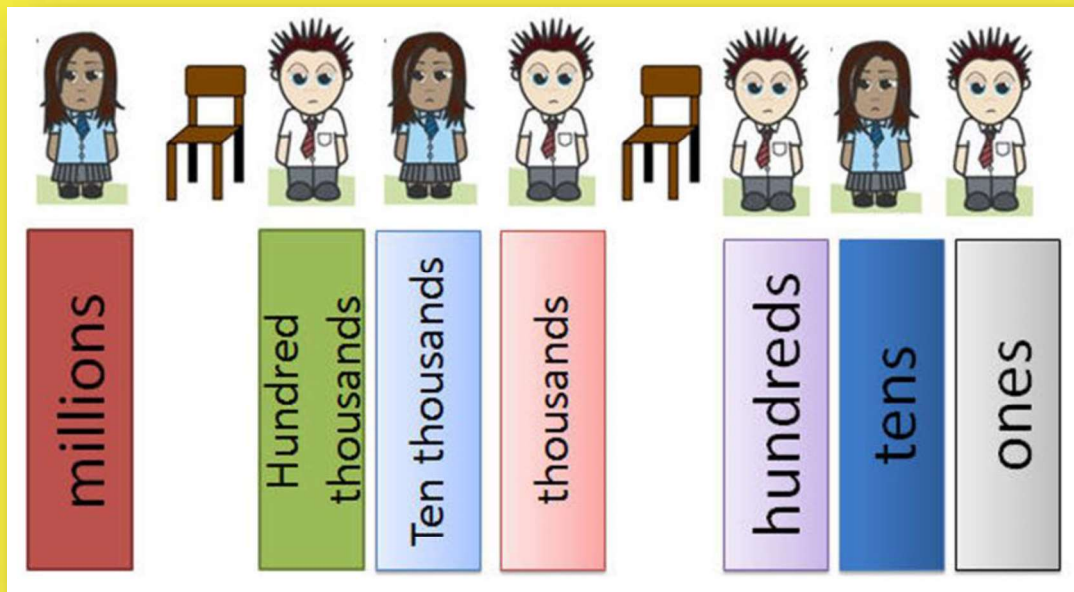


5 Mathematics: The World of Numbers

[Year 6]



Lesson 1 topic: *Metric vs. customary units*

Lesson 2 topic: *Time zones*

Lesson 3 topic: *Venn diagrams*

This module was designed for year 6 and it comprises the following 3 lesson topics:

Lesson 1 topic: Metric vs. customary units

Table 10- The World of Numbers. Lesson 1: Activities & Appendixes

Activities	Appendixes
Lead-in	
1	
2	1
3	2
4	4
5	3

Lesson 2 topic: Time zones

Table 11- The World of Numbers. Lesson 2: Activities & Appendixes

Activities	Appendixes
Lead-in	
1	1
2	
3	
4	2
5	3
Fast finisher	4

Lesson 3 topic: Venn diagrams

Table 12 - The World of Numbers. Lesson 3: Activities & Appendixes

Activities	Appendixes
Lead-in	
1	
2	
3	
4	1

5.1 Mathematics - Lesson 1: Metric vs. Customary Units

■ Linguistic objective

Vocabulary: students use 3-4-5-6-digit-numbers and unit of measurement for length (metric system and customary system): meter, kilometre, centimetre, millimetre, inch, yard, foot, mile, high, long, tall, planets (the Earth , the Moon and the Sun), length

■ Linguistic objective

Skills: students speak about distances, listening to an authentic video and writing multi digit numbers

■ Linguistic objective

Functions: students give basic information, reading multi digit numbers, convert metric and customary system, label, and solve simple tasks involving large numbers

■ Content objective

Students convert selected metric measurements into customary units, they learn about the main differences between metric and customary system, compare and identify large numbers.

■ Communication

Students talk about the lengths, heights, size of objects and distances between cities and planets.

■ Cognition

Reasoning- student understands the sequence of calculations.

■ Culture

Students identify different metric and customary units and students understand that customary unit /imperial unit are used in certain countries.



LEAD-IN: 15 MIN

- The teacher shows the following pictures to the children and asks them what they are. (These can be presented in form of flashcards or just shown on an interactive white board).

T: Look at this picture. What is it?

SS: It's a football pitch/it's a door/ it's a mountain/it's a wall

- Teacher then explains that:

T: This mountain is called Mont Blanc and it's on the border of France and Italy.

T: This is the Great Wall and it is in China. It is very very long.

<p>Picture 1 a) (a football pitch)</p>	<p>https://en.wikipedia.org/wiki/Football_pitch#/media/File:Football_pitch_metric_and_imperial.svg</p>	
<p>Picture 2 b) (a mountain - Mont Blanc)</p>	<p>http://www.telegraph.co.uk/news/worldnews/europe/france/10106343/French-gendarmes-to-patrol-Mont-Blanc.html</p>	
<p>Picture 3 c) (a door)</p>	<p>http://www.alhabibpaneldoors.com/product/doors/solid-wood-doors</p>	
<p>Picture 4 d) (The Great Wall of China)</p>	<p>http://kids.britannica.com/elementary/art-87612/The-Great-Wall-of-China-winds-through-a-hilly-area</p>	

- Then the teacher writes the following measurements on the board :

- a) 110 metres
- b) 2040 mm
- c) 4.810 metres
- d) 21.196 km

- Teacher points to the numbers and asks the students to decide which figure corresponds to which picture.

*T: Look at these numbers. Can you guess.....?
Is It a/b/c or d?*

What is the length of a football pitch? Or How long is a football pitch?

