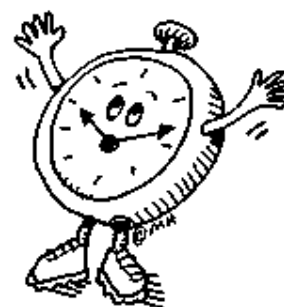


Reading clocks and Understanding time using Numicon

Margi Leech



Use this booklet alongside 'Telling the Time Programme' as a free download from www.numicon.co.nz



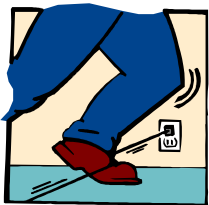
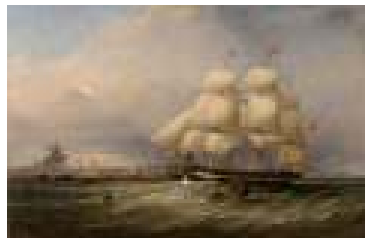
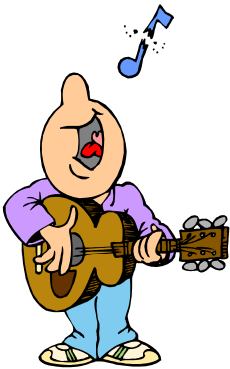
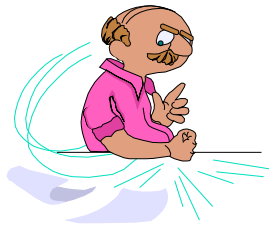
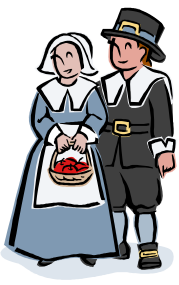
Understanding time

Sort these pictures under the heading below:

Long time ago

Long time

Short time



Understanding time- flashcards for ordering

Months

Days

Seasons

January

Sunday

summer

February

Monday

autumn

March

Tuesday

winter

April

Wednesday

spring

May

Thursday

June

Friday

July

Saturday

August

September

October

November

December

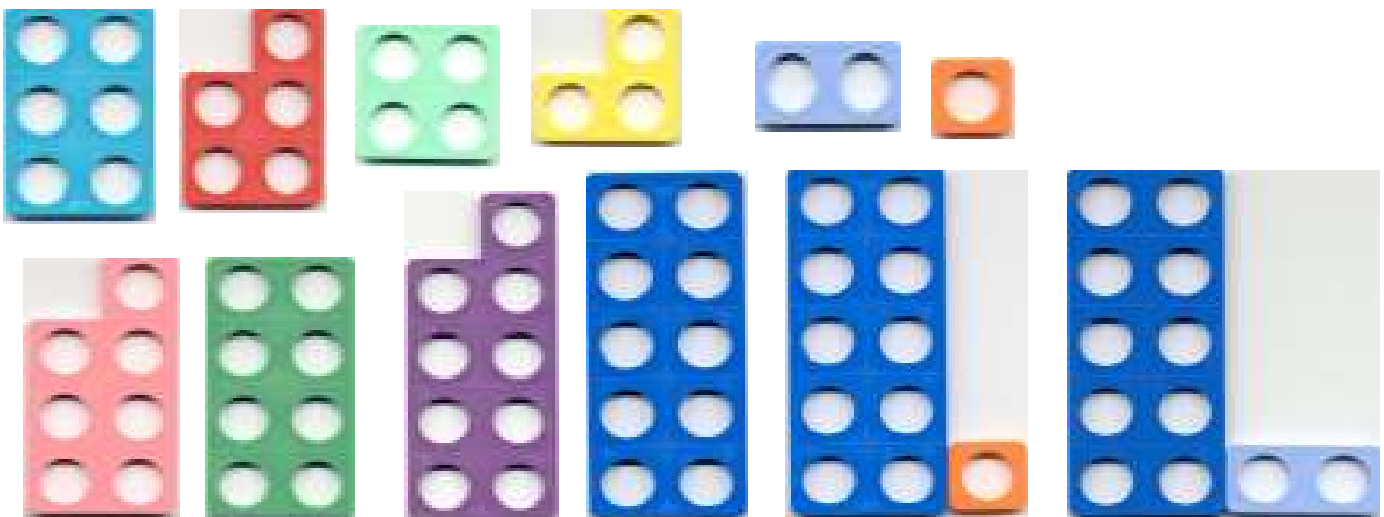
Instructions:

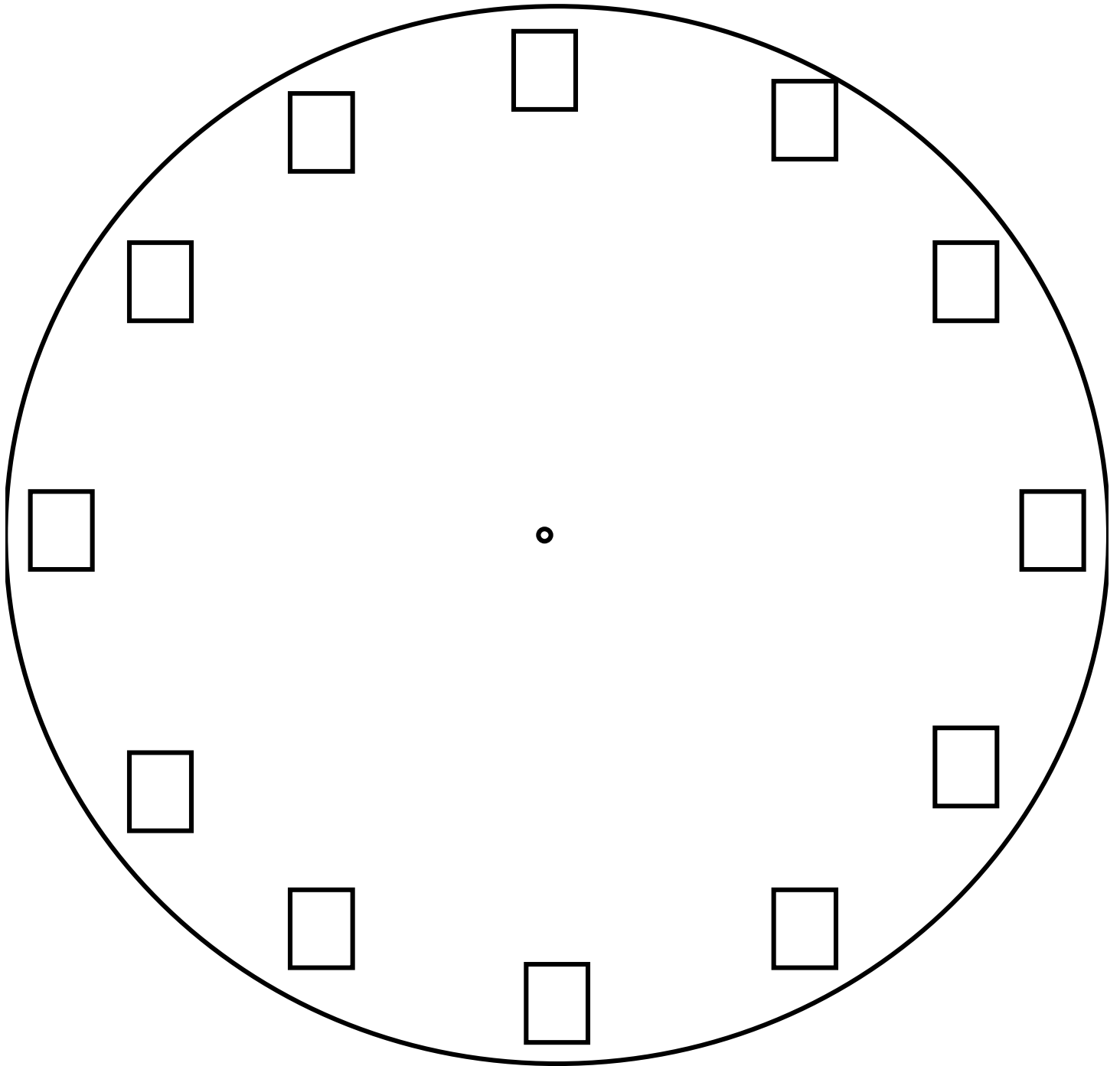
A detailed sequence can be found in the record of progress pages

Briefly:

