

TERM 2 : WEEK 9

Mathematics Lessons

LESSON 1

Review:

Ask your child what they remember about the last lesson. Ask your child what double 243 is.
[Answer: 486]

Lesson Setup:

Today your child will be introduced to the concept of area and we will measure the area of a shape or object by using tiling. To prepare for the lesson, cutout the Area Tiling Squares in the Appendix.

Resources needed:

- Square cutouts from Appendix
- Bag of counters

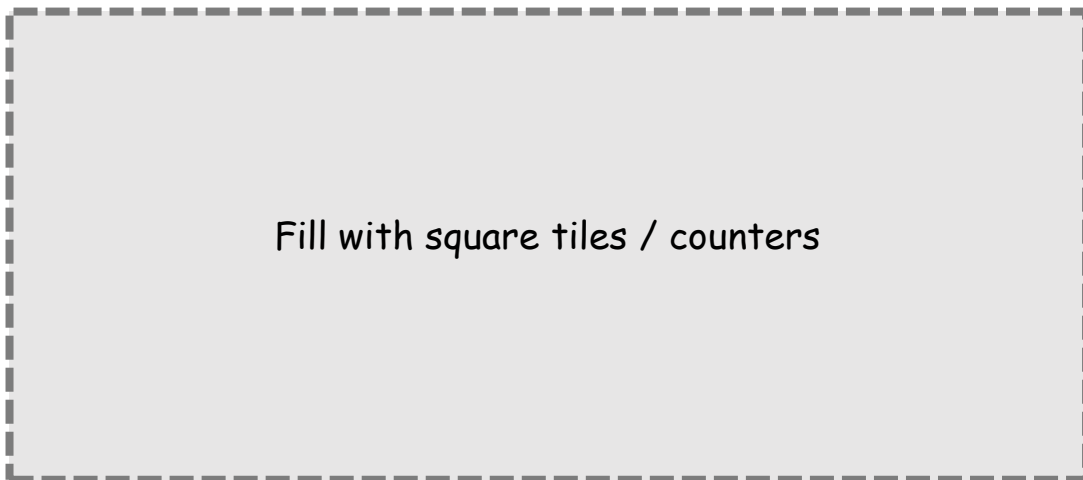
New words:

area – The amount of space that a shape or object covers

The Lesson:

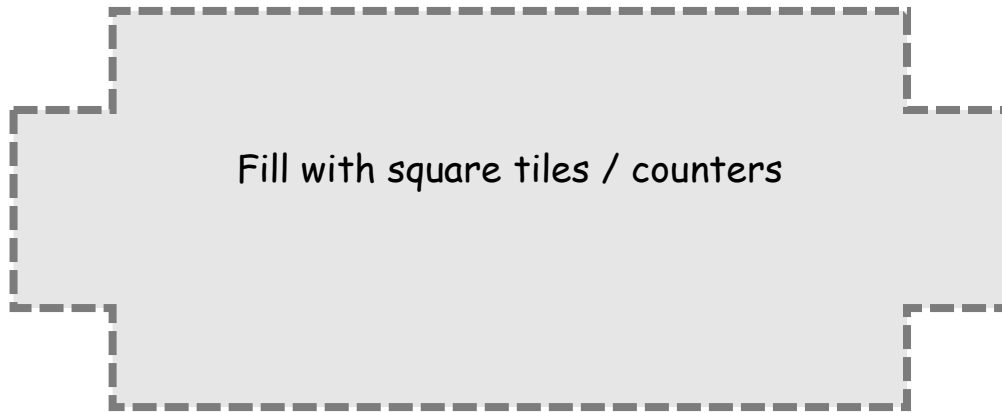
Explain to your child that while it is useful to know what the perimeter of a shape or object is, it is also useful to know what its area is. Once you know the area of a room for example, you'll know how much paint you'd need to paint the ceiling or how much carpet to buy to cover the room's floor.

Show your child the picture of the rectangle below. As an introduction to area, we are going to use the square tile cutouts to calculate the area of the rectangle. Ask them to pack out the tiles row by row to cover the shape below, making sure they don't leave any gaps between the tiles. When they are done, they should state the area of the rectangle in number of tiles e.g. 30 tiles.



Between the Lines Mathematics Year 3

Now ask your child to look at the shape below. Ask them if they think this shape's area is bigger or smaller than the rectangle? Then let them check their answer by packing out the tiles again as before.



Ask your child to measure the areas of the two shapes above again, but this time using counters. Because counters are round, there will be some gaps between them, but this is fine. Do the answers differ to the previous answers using tiles? Why or why not? *[Answer: Yes they would differ as the tiles are a different size to the counters.]*

Exercises:

- Create two different shapes using the square tiles that both have an area of 28 tiles.
- If I wanted to know how much seed to sow in a patch of field, would I need to know its perimeter or its area? *[Answer: Its area]*
- If I can fit 40 tiles into one shape, but only 25 counters into another shape, which shape has a larger area? *[Answer: You can't tell as different units of measurement are being used.]*

LESSON 2

Review:

Ask your child what they remember about the last lesson. A farmer has sowed 24 seeds into each of ten containers. How many seeds in total has he sowed? *[Answer: 240]*

Lesson Setup:

Today we are going to revise our nine times and division tables and make some tangram shapes.

