Reasoning and Problem Solving
Step 4: Analogue to Digital – 24 Hour

National Curriculum Objectives:

Mathematics Year 4: (4M4b) Read, write and convert time between analogue and digital 24-hour clocks
Mathematics Year 4: (4M4c) Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Differentiation:

Questions 1, 4 and 7 (Reasoning)
Developing Explain how many times an analogue clock would chime on the hour after a given 24-hour time. 15 minute intervals used.
Expected Explain how many times an analogue clock would chime on the hour before or after a given 24-hour time. 5 minute intervals used.
Greater Depth Explain how many times an analogue clock would chime on the hours before and after a given 24-hour time. 1 minute intervals used.

Questions 2, 5 and 8 (Problem Solving)
Developing Work out if a child was on time to an appointment. 15 minute intervals used.
Expected Work out if 2 children were on time, early or late to an appointment. 5 minute intervals used.
Greater Depth Work out if 3 children were on time, early or late to an appointment. 1 minute intervals used.

Questions 3, 6 and 9 (Reasoning)
Developing Explain which child correctly guessed the two 24-hour times a stopped analogue clock would be right in a day. 2 children; 15 minute intervals used.
Expected Explain which child correctly guessed the two 24-hour times a stopped analogue clock would be right in a day. 3 children; 5 minute intervals used.
Greater Depth Explain which child correctly guessed the two 24-hour times a stopped analogue clock would be right in a day. 4 children; 15 minute intervals used.

More Year 4 Time Resources.

Did you like this resource? Don't forget to review it on our website.

Analogue to Digital – 24 Hour

1a. The town hall clock is analogue. It chimes every hour. Ravi looks at the time on his smartwatch.

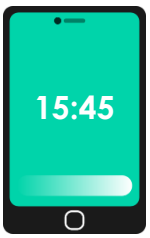
If Ravi waits until the next time the town hall clock chimes, how many chimes will he hear? Explain why.

D

PS

Analogue to Digital – 24 Hour

1b. The town hall clock is analogue. It chimes every hour. Cassie looks at the time on her smartphone.

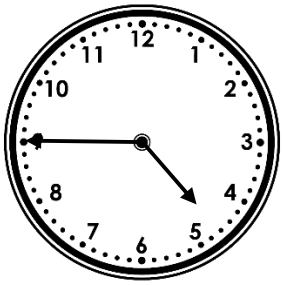


If Cassie waits until the next time the town hall clock chimes, how many chimes will she hear? Explain why.

D

PS

2a. Tali was supposed to be at her house at 16:45. Here is the time she arrived.



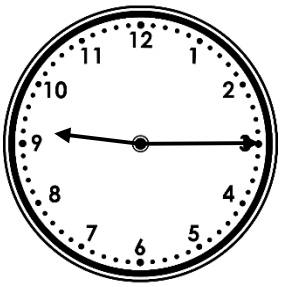
Tali

Did Tali arrive on time?

D

PS

2b. Jay was supposed to be at the cinema at 21:30. Here is the time he arrived.



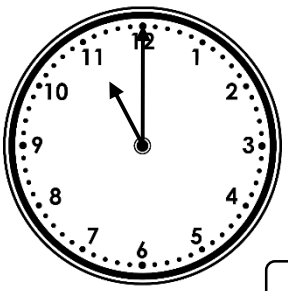
Jay

Did Jay arrive on time?

D

PS

3a. The school clock is stuck.



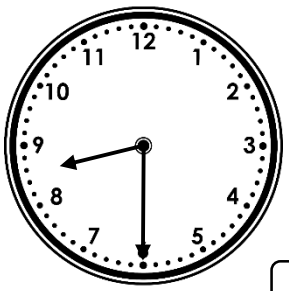
Murray	Joe
11:00	10:00
23:00	22:00

Explain who has correctly guessed the two times the clock could be showing.

D

R

3b. The school clock is stuck.



Heather	Ivy
08:30	08:30
22:30	20:30

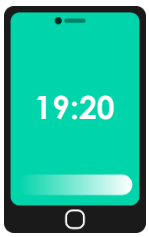
Explain who has correctly guessed the two times the clock could be showing.

D

R

Analogue to Digital – 24 Hour

4a. The town hall clock is analogue. It chimes every hour. Lara looks at the time on her smartphone.



If Lara waits until the next time the town hall clock chimes, how many chimes will she hear? Explain why.

E

PS

Analogue to Digital – 24 Hour

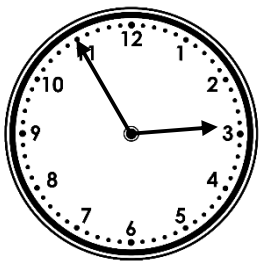
4b. The town hall clock is analogue. It chimes every hour. Ash looks at the time on his smartwatch.

How many chimes would Ash have heard the last time the town hall clock chimed? Explain why.