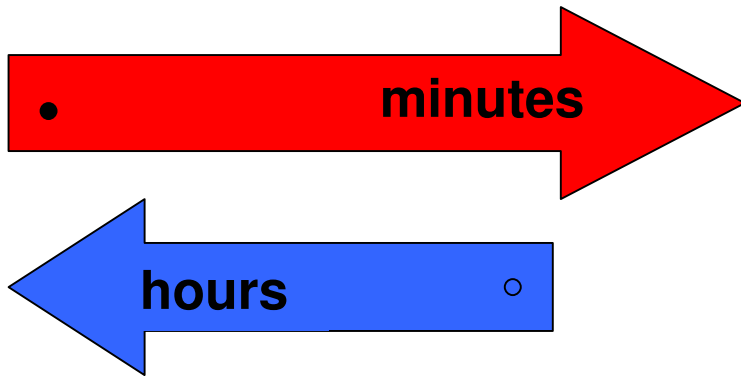
- Place the hour cards in a number line. Place the Numicon shapes in a number line. Reshape them into a circle to show a circular number line.
- At this point learn o'clock with the significance of the '12'. Connect o'clock with the hours and the hour hand. Use a real clock to show the hand movement and the telling of the time at o'clock.
- Repeat with the numbers of the minutes and the numicon shapes. Eg '25' will be 2x10's and a '5'
- Discuss this and then associate the two number lines into 2 separate circles, the minutes inside the hours.
- Replace the Numicon shapes with Numeral cards so that the child makes the connection of the hours and the numerals and the two hands- hour and minute- not long and short.
- Teach the association of the hours and the minutes and memorise them. Use the cards. Learn to **say** the times as you would for a digital clock- 3:25. Coordinate with the digital clock. Using 2 real clocks would be helpful.
- Then introduce the 'past' and 'to' concepts and teach how to **read** each one. See 'Record of Progress'

You may want to increase the size of these shapes and laminate when using them for homework activities





Print this page,
then increase to
A3 size on a
photocopier.
Laminate.



Hour cards

1

2

3

4

5

6

7

8

9

10

11

12

Minute cards

00

05

10

15

20

25

30

35

40

45

50

55

60

Clock association cards

1
05

2
10

3
15

4
20

5
25

6
30

7
35

8
40

9
45

10
50

11
55

12
60

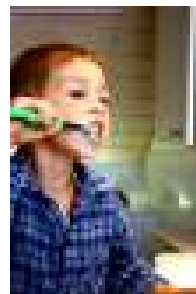
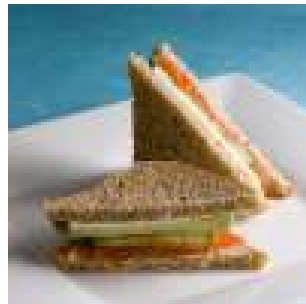
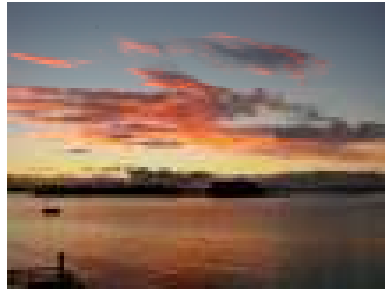
Time- language flashcards.- Laminate these

Use these cards to place around the clock once you have learned 'HOURS'.

Begin with morning and evening, midnight and midday/noon to introduce the idea that the hands go twice around the clock to make a full day, and then relate the child's activities to the day knowing that we are talking about long periods of time. Minutes will come next with short periods of time.

morning	evening	afternoon
midnight	midday	noon
dawn	wake up	breakfast
get ready for school	leave for school	school begins
morning break	lunch	school finishes
maths	reading	Rainbow Reading
Sports	Science	Social Studies

Arrive home	Homework	Dinner
watch TV	Play	get ready for bed
lights out	Dad's home	Mum's home
light	dark	sleeping
awake	nearly light	nearly dark

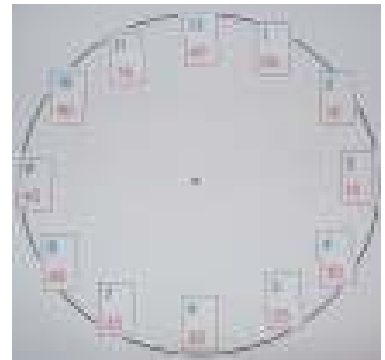




hours



minutes



hours and minutes



Reading the clock -Record of progress

Name:

Enter the dates as appropriate in the columns below

Early stages of understanding time			
	Concept	Introduced	Achieved
1	Identifies and names- Day & night, morning, afternoon, evening		
2	Identifies and names -Days of the week		
3	Identifies and names -Months of the year		
4	Identifies and names -Years		
5	Sequences events in stories		
6	Sequences events in real life		
7	Reads and follows timetables throughout the day		
8	Reads and follows timetables throughout the week		
9	Knows and sequences events throughout the year		
10	Can read number line and sequence of number on the clock face		
11	Names and demonstrates -Hands on the clock- Hour (long time) and Minute (short time)		
12	Names and demonstrates -Sections/language - half, past, before, to, after		
13	Names and demonstrates O'clock = 12, matching activities that happen at o'clock, reading the time, saying the words. e.g. 'I wake up at 7 o'clock.'		
14	Can read and follow a time diary with pictures		
15	Can differentiate 'long' and 'short' time periods		
16	Can identify and names key times through the day e.g. bed time, lunch time, dinner time		
17	Can fill in a blank clock with the numbers correctly sequenced		
18	Can fill in a blank clock with the numbers correctly placed		