What is the height of a standard door? Or How tall is a standard door?

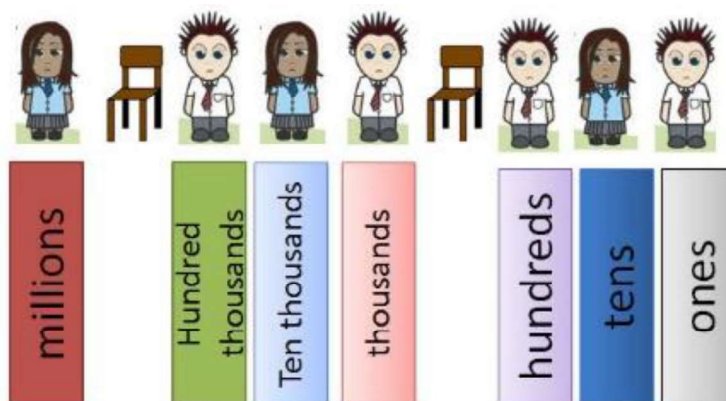
What is the height of Mount Blanc? Or How high is Mont Blanc?

What is the length of the Great Wall of China? Or How long is the Great Wall of China?

- Teacher asks one or two of the students to write on the board the correct measurement under each picture and then explains how to break down multi-digit-numbers.
- The teacher asks 7 students to come to the front of the class and, using 2 chairs, visually represents the way multi digit numbers are broken down. Each student is given one A4 card with one of the following words:

Millions – Hundred Thousands – Ten Thousands – Thousands – Hundreds – Tens – Ones and they position themselves in a similar manner as shown in the picture below

<http://creativecurriculum6117.pbworks.com/f/1310481520/8.jpeg>



- Then the teacher reads the numbers and children position themselves to represent these numbers with the chairs and hold up the relevant cards.

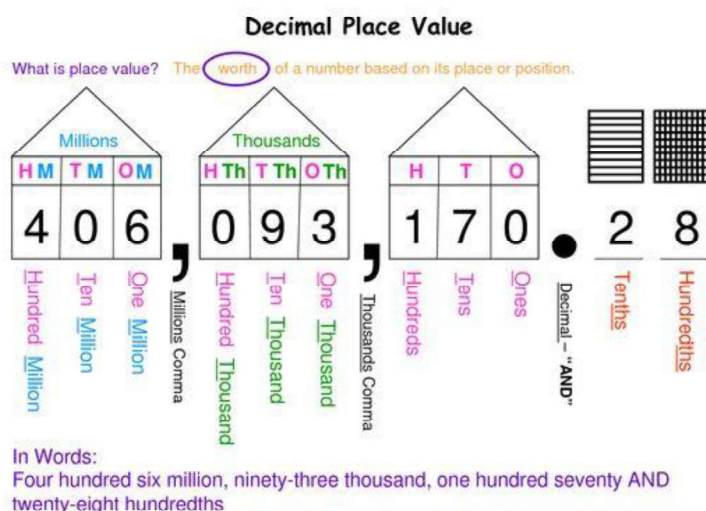
110 metres = one HUNDRED and 10 meters

2040 mm = 2 THOUSAND and forty meters

4.810 metres = four THOUSAND, eight HUNDRED and ten meters

21.196 km = twenty-one THOUSAND one HUNDRED and ninety-six km

- Then the teacher shows the picture to complete the explanation of how to read multi digit numbers (see below). <https://it.pinterest.com/pin/117515871498636063/>



ACTIVITY 1: 15 MIN

- The teacher explains that they are going to watch a video. <https://www.youtube.com/watch?v=0yBYUqOc1wg>



- Before watching the video the teacher writes the following questions on the board and students write them in their notebooks:
What's the average distance from Earth to the Moon?
What's the average distance from Earth to the Sun?
- Students watch the first part of the film (from the beginning to 0:38) and write the answers in their notebooks. A selected student writes the answers on the board.
- Students watch the rest of the film and learn how to read multi digit numbers.
- After watching, the teacher asks selected students to read the answers to the questions from the previous task

*(What's the average distance from Earth to the Moon?/
What's the average distance from Earth to the Sun?)*

and/or the teacher can get them to use their chairs and cards to represent the numbers visually as done in the lead-in.

- Teacher asks:

Which is the larger of the two numbers?

- Next, teacher points to the numbers and asks:

What does this number refer to?

SS: It is the distance between the Earth and the Sun.

SS: It is the distance between the Earth and the Moon.



ACTIVITY 2: 15 MIN

- Students work in pairs and do the information gap activity (**Appendix 1**). Students ask each other questions:

What is the distance between London and (Bucharest)?

And answer them according to the information on their sheets.

What is the distance between London and ...?

... Bucharest	
...Rome	
...Madrid	
...Lisbon -	
...Barcelona	

The distance between London and ...

Athens	3099km
Vienna	1233km
Tokyo	9551km
New York	5586km
Warsaw	1445km



ACTIVITY 3: 20 MIN

- Teacher explains customary units as follows:

T: In the USA people don't use kilometres to talk about distance, they use miles which are longer than kilometres.

*London to New York for example is not 5,570 km but Americans say the distance is **3461 miles**.*

*Now let's look at other ways to measure length. There are 4 ways to measure lengths there are: **inch, foot, yard and mile**.*

(Teacher uses gestures to demonstrate what follows) and writes on the board the measurements only.

YARD was originally the distance between King Henry's nose and his thumb

And then says:

it's about 90 cm.

INCH originally was the length of King Henry's thumb.
It is about 2.5 cm.

