be the A standard (**M5A**)

## 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 3 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 ‘long’, ‘short’, or ‘about the same’. Feel free to do the writing for your child and record the numbers. One idea is to put the activities into categories (e.g. less than 5 minutes, 5-15 minutes, about half an hour, about an hour, or longer than an hour).
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 3 more to do later this week from the pictures.**

**Time how long they take.**

What did you find?

Glue the pictures here in order from shortest to longest amount of time. Describe what you found.

<p><b>sleeping</b></p> 	<p><b>dressing</b></p> 	<p><b>combing hair</b></p> 	<p><b>brushing teeth</b></p> 
<p><b>tying shoelaces</b></p> 	<p><b>eating breakfast</b></p> 	<p><b>drinking milk</b></p> 	<p><b>cooking</b></p> 
<p><b>setting the table</b></p> 	<p><b>tidying up</b></p> 	<p><b>making the bed</b></p> 	<p><b>kicking a ball</b></p> 
<p><b>running</b></p> 	<p><b>doing a puzzle</b></p> 	<p><b>playing a game</b></p> 	<p><b>reading a book</b></p> 

## Teacher Overview

This is a ***Problem Solving and Reasoning*** task.

The emphasis is on *investigating* time duration and discussing the *similarities, differences* and *patterns* or *characteristics*. We want students to explore and experience different length durations and to build reference points for discussing time. There is also an emphasis on *generalising*.

If you have webcam time with children, discuss which activities they are going to do and how long they think each will take. What are they planning to do to measure the time duration? How will they record what they find?

**Please make sure to read the Teacher Concerns for this week, particularly the section on what to watch out for.**

### Good questions to prompt thinking:

- How long is a long time?
- How do you know it is a long time?
- How long is a short time?
- Is \_\_\_\_\_ a long time or a short time?
- Can you hop on one foot for a long time? How long?
- If Mum says that dinner will be ready in a minute, does she mean a long time or a short time?
- How long is a day? How do we know a whole day has gone by?
- Is there something longer than a day? How long is that?
- Repeat until students have exhausted their ideas or your suggestions (e.g. "Have you ever heard of a year?" "How long is a year?" "How will you know if a whole year has gone by?" "What is something that might take a year to complete?") Encourage students to use comparative language to discuss the different terms.

### Students requiring support:

- Use examples of activities that have larger differences in duration and can be easily categorised. Gradually include activities that would take relatively similar amounts of time to complete.

### Extension:

- Use activities that can be expected to take relatively similar amounts of time to complete or have students sort a larger number of pictures for Part One
- Encourage students to use more formal language (e.g. 'minute', 'hour', 'day') when discussing how long certain activities take. Students may be able to make indirect comparisons of durations using these labels.



## Tuesday: Connecting Lesson

**Number focus: *making and ordering collections* 15-20 minutes**

You will need: 5 ziplock bags or see-through containers, 30 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 5 in one bag/container. Write 5 on the label.
  - a. If your child cannot collect 5, try 3.
2. Ask your child to collect 'more than 5' 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 5' 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 least 5 different amounts.
5. Ask your child to find the smallest amount (least). Put this at one end of the containers.
6. Ask your child to find the largest amount (most). Put this at the opposite end of the containers.
7. Ask your child to organise the remaining containers from the smallest amount to the largest amount. Compare and count as you need to.

**Worksheet task: 15-20 minutes**

Remember to complete any of the time duration activities that you did not get to yesterday, or to continue the process of organising the activities from the quickest to the slowest.

You might want to try brainstorming a list of events that only happen on certain days before trying this with your child. Some ideas include:

- Going to school
- Playing sport
- Music lessons or library lessons (including at school)
- Language lessons at school
- Family visits or dinners
- After school care
- Church or club activities
- Your work schedule if appropriate
- Particular dinners if you have them on specific days

This lesson focuses on naming days of the week and trying to think about what activities would be done on each day. To achieve the C standard your child needs to be able to name each day in order and also connect events to specific days. If possible, try to talk about how long the events take as well as that is also important for assessment later this year.

Please note: your child may well know a "days of the week" song from school. As an example, one song is sung to the tune of the Addams Family: <https://www.youtube.com/watch?v=HtQcnZ2JWsY>

Connecting Sharing

**Days of the week**

What days do we have in each week?

Write down the name of each day. Write an activity that you do on that day and the time of day that you do it.


## Teacher Overview

This is an ***Understanding and Reasoning*** task.

