

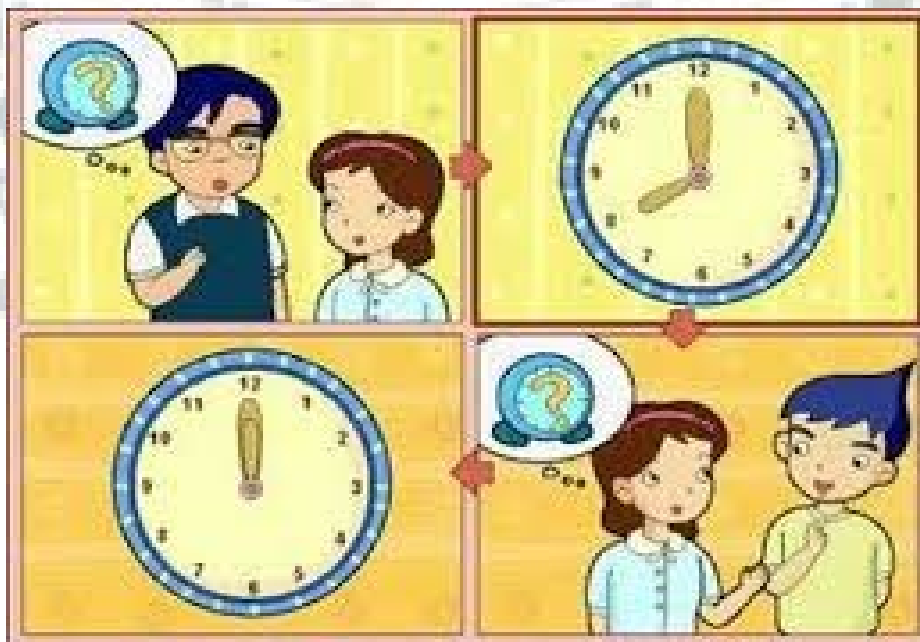


CH-4

Tick Tick Tick

❖ Summary

- A.M and P.M / 12 Hour Clock
- Write the time using a.m. or p.m.
- How long will it take the minute hand to move from?
- The 24 Hours Clock Time
- Converting 24 hours clock time to 12 hours clock time.
- Change to 12 hours clock time.
- Converting 12 hours clock time to 24 hours clock time.
- Change to 24 hours clock time.
- Time calculation
- Time - Addition and Subtraction
- Time – word problems.
- Activity

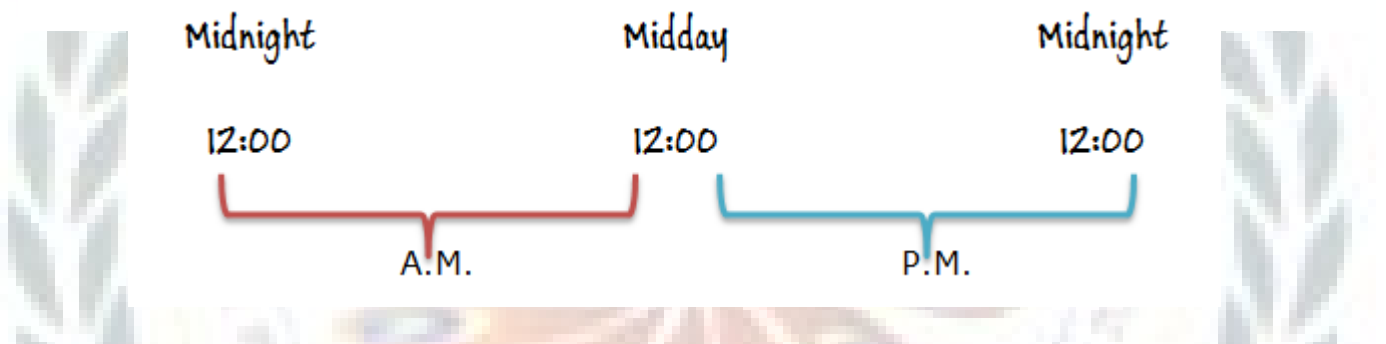


• A.M and P.M / 12 Hour Clock

Most of the clocks that we see are 12-hour clock. In 12-hour, clock, a full day (i.e. 24 hours) are divided into two parts of 12 hour each. The first part is known as a.m. or A.M. (ante meridian), which means before noon {i.e. time between midnight (0:00) & noon (12:00)} and second part is known as p.m. or P.M. (post meridian), which means after noon {i.e. time between noon (12:00) & midnight (0:00)}.

Technically, midnight and noon, each hour of the day is suffixed by am or pm to identify whether the hour is being referred is the morning, afternoon or evening. But most digital clocks show 12 am and 12 pm to specify midnight and noon, respectively.

We generally use 12 hours clock time in which hour hand takes two rounds of the face of the clock in 24 hours.



• Do you like sky watching? If yes, then this one should interest you:

(a) At what time does the sun rise at you place?

Ans. (a) The sun rises at 5: 30 in the morning.

(b) When does the sunset?

Ans. (b) The sun sets at 6:15 in the evening.

(c) Does the sun rise and set at the same times every day?

Ans. (c) The sun does not and set at the same time every day.