Resources needed:

- Cutout tangram puzzle
- Five counters
- Grid notebook and pencil

The Lesson:

Ask your child to open up their grid notebook to the nine times and division tables they wrote down before. Give your child a few minutes to study the tables and visualise them. Ask them to read aloud the two tables. As they read, they should try to picture the sum in their minds using sticks or counters e.g. 3×9 could be pictured as three groups of nine sticks.

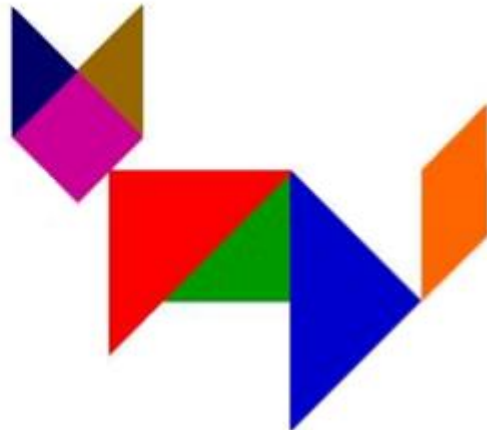
Between the Lines Mathematics Year 3

Use the counters to cover any five random numbers on the tables and ask your child to tell you which numbers are covered. Repeat the exercise by covering five other numbers.

Ask your child to try to recreate the shapes below using their tangram tiles.



[Answers below]



Exercises:

Write the answers to the following sums in your grid notebook:

- 9×6 [Answer: 54]
- 3×9 [Answer: 27]
- 9×8 [Answer: 72]
- $63 \div 9$ [Answer: 7]
- 2×9 [Answer: 18]

LESSON 3

Review:

Ask your child what they remember about the last lesson. There are 45 trees planted in an orchard in five rows. How many trees are there in each row? [Answer: 9]

Lesson Setup:

Today we will learn to multiply a 2-digit number by a 2-digit number using the column method.

Between the Lines Mathematics Year 3

Resources needed:

- Grid notebook and pencil
- Ruler

The Lesson:

Ask your child to write the following sum in their grid notebook: $37 \times 23 = 851$.

What are the factors in this sum? [Answer: 37 and 23] And what is the product? [Answer: 851]

Now ask them to copy down the following:

	3	7
X	2	3

To multiply by a 2-digit number, we need to do the calculation in three steps:

Step 1: Multiply the number in the top row by the units of the number in the second row, so 37×3 . You would use the previous method when multiplying numbers by one digit and write the answer in the answer row. Your sum should look like this:

	² 3	7
X	2	3
1	1	1

Step 2: Now we need to multiply the number in the top row by the tens of the number in the second row, so 37×20 . Before we begin multiplying, write a 0 beneath the 1 in the units column, to hold the space so you can begin multiplying the tens. Now you will multiply 37×2 and write the answer to the left of the 0 you just wrote, moving from right to left as usual. 7×2 is 14, so you would write the 4 in the tens column and carry over the 1 to the hundreds column. Then we multiply 3 and 2, which is $6 + 1 = 7$, so you would write the 7 in the hundreds column. Your sum should now look like this:

	² 3	7
X	2	3
1	1	1
7	4	0

Between the Lines Mathematics Year 3

Step 3: Rule a line underneath your last answer and now you add up the two answer rows to get your final answer. In this case you would add 111 and 740 to get the final answer of 851. Rule a line under your final answer. Your final sum will look like this:

		² 3	7
	X	2	3
	1	1	1
+	7	4	0
	8	5	1

Exercises:

Using a column layout in your grid notebook, write down and answer the following sums:

- $29 \times 16 = \dots$ [Answer: 464]
- $41 \times 17 = \dots$ [Answer: 697]
- $34 \times 25 = \dots$ [Answer: 850]

LESSON 4

Review:

Ask your child what they remember about the last lesson. Ask your child how many minutes there are in three hours? [Answer: 180 minutes]

Lesson Setup:

In today's lesson, your child will revise calculating time intervals.

Resources needed:

- Teaching clock
- Whiteboard and marker

New Words:

time interval – The amount of time between two given times.

The Lesson:

Ask your child in which unit of time they would measure the following? Seconds, minutes or hours?