FOOT was originally the length of King Henry's foot.
It is about 30 cm.

King Henry I of England was a little man!!!!!!

- The students use the same gestures to show that they understand these measurement

T: Show me. How long is a yardan incha foot?

- Teacher explains how to convert metric to customary system (**Appendix 2**). Students take notes in their notebooks.

Optionally, if students have problems with calculating they can be allowed to use calculators.

<http://www.mathsisfun.com/length-conversion.html>

Conversion of Length

Note: we also have [Conversion Charts](#), and a [Unit Converter](#).

How to Convert Lengths

To convert length from one unit to another: **multiply by the correct number.**

Follow these steps:

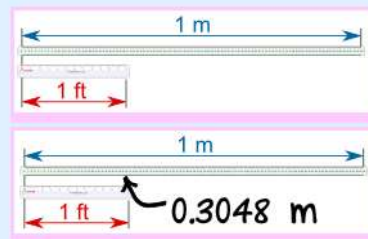
- Find the correct conversion number (see [Conversion Charts](#))
- Then multiply by that number

Let's look at a detailed example:

Example: Convert 3 feet into meters

When we put a 1-meter ruler next to a 1-foot ruler, they look like this:

Look closely and we see that the 1-foot ruler comes to exactly **0,3048** on the meter ruler:



ACTIVITY 4: 10 MIN

- Teacher gives students **Appendix 4**. They work in pairs or groups. Depending on the level (and age) of the students the teacher can use either of the two tables from **Appendix 4**.

T: Now use the conversion table on your worksheet and answer the questions/ tasks 1 and 2.

- Teacher then writes on the board the steps that need to be followed to do the conversion and then puts the answers on the board (or uses the link below to show students how to check their answers.)

<http://www.thecalculatorsite.com/articles/units/convert-kilometers-to-miles.php>



ACTIVITY 5: 15 MIN









- Teacher distributes worksheet from **Appendix 3**. Students work in pairs and complete the sentences.
- After that teacher asks the following questions:

What do you use to measure the distance between two cities? (km/miles)

What do you use to say how tall a person is? (meters/feet)

What do you use to measure the frame of a picture? (meters/ inches)

What do you use to measure 6 sheets of paper? (cm /inches)

METRIC SYSTEM	CUSTOMERY SYSTEM
<p>A [] is about as thick as six sheet of paper.</p> 	<p>An [] is about the length of one thumb.</p> 
<p>A [] is width of your pinky finger.</p> 	<p>A [] is about length of a foot.</p> 
<p>A [] is about the distance from floor to door knob.</p> 	<p>A [] is about the height of a chair.</p> 
<p>A [] is about the distance when you walk 12 minutes.</p> 	<p>A [] is the distance when you walk 15 minutes.</p> 

5.1.1 NUMBERS - LESSON 1 - APPENDIX 1

Student A

What is the distance between London and ...?

... Bucharest	
...Rome	
...Madrid	
...Lisbon -	
...Barcelona	

The distance between London and ...

Athens	3099km
Vienna	1233km
Tokyo	9551km
New York	5586km
Warsaw	1445km

Student B

What is the distance between London and ...?

Athens	
Vienna	
Tokyo	
New York	
Warsaw	

The distance between London and ...

... Bucharest	2555 km
...Rome	1799km
...Madrid	1704km
...Lisbon	2210km
...Barcelona	1512km

5.1.2 NUMBERS - LESSON 1 - APPENDIX 2

Length

Metric			US or Imperial
1 millimetre [mm]		→	0.03937 in
1 centimetre [cm]	10 mm	→	0.3937 in
1 metre [m]	100 cm	→	1.0936 yd
1 kilometre [km]	1000 m	→	0.6214 mile

US or Imperial			Metric
1 inch [in]		→	2.54 cm
1 foot [ft]	12 in	→	0.3048 m
1 yard [yd]	3 ft	→	0.9144 m
1 mile	1760 yd	→	1.6093 km
1 int nautical mile	2025.4 yd	→	1.853 km

Task 1







Use the above conversion chart to convert: the following lengths:

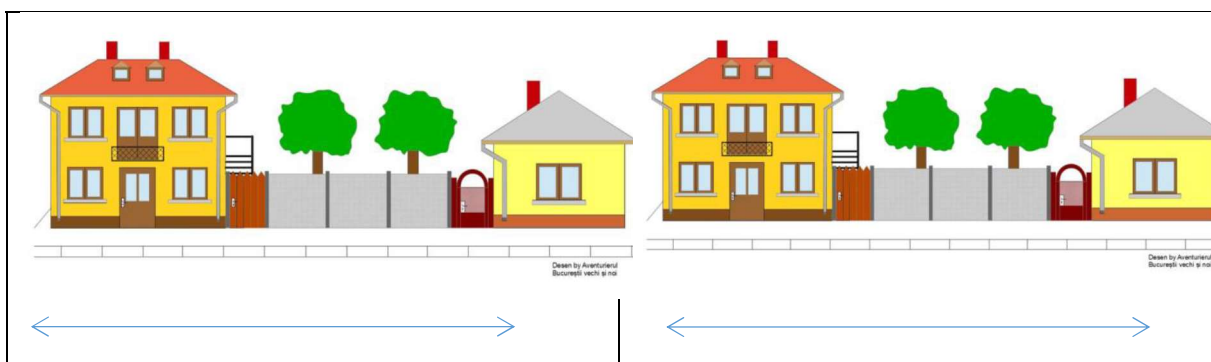
- 8 kilometers into miles _____
- 5 feet into meters _____
- 52 inches into centimeters _____

Taks 2

- a) What is 5,000 yards in metric units [km]?
- b) What is 40 feet in metric units [m]?
- c) What is 30 centimeters in customary units [in]?