Name:

Understanding time			
	Concept	Introduced	Achieved
1	Knows and sequences the hours within a 12 hour period		
2	Matches activities to the hours in a twelve hour period		
3	Knows that one day has two 12-hour periods, am/pm		
4	Knows that one day has one 24-hour period		
5	Can read the digital clock- hours , 12 hour and 24 hour versions		
6	Can match timetables with digital clock and analog clock- hours only		
7	Demonstrates understanding- one hour after and one hour before		
8	Demonstrates understanding- ____ hours after and ____ hour before		
9	Can process time living issues e.g. That to catch a bus at 11.00, they must allow time to get <u>to</u> the bus stop.		
10	Can process time living issues e.g. That to catch a bus, they must allow time to get to school <u>after</u> reaching the school stop.		
11	Can process a meeting time and organise self to be there. e.g. meeting a friend at McDonalds		
12	Demonstrate understanding minutes being a shorter time		
13	Knows there are 60 minutes being the same as 1 hour		
14	Knows that 5 minutes on the clock is marked by the place of the digit on the clock		
15	Can count in 5's and 10's up to 60 and match the groups with the clock digits		
16	Knows that 00 overlaps 60 and matches 12 on the clocks		
17	Can read a digital clock with hours and minutes e.g. 'three twenty-five'		
18	Can read an analog clock in hours and minutes		
19	Can match the times of analog and digital		
20	Can add 'half past' in the time description		
21	Can add 'half to' in the time description		
22	Can add 'quarter past' in the time description		
23	Can add 'quarter to' in the time description		
24	Can read halves and quarters at any position of the analog clock		

Comments:

Name:

Calculating time			
	Concept	Introduced	Achieved
1	Can work out the passage of time for half hour <u>after</u> . e.g. If the train takes 30 minutes, what time will it arrive?		
2	Can work out the passage of time for half hours <u>before</u> . e.g. If the train leaves at _____, what time will it arrive?		
3	Can work out the passage of time for quarter hours <u>after</u> . e.g. If the bus takes 15 minutes, what time will it arrive?		
4	Can work out the passage of time for quarter hours <u>before</u> . e.g. If the bus leaves at _____, what time will it arrive?		
5	Can work out duration of time. e.g. If a cake needs 25 minutes to bake. When will it be ready?		
6	Can manage time to prepare for an event. e.g. If I need to be ready at 1.30pm, When do I need to get ready?		
7	Can time self in tasks and record it, to answer questions like: 'I can get ready for school in 30 minutes.'		
8	Can process situations such as- 'My TV programme starts at 5.25pm. How long have I got?'		
9	Can use multiples of 10 in the analog/digital clock to work out 10 in the future and 10 minutes in the past.		
10	Can use multiples of 10 in the analog/digital clock to work out time in the future and time in the past to solve problems of: 'It is 10.20 now and my friends are coming at 10.45. How long until they arrive?' I left home at 8.00 and now it is 9.25. 'How long did it take me?'		
11	Crossing over understanding minutes, e.g. It is 3.37 minutes and 5 minutes later will be?		
12	Can set the time with an analog alarm clock using the previous concepts/alarm		
13	Can set a digital clock alarm using the previous concepts/skills		
14	Demonstrates understanding of seconds		
15	Understands and uses seconds in cooking with a microwave		
16	Can read a digital clock with seconds		
17	Can read a second hand on an analog clock		
18	Can use a timer e.g. oven		
19	Can time an event with seconds		
20	Can time an event with seconds and minutes		
21	Can time an event with hours, minutes and seconds		
22	Can set a clock to a corrected time- digital		
23	Can set a clock to a corrected time- analog		
24	Can read and use a bus/train/plane timetable		
25	Can follow a school timetable independently.		

Resources

- www.numicon.co.nz- Free clock programme
- Numicon Kits One, Two, Three
- Maths interactive file
<http://nationalstrategies.standards.dcsf.gov.uk/node/47764>
- Search options- Clock, telling the time at
<http://nationalstrategies.standards.dcsf.gov.uk/primary/>
- Many activities at
<http://www.bbc.co.uk/schools/numbertime/links.shtml>
- <http://www.curriculumconcepts.co.nz/> Search under 'Time' and 'Clock'.