The purpose of this lesson is to *connect* days of the week with events. Be aware that many children may not be able to name all the days in the correct order. They also may not be able to work out which activities happen on each day. It is a good idea to sing an appropriate “days of the week” song.

If you have time online with students this activity will allow you to organise a timetable with them. Which days will they talk with you? What should they be spending time on each day? Discuss the schedule with children and their families.

To help students retain the information, make sure that they have *discussed events for each day* with their parents. Connecting events and days of the week is important for the achievement standard, as is discussing time duration.

### Wednesday: Number focus

This lesson allows your child to develop pictures in their minds for different amounts. This skill at Foundation is strongly linked with understanding of maths in Year 4.

#### **Comparing amounts to 10      This task is repeated from last week**

You will need: Up to 10 small items (e.g. spoons, toy cars, buttons, balls of paper, toothpicks) and a copy of the tens frame to put the objects in. If you have time, use an egg carton instead but cut off 2 of the cups so that you have 10. You should also have some paper and a pen or pencil for drawing the amounts.

1. Ask your child to collect 5 objects and place them in the tens frame. Ask them how many spaces are left. State this as a sentence to model the idea, "5 objects and 5 spaces makes our 10". Have your child colour in the squares on the tens frame and fill in the numbers.
2. 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 10. 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.
3. Ask your child what other numbers you could make that haven't been used yet. Continue until you have found them all.
4. Display your tens frames picture somewhere in the house so that your child regularly sees the pairs of numbers that make ten.

Tens frame to use for objects if the frames on the worksheet are too small:


#### **Time task: five 1 minute tasks**

To build on the concepts from this week, ask your child to work out how many repetitions of each of the following activities they can do in one minute. Record their guess, and the actual number.

- Star jumps (jumping jacks)
- Skipping around your house/yard/driveway
- Push ups or sit ups or if something more sedentary is needed, count to 10/build and knock down a tower with 6 blocks, make a wall with plastic cups etc.
- Catches of a ball
- Pages of a story I can read

Number focus worksheet: making 10


objects and  spaces makes


objects and  spaces makes


objects and  spaces makes


objects and  spaces makes


objects and  spaces makes


objects and  spaces makes

## Teacher Overview

This is a **Quantity and Partitioning** lesson. It gives students an opportunity to develop the concept of “how many” in relation to 10 and to pair amounts to 10. Please read the important information for the week to understand why quantity is important. There is also a free webinar to watch on important number concepts in the article on the website called, “When kids get stuck and never catch up”. It will take you through the first 3 number concepts that are most important for children to understand in early primary.

Ask families to complete the five 1-minute timed tasks or do it with children online. The idea is to develop a reference point for one minute by determining how many repetitions of particular activities they can complete in one minute (star jumps, push ups...).

## Thursday: Interleaved Practice Questions

***Please read these questions to your child, rather than using them like a worksheet.***

The questions can also be adapted for use as you play with your child, for example, you could share out the blocks you are using to make a tower, play 'hide the block' instead of toy cars.

### **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.



## Interleaved practice to talk about together

Number:

1. Draw 9 counters arranged as a square.
2. A flower had 7 petals. 3 fell off. Draw the flower.

3. What number comes before 7?

Measurement/Geometry:

4. Who is the shortest person in your family? Who is the tallest?
5. What day will it be tomorrow? What day was it yesterday?
6. Draw a shape with 6 sides.

Chance/Data:

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

## Teacher Overview

The questions on this worksheet are drawn from the “C standard” of the Achievement Standard. See your tracking sheet for more detail. Each week the interleaved questions will get a little harder, and more concepts will be reviewed throughout the program as we teach that concept. We have included answers to these questions on B2FMaths@Home so that parents can find them if needed.

### **Support for struggling students:**

You might like to reduce the numbers in the questions. You might also give the student the answer, then ask them to work out how the answer was obtained.

## Friday: Extension and Generalising Lesson

Some activities can be done anytime. Some are done at specific times. Write 3 activities in each box that you would do at that time and draw a picture to show one of them. Which take the longest?

<b>Morning</b>	<b>Afternoon</b>
<b>Evening or Night</b>	<b>Anytime</b>

## Teacher Overview

This is a **Reasoning** lesson. It is designed to extend student understanding further and promote generalising. In particular, this lesson asks students to connect events with times of the day. This is quite difficult for Foundation students but would be a great extension for students who are ready for it. If you have time online with children, focus on asking them how long each event takes.

### To extend student thinking further:

- Ask students to compare how long each event takes. This is particularly difficult as they will not be able to directly compare events that only happen at differing times of day.