5.1.3 NUMBERS - LESSON 1 - APPENDIX 3

METRIC SYSTEM	CUSTOMARY SYSTEM
<p>A is about as thick as six sheet of paper.</p> 	<p>An is about the length of one thumb.</p> 
<p>A is width of your pinky finger.</p> 	<p>A is about length of a foot.</p> 
<p>A is about the distance from floor to door knob.</p> 	<p>A is about the height of a chair.</p> 
<p>A is about the distance when you walk 12 minutes.</p>	<p>A is the distance when you walk 15 minutes.</p>



5.1.4 NUMBERS - LESSON 1 - APPENDIX 4

Convert the numbers (version 1)

KILOMETRES	MILES
	1866 miles
1448 km	
	2179 miles
9 277 km	
	9 558 miles
1866 km	
3461 km	
	3461 miles

Convert the numbers (version 2)

KILOMETRES	MILES
	100 miles
50 km	
	25 miles
100 km	
	50 miles
10 km	
15 km	
	10 miles

5.2 Mathematics - Lesson 2: Time Zones

■ **Linguistic objective**

Vocabulary: the time, time zones, dates, months, weeks, days of the week, perpendicular, North Pole, South Pole, Greenwich Meridian, the calendar, am/pm, leave/arrive, calculate

■ **Linguistic objective**

Skills: Reading and solving a problem, speaking about time zones

■ **Linguistic objective**

Functions: Telling the time, saying dates, doing tasks based on the calendar

■ **Content objective**

Students calculate the time in different time zones and compare time, using a calendar to calculate the length of time between events

■ **Communication**

Students exchange information about the time in different locations around the world and they talk about the activities that take place at different times of the day.

■ **Cognition**

Students identify different time zones, reasoning – they select countries on the map based on calculations and compare.

■ **Culture**

Students understand the distribution of time zones in the world.



LEAD-IN: 5 MIN

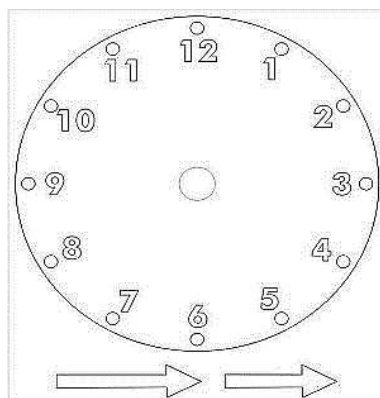
- The teacher shows the students a clock and revises how to tell the time in English:

Look at the clock. What time is it?

Students repeat in chorus.

If the teacher needs to make her/his own clock to use in class here is the link:

<https://it.pinterest.com/pin/231865080788214041/>

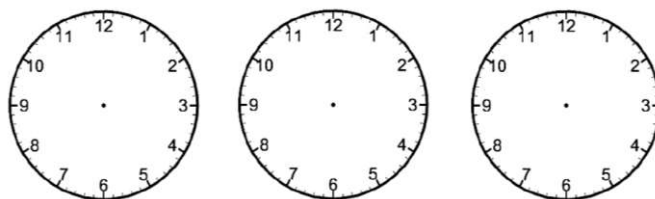


ACTIVITY 1: 10 MIN

- Teacher asks students to complete a worksheet (**Appendix 1** // www.tes.com/teaching-resource/blank-clocks-worksheet-6063482) where they have to write the times they hear.
- Teacher dictates 9 different times for them to put on the clocks. The difficulty of the times depends on the level of students.

T: It's quarter past eight/It's half past twelve/It's twenty to ten.

Telling the Time

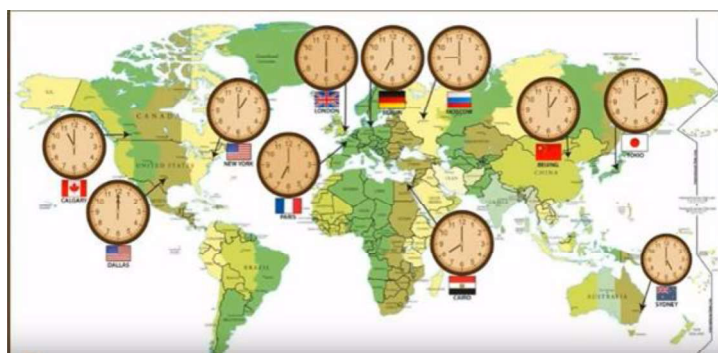


Students draw the hands of the clock as the teacher says each time (and/or they can also write next to each clock the digital time). Then the teacher writes the correct times on the board and gets students to read back the times of clocks on their worksheet.



ACTIVITY 2: 10 MIN

- The teacher shows the picture of a physical map of the world with some clocks and then explains that there are different times in different parts of the world.
<https://it.pinterest.com/pin/525021269030674584/>



T: *Look at the clocks on the map.*

Can you see there is a different clock with a different time in each city?

Can you tell me...

*...what time is it in **London**? (It's six o'clock pm)*

*What time is it in **Sydney**? (It's five o'clock am)*

*What time is it in **Tokyo**? (It's two o'clock am)*

*What time is it in **New York**? (It's two o'clock pm)*

- The teacher writes the questions and the answers on the board.
- To sum up, the teacher mimes and says:

So when it is

6 pm in London people are going home from work.

2 pm in New York people are having lunch (eating hamburgers).

5 am in Sydney some people are getting up because it is early morning.

2 am in Tokyo people are fast asleep and it is dark.