• Write the time using a.m. or p.m.

a. 4:30 in the evening – pm

b. 10 minutes past midnight- am

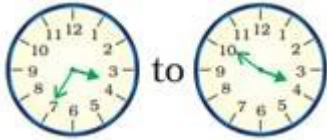
c. 1 o'clock in the afternoon – pm

d. 2 o'clock in the morning – am

Find out:

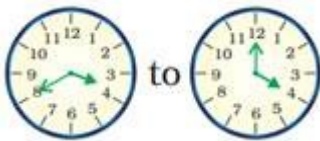
How long will it take the minute hand to move from?

(a)



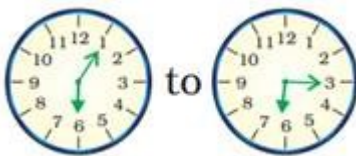
Ans. (a) Minute hand moves from 7 to 10. Therefore, it moves $(10-7) \times 5 = 3 \times 5 = 15$ divisions.

(b)



Ans. (b) Minute hand moves from 8 to 12. Therefore, it moves $(12-8) \times 5 = 4 \times 5 = 20$ divisions.

(c)



Ans. (c) Minute hand moves from 1 to 3. Therefore, it moves $(3-1) \times 5 = 2 \times 5 = 10$ divisions.

(d)



Ans. (d) Minute hand moves from 2 to 9. Therefore, it moves $(9-2) \times 5 = 7 \times 5 = 35$ divisions.

• The 24 Hours Clock Time

Digital watches show time in 24 hours clock time. In case of 24-hour clock, the day runs from midnight to midnight and is divided into 24 hours, which shows the hours passed since midnight, from 0 to 23. In 24 hours, clock time is shown in 4 digits.



Hours Minutes

12 o'clock midnight is expressed as 0000 hrs. and 12 o'clock noon is expressed as 1200 hrs.

- **Converting 24 hours clock time to 12 hours clock time.**

In this case use a.m. if number of hours is less than 12 and if numbers of hours is more than 12 then subtract 12 from the number of hours given and use p.m.

Example 1: 0400 hrs.

Here, number of hours is less than 12. So, time according to 12 hours clock time is 4:00 a.m.

Example 2: 1640 hrs.

Here, number of hours is more than 12. So, we will subtract 12 from 16 hours and add p.m. Time according to 12 hours clock time is $(16 - 12 = 4)$ hrs. = 4:40 p.m.

- **Change to 12 hours clock time.**

a. 1450 hrs

b. 0650 hrs

c. 0700 hrs

- **Converting 12 hours clock time to 24 hours clock time.**

If the time given is before 1 p.m., simply write the hours and minutes in the 24 hours clock time format. Beyond 1 p.m. add 12 to the hour part of the given time.

Example 1: 5:25 a.m.

Here time is before 1 p.m. So, we will simply write the time in 24 hours clock time format i.e. 0525 hrs.

Example 2: 6:10 p.m.

Here time is beyond 1 p.m. So, we will add 12 to the hour part of the given time.

$(6 + 12 = 18)$ hrs.

1810 hrs.

- **Change to 24 hours clock time.**

a. 4:00 a.m.

b. 7:40 p.m.

c. 2:45 p.m.

- **Time calculation**

Q1. What time will it be 3 hrs 40 min after 3:25 a.m.?

Q2. What was the time 2 hrs 30 min before 4:15 p.m.?

Q3. A movie lasted for 3 hrs 15 min. If the movie ended at 3:45 p.m., at what time did it start?

- **Time - Addition and Subtraction**

Step1: Write the units on the top.

Step2: Write the numbers in proper place below the units. Write zero in empty place.

Step 3: Now add or subtract as per the instruction given in question.

- **Addition**

Example: Add 3 hrs 35 min 50 sec and 2 hrs 40 min 34 sec

	hours	minutes	seconds
	3	35	50
+	2	40	34
<hr/>			
	5	75	84

$$\begin{aligned} 5 \text{ hrs } 75 \text{ min } 84 \text{ sec} &= 5 \text{ hrs } (60 + 15) \text{ min } (60 + 24) \text{ sec} \\ &= (5 + 1) \text{ hrs } (15 + 1) \text{ min } 24 \text{ sec} \\ &= 6 \text{ hrs } 16 \text{ min } 24 \text{ sec} \end{aligned}$$

- **Find the total:**

a. 3 hrs 38 min and 5 hrs 35 min

b. 27 min 55 sec and 8 min 33 sec

- **Subtraction**

Example: Subtract 3hrs 45 min 30 sec from 8 hrs 35 min 20 sec

hours	minutes	seconds
8 7	35 ³⁴ (34+60 = 94)	20 (60 + 20 = 80)
- 3	45	30
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4	49	50

• **Find the difference of:**

- 7 hrs 40 min and 4 hrs 55 min
- 25 min 45 sec and 7 min 50 sec

• **Time – word problems.**

Q1 A painter took 8 hrs to paint 2 walls. It took him 3 hrs 25 min to paint first wall. How long does he take to paint the second wall?

Q2 Ria goes to art class every day for 1hr 35 min. What time does she spend in learning art in 3 days?

Q3 Meena takes 5 min 4 sec to solve 1 question. How much time she took if she had solved 5 questions?

• Activity

- Draw the watch and show the time and parts.