- Putting on their shoes [Answer: Seconds]
- Flying to another country [Answer: Hours]
- Taking a bath [Answer: Minutes]

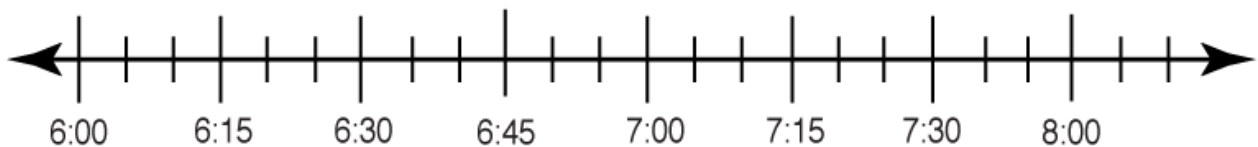
Between the Lines Mathematics Year 3

Remind your child that the hands of a clock always move clockwise as time passes. Ask your child how much time has passed if the hour hand on the clock moves from one number to the next? *[Answer: one hour]* Set the hands of the teaching clock to 9 o'clock. Now ask your child to move the hands to show one hour has passed. *[Answer: They should move the hour hand to point to the 10]* Ask your child how much time has passed if the minute hand on the clock moves from one number to the next? *[Answer: 5 minutes]* Set the hands of the teaching clock to 2 o'clock. Ask your child to move the hands to show that 10 minutes has passed. *[Answer: They should move the minute hand to point to the 2]*

Set the hands of the teaching clock to quarter to three. Ask your child to show you how the hands of the clock would change if half an hour passed. *[Answer: Your child should know that half an hour is 30 minutes. If 30 minutes has passed, it means that the minute hand of the clock needs to move on six numbers clockwise from the number 9, so they should move the minute hand to point to the number 3. The time would then be quarter past three.]* Explain that the time interval between quarter to three and quarter past three is thus 30 minutes.

When calculating time intervals using digital time, make sure you compare hours with hours and minutes with minutes e.g. to work out how much time has passed between 13:30 and 15:30, you will see that there is a difference in the number of hours only, so there is a two hour time interval between the two times. To work out how much time has passed between 10:10 and 10:45, you will see there is a difference in the number of minutes only, so there is a 35 minute time interval between the two times.

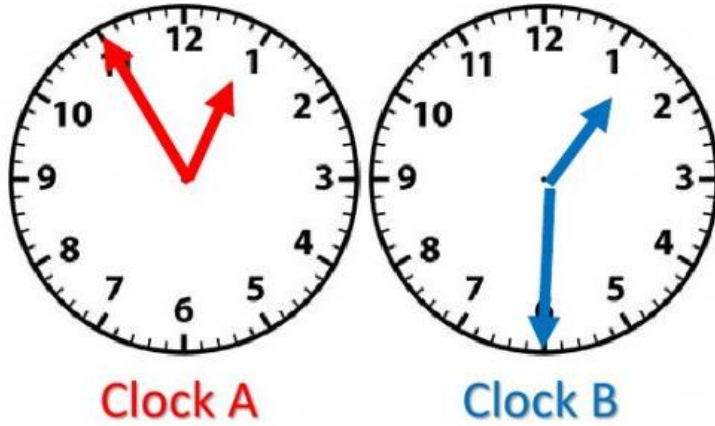
For more complicated calculations, it's helpful to picture time as a number line (see below). Let's do an example of calculating the time interval between 6.15 and 8:00. First calculate how many complete hours has passed between the two times (in this case one hour between 7:00 and 8:00) and then calculate how many minutes have passed before and after this complete hour (in this case 45 minutes passed between 6.15 and 7:00). The total time interval is then 1 hour 45 minutes. Ask your child to work out how much time has passed between 6:00 and 7:30. *[Answer: 1 hour 30 minutes]*



Exercises:

Answer the questions below using the clock and whiteboard as needed:

- A song begins playing at 13:45. It stops playing at 13:51. How long is the song? *[Answer: 6 minutes]*
- A hike starts at 05:30 and will take 3 hours and 22 minutes. What time will the hike end? *[Answer: 08:52]*
- The time is now 17:16. What time was it 2 hours and 6 minutes ago? *[Answer: 15:10]*
- What time is showing on each of the clocks below? *[Answer: Clock A – Five minutes to one; Clock B: Half past one]* How much time has passed between Clock A and Clock B? *[Answer: 35 minutes]*



LESSON 5

Review:

Ask your child what they remember about the last lesson. Ask your child how much time has passed between 11:15 and 12:45. *[Answer: 1 hour 30 minutes]*

Lesson Setup:

Today we will do some revision word problem sums using multiplication of 3-digit and 1-digit numbers and 2-digit by 2-digit numbers.

Resources needed:

- Grid notebook and pencil

Revision Exercises:

Ask your child to write down the number sentence for each word problem below and then calculate the answer using the column method.

- Nelly sells 34 cupcakes every day. How many cupcakes will she sell in 3 weeks? *[Answer: $34 \times 21 = 714$ cupcakes]*
- Michael has 47 photos on his phone. If Anna has 12 times more photos than Michael, how many photos does she have? *[Answer: $47 \times 12 = 564$ photos]*
- David must get 155 minutes of exercise each week. How many minutes of exercise will he get in 5 weeks? *[Answer: $155 \times 5 = 775$ minutes]*
- Gerrie was tasked with packing pot plants and sending them to the nursery. There were 13 boxes and she put 38 pot plants in each box. How many pot plants did Gerrie pack all together? *[Answer: $13 \times 38 = 494$ pot plants]*
- Felicity keeps 242 sheep in each pen. If she has 4 pens, how many sheep does she have in total? *[Answer: $242 \times 4 = 968$ sheep]*