- Teacher divides the students into 4 groups: Each group pretends they are in one of the 4 cities mentioned. They mime the action and in chorus answer the teacher's questions.

T: Group A: you are in London (England), Group B you are in Tokyo (Japan), Group C you are in New York (The USA) and group D you are in Sydney (Australia)

T: Group A. where are you?

SS: We are in London.

T: What time is it in London?

SS: It is 6 pm.

T: What are you doing?

SS: We are going home (students mime the action).

- Then teacher asks the next group the same questions or asks one of the students to ask the questions to the next group.



ACTIVITY 3: 20 MIN

- Show the image online: <https://www.mathsisfun.com/time-zones-world.html>



- Teacher uses the website image and then moves the bar so students can see how time changes from one side of the world to the next and how day and night varies.

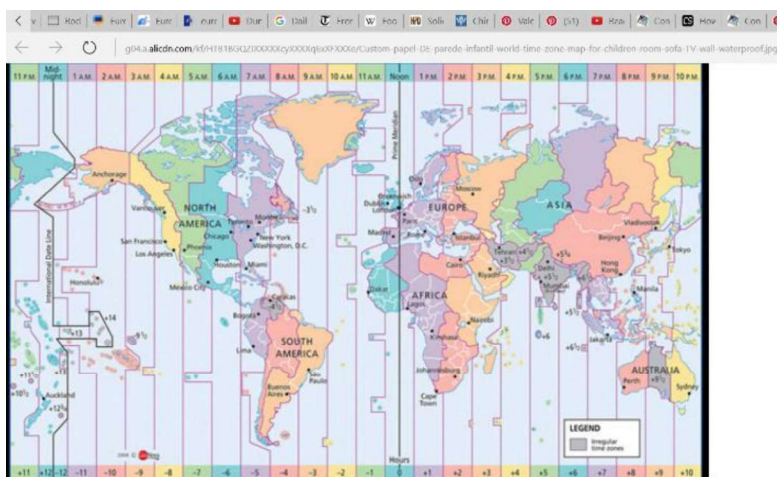
T: Look at this picture. If I move the bar, I can see the time in different parts of the world.

(Students should be allowed to move the bar, too.)

What time is it now in ...? Is it daytime or night time? Is it am (morning or night) or pm. (afternoon /evening)?

- Teacher shows the map at:

<http://g04.a.alicdn.com/kf/HTB1BGQZIXXXXXcyXXXXq6xXFXXe/Custom-papel-DE-parede-infantil-world-time-zone-map-for-children-room-sofa-TV-wall-waterproof.jpg>



T: Look at the map. There are different colours. These colours represent places which have the same time. For example:

What colour is England and Portugal? (They are blue.)

So England has the same time as Portugal.

What colour is Italy? And what colour is Poland? (They are both purple.)

So, if in Italy it is six o'clock, what time is it in Poland? (It's the same time, 6 o'clock.)

- Now the teacher explains the numbers on the map using English or L1.

*T: Can you see the numbers at the bottom of the map? Can you see zero on the map? This line is called the **Greenwich Meridian** and it goes through London. It is the line 0 and it is an imaginary line used for calculating the time in different parts of the world.*



ACTIVITY 4: 15 MIN

- Teacher puts students into groups of 3 /4. Teacher asks students in their groups to complete the worksheet (**Appendix 2**) on calculating the time in the locations written on the board.
- Students calculate the time by looking at the time zone map used in **Activity 3**.

Warsaw Buenos Aires Tokyo New York Los Angeles Sydney

- The teacher also writes on the board "It is twelve o'clock in London."



Students could see the map on the interactive white board and refer to it to work out the different time zones.

T: Here is your worksheet. I want you, in groups, to calculate what time it is in these cities and to write them down on the worksheet.

Let's see which group is the fastest. You have 5 minutes. Remember It is twelve o'clock in London. Don't show the other group your group's results. Go!!!

- The teacher checks every group's worksheet.
- Next, each student secretly chooses one city and memorises the time in that city. Students go round the class and interview each other asking the following questions. Before they start the teacher gives the model.

S1: What time is it in your city?

*S2: It is **12 pm**.*

S1: So you are in London.

S2: Yes, I am.



ACTIVITY 5: 15 MIN

- Students complete tasks from **Appendix 3**.
- The teacher then goes through the worksheet with the class giving the correct answers and/or writing the answers on the board.



ACTIVITY 6: 15 MIN

- Teacher shows students the map and explains:

T: The United States of America has 4 time zones. Look at the map. Can you see that in Los Angeles it's 3pm? If it is 3 pm in Los Angeles, what time is it in Las Vegas?

Look at the clocks on the map.

<https://commons.wikimedia.org/wiki/File:US-Timezones.svg>



- The teacher puts students in pairs and writes on the board:

If it is 5:00 am in Chicago, it is 7:00 am in Seattle.

Seattle 5:00 am. – New York?

Chicago 8:00 pm – Los Angeles?

Denver 10:00 am – Boston?

- Students write full sentences in their notebooks. The teacher checks the answers with the whole class.



Fast finishers: see **Appendix 4**.

Your friend lives in New York and you are in London. If you take a plane from London to New York at 8.00 am, what time do you arrive in New York, knowing that the flight lasts 7 hours?

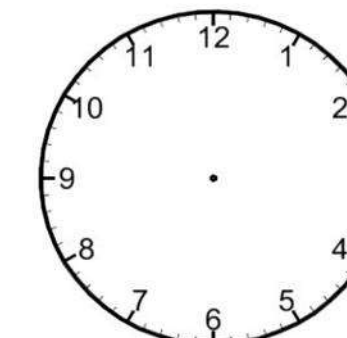
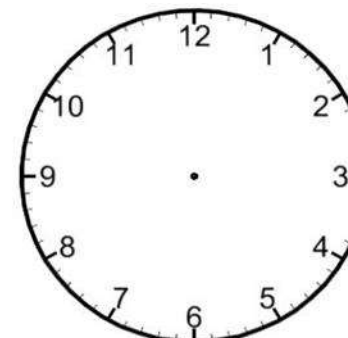
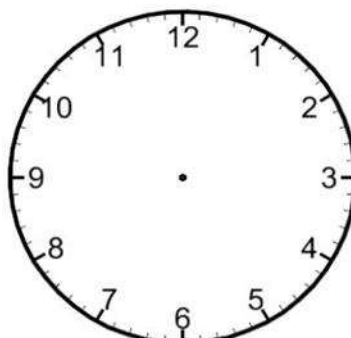
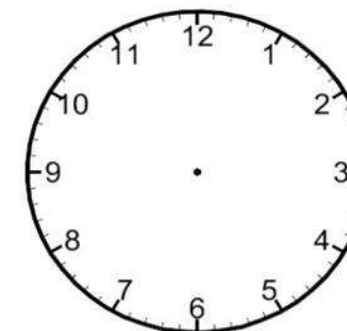
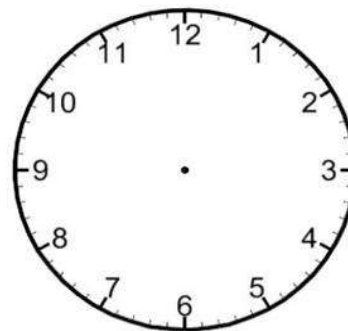
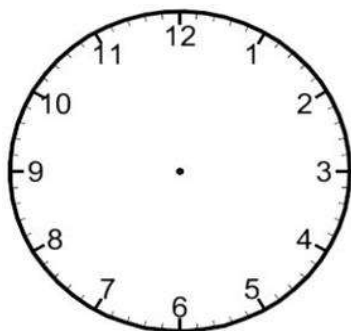
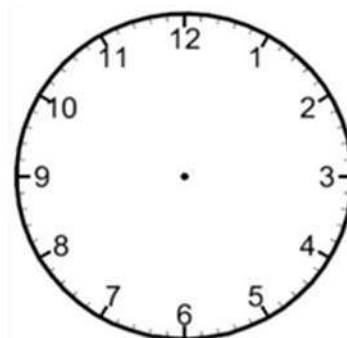
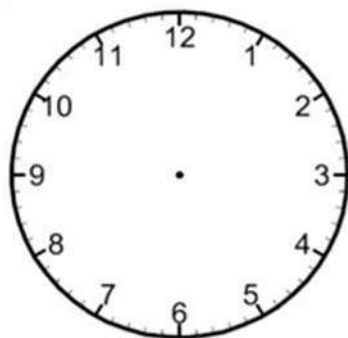
(Answer :in New York it is 3 o'clock am)

or

<https://it.pinterest.com/pin/439312138624895112/>

NAME: _____

Telling the Time



5.2.2 NUMBERS - LESSON 2 - APPENDIX 2

CALCULATE THE TIME

CITY	TIME
London	12:00
Buenos Aires	
Los Angeles	
Moscow	
New York	
Tokyo	
Sydney	
(Your city)	

5.2.3 NUMBERS - LESSON 2 - APPENDIX 3

Task 1:

Answer the questions:

- a- How many days has March got?
- b- Which month has 29 days ?
- c- How many months have 31 days?

Task 2:

How many days are there between:

- 15.02 and 23.05?
- 02.01 and 12.09?
- 15.05 and 26.08?

Task 3

Mark the sentences (T) for TRUE or (F) for FALSE and correct the mistakes.

- a) A week has more than 100 hours. T / F
- b) There are more weeks in a year than days in two months. T / F
- c) There are more than 85 000 seconds in one day. T / F
- d) A week is less than 10 000 minutes. T / F

- e) There are more months with 30 days than 31 days. **T / F**
- f) There are more than 750 hours in one month. **T / F**

5.2.4 NUMBERS - LESSON 2 - APPENDIX 4

SOLVE THE FOLLOWING PROBLEM

Your friend lives in New York and you are in London, if you take a plane from London to New York at 8.00 o'clock am, what time do you arrive in New York, knowing that flight lasts 7 hours?

5.3 Mathematics - Lesson 3: Venn Diagrams

■ Linguistic objective

Vocabulary: set, union sets, intersection sets, Venn diagram, universe set, empty set, cardinal number, elements, void set, universe, Populate, overlap, circles, outside, inside, fruit bowl, both, the same, different, which, relationship, the name of some Australian animals (kangaroo, wombat, spiky ant-eater, Tasmanian Devil, platypus, dingo), holiday, sign up for, visit, sports and game (indoor, outdoor games, badminton, cricket, football, table tennis, chess, video games) and adjectives to describe preferences

■ Linguistic objective

Skills: Speaking and writing– class survey, listening- video lecture

■ Linguistic objective

Functions: Giving basic information about sets, solving simple tasks and problem solving with sets

■ Content objective

Students understand the notion of sets, inclusive sets, exclusive, intersection sets, Venn diagrams.

■ Communication

Students talk about which city they would like to visit and interview each other about their preferences.

■ Cognition

Reasoning and selecting elements according to given features.

■ Culture

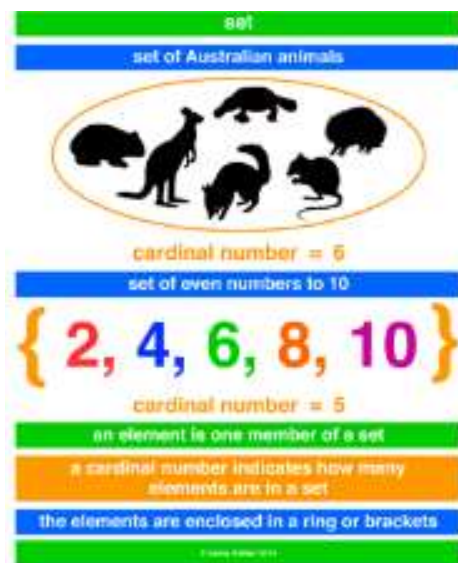
Students understand the connection between people and things and how media connects people from all over the world.



LEAD-IN: 10 MIN

- The teacher shows students a picture of sets and explains how they work:

Picture 1: <http://www.amathsdictionaryforkids.com/qr/s/set.html>



T: Look at the picture. This circle is called a set.

How many animals can you see in the circle/set? (6)

Where are they from? (Australia)

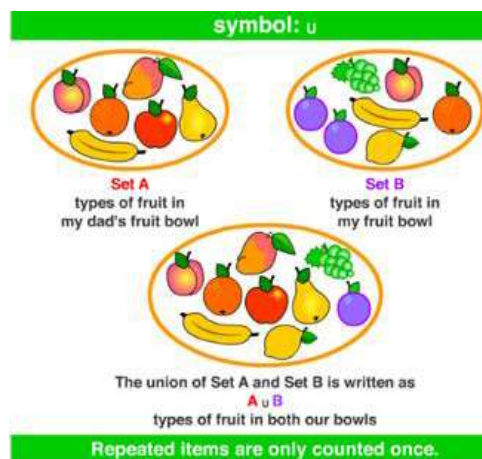
What animals are they? (kangaroo, wombat, Australian spiny anteater,

platypus, Tasmanian devil, dingo)

- The teacher points to the shape of the animal as he/she names them.

T: These are all animals that can only be found in Australia so we can put them all in the same set.

- **Picture 2:** <http://www.amathsdictionaryforkids.com/qr/u/unionSets.html>)



T: Now look at the next picture: These are union sets.

*If you look at **set A**, you can see dad's favourite fruit, and in **set B** there is his daughter's favourite fruit. When they go to the supermarket they buy all the fruit that they both like. At home they can put all the fruit in one bowl. This is called a Union set.*

Now look at these sets:

Picture 3: <http://www.amathsdictionaryforkids.com/gr/i/intersectionSets.html>

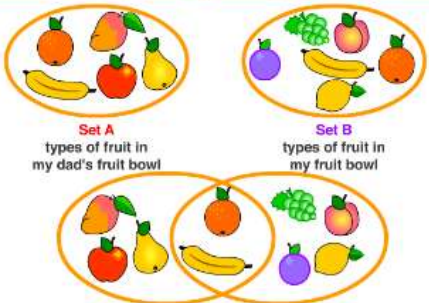
T: They can also put their fruit in separate bowls. Each bowl is a set. Some fruit appear in both bowls.

The intersection of set A which is dad's fruit bowl with set B which is his daughter's bowl shows that both bowls have a banana and an orange in them.

intersection of sets

The intersection of sets results in a set containing the same elements that appear in every set.

symbol: n



The intersection of Set A and Set B is written as $A \cap B$
same fruits in both bowls

Items in both sets make the intersection.

Now look at the last picture of sets:

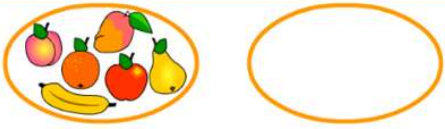
Picture 4: <http://www.amathsdictionaryforkids.com/gr/e/emptySet.html>

T: If they put their fruit in two bowls and dad eats all the fruit his bowl will be empty. This is called a Void Set.

empty set

An empty set has no elements (members).
Its cardinal number is zero.

symbols: \emptyset and $\{\}$



An empty set may also be called a void set.



ACTIVITY 1: 10 MIN

- Teacher asks the students to put the idea of sets into practice. He/she draws three separate sets on the board.
- Then teacher writes the name of the cities above each set on the board (or he/she asks the students to do this) and then asks them in which country each city is. Teacher writes:

LONDON- set A NEW YORK- set B LOS ANGELES – set C

T: If I say HARRY POTTER, what city can you think of?

S: London.

T: If I say the zoo of the film MADAGASCAR, what city can you think of? ...

S: New York.

T: If I say HOLLYWOOD stars, what city can you think of?

S: Los Angeles.

- Teacher now asks the students about holidays and asks them in which of these cities they want to go for a holiday. Students raise their hands when the teacher names the location of their choice. Then students can write their names on the board in the chosen set.

T: London, New York and Los Angeles are beautiful big cities. Think of your next holiday. Where do you want to go on holiday next summer?

Choose A, B or C. Raise your hand when I say the city you want to visit.

Who wants to go on holiday to London?

Who wants to go on holiday to Los Angeles?

Who wants to go on holiday to New York?

- Children raise their hands.

T: Now come to the board and write your name in the set of the city you want to visit.

- Each student writes his/her name in the chosen set on the board labelled London/Los Angeles / New York.

T: If you want to go to 2 places then you can add your name to another set.

T: Is there anyone who wants to go both to London and New York?

(Students add their names to the other set, too).

T: Is there anyone who wants to go to London and Los Angeles?

(They add their names to the other set, too).

T: Who wants to go to New York and Los Angeles? (They add their names to the other set, too).

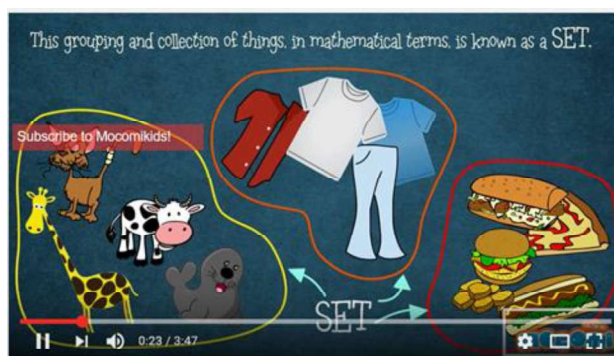
- Then teacher draws the intersecting sets and students can see on the board the result.



ACTIVITY 2: 10 MIN

- The video provides basic information about sets and what a Venn diagram is. Students watch the video and describe the sets they see.

<https://www.youtube.com/watch?v=mLluHU5Sj5w>



- Teacher asks students to get into pairs.

T: Let's watch a video about sets! Try to remember the sets you see. I want to test your memory!

How many sets can you see in the video? What items appear in these sets?

- Teacher plays the first part of the video (1.17) then goes round the class asking the students what they remember and lists them on the board.

Clothes - Animals – Food - Shoes – Numbers - Sports

- Then teacher plays the whole video but this time the teacher stops the video after each set so students can check their answers. Teacher asks :

Can you name some sets? (basketball team – tennis team – outdoor / indoor sports)

What sports are in the sets? (badminton, cricket, football, table tennis, chess, video games)

Can you draw a Venn Diagram?

Can you use other shapes to create a set?

Which is the name of the largest set?

- Teacher writes the above questions and then the answers on the board.



ACTIVITY 3: 15 MIN

- Teacher asks students to solve a problem and represent the solution with a Venn diagram. Students work in pairs. Teacher writes the problem on the board and the students copy it in their exercise books.

T: I want you to get into pairs and solve the following problem (teacher reads the text):

150 children were interviewed to ask if they preferred to do a Music or an English course as an after school activity.

85 wanted to do an English course.

70 wanted to do a Music course.

50 wanted to do both English and Music.

- Then teacher writes the following questions on the board and asks students to copy the questions and write their answers next to them:

1) How many signed up for a music course?

- 2) How many signed up for an English course?
- 3) How many signed up for Music and English course?
- 4) How many signed up for neither Music nor English course?

T: Draw a Venn diagram with this information.



ACTIVITY 4: 45 MIN

- The teacher chooses 3 categories, for example:

Gaming device- group 1

The best YouTuber- group 2

Smartphone applications- group 3

The categories can be changed based on your students' interests. For each category the whole class chooses 3 examples. E.g. Gaming devices: Nintendo/Playstation/Xbox.

- Teacher divides students into 3 groups and assigns each group a category. Each member of the group receives one survey sheet from the group's category. (**Appendix 1**) and fills in the top line with the examples chosen by the whole class.
- Students from each group ask each other the question (E.g. Group 1):

SS: Which of these (gaming devices) do you use?

Then they write the results on their Survey sheets (**Appendix 1**).

Here is a sample of some possible answers.

NINTENDO WII U/DS	PLAY STATION	XBOX
Steven	Florentine	Kate

When they have finished they need to re-group.

- Within every group the teacher assigns every student a letter: A, B, C, etc. and then asks all As, Bs, Cs (etc.) to create separate groups. Within the new groups the students share information about the category from their original group. For example, student A in group 1 collects information from student A from group 2 and 3 and so on, and records the results in the table below:

NINTENDO WII U/DS	PLAY STATION	XBOX
Steven	Florentine	Kate
Oliver	Iwona	Adele

- Then each student goes back to their original group and shares the collected information.
- The teacher distributes a large cardboard, pens and colouring pencils. Students use all the information collected in the survey charts to draw sets on the cardboard/ construction paper.

They use the answer to the following questions (questions are written on the board) to present their results:

Group 1

How many children use (Xbox, Play Station and Wii) sets?

Which is the most popular (gaming device) in the whole class? (And why?)

How many students use two different (gaming devices)? - Intersection between two sets

How many students use more than 1 (gaming device)? - Intersection between two and more sets

Which (gaming device) is most often used by girls in your class?

Which (gaming device) is most often used by boys in your class?

Group 2 and 3 do the same

Each group presents their results in the form of sets to the whole class on construction paper cardboard.



Fast finishers: online games at:

<https://eu.ixl.com/math/grade-2/sort-shapes-into-a-venn-diagram>

<https://eu.ixl.com/math/grade-2/count-shapes-in-a-venn-diagram>

<https://eu.ixl.com/math/grade-2/venn-diagrams-with-three-circles>

5.3.1 NUMBERS - LESSON 3 - APPENDIX 1

Label the columns with items most popular with your students in each category.

Add extra lines for more students.

Table 1 :Survey sheet gaming device

<i>[Name of gaming device]</i>	<i>[Name of gaming device]</i>	<i>[Name of gaming device]</i>

Table 2: Survey sheet for Favourite Youtuber

<i>[Name of Youtuber]</i>	<i>[Name of Youtuber]</i>	<i>[Name of Youtuber]</i>

Table 3: Survey sheet for favourite smart phone applications

<i>[Smartphone app]</i>	<i>[Smartphone app]</i>	<i>[Smartphone app]</i>