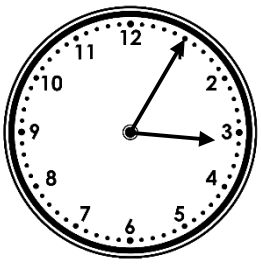
E

PS

5a. Liz and Neil were supposed to be at the shops at 14:55. Here are the times they arrived.



Liz



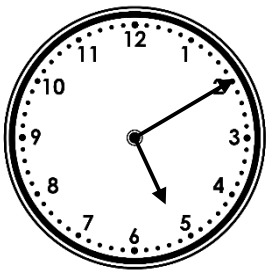
Neil

Who arrived on time?
Who arrived late?

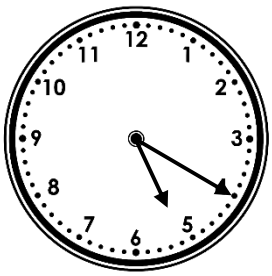
E

PS

5b. Grant and Suki were supposed to be at the park at 17:20. Here are the times they arrived.



Grant



Suki

Who arrived on time?
Who arrived early?

E

PS

6a. The school clock is stuck.

Zayn

10:35

23:35

Michelle

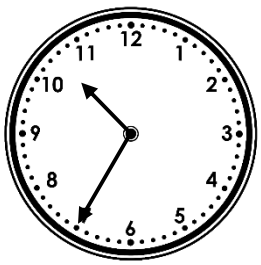
11:35

23:35

Sean

10:35

22:35



Explain who has correctly guessed the two times the clock could be showing.

E

R

6b. The school clock is stuck.

Vicki

04:10

16:10

Krish

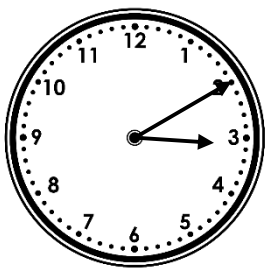
03:10

15:10

Miles

03:10

13:10



Explain who has correctly guessed the two times the clock could be showing.

E

R

Analogue to Digital – 24 Hour

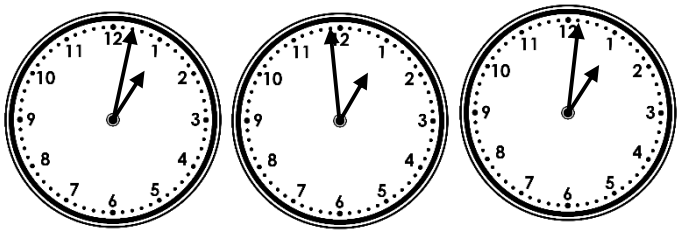
7a. The town hall clock is analogue. It chimes every hour. Debbie looks at the time on her smartwatch.

How many chimes will there be at the next hour? What about at the previous hour? Explain why.

GD

PS

8a. Cam, Val and Okoye were supposed to be at the funfair at 13:01. Here are the times they arrived.



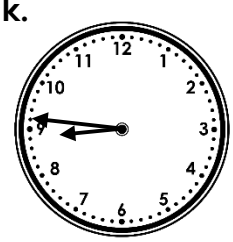
Cam Val Okoye

Who arrived early? Who arrived on time? Who arrived late?

GD

PS

9a. The school clock is stuck.



Reggie		
08:45		
20:45		
Simone	**Gabe**	**Tori**
08:46	08:46	09:46
21:46	20:46	21:46

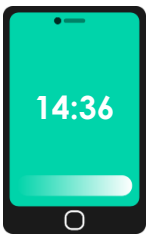
Explain who has correctly guessed the two times the clock could be showing.

GD

R

Analogue to Digital – 24 Hour

7b. The town hall clock is analogue. It chimes every hour. Walid looks at the time on his smartphone.

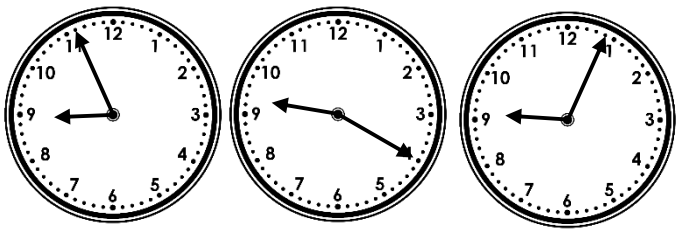


How many chimes will there be at the next hour? What about at the previous hour? Explain why.

GD

PS

8b. Trey, Kobe and Di were supposed to be at the sleepover at 21:04. Here are the times they arrived.



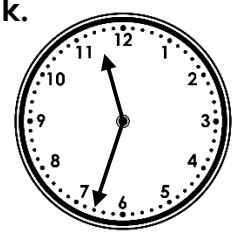
Trey Kobe Di

Who arrived early? Who arrived on time? Who arrived late?

GD

PS

9b. The school clock is stuck.



Ed		
11:33		
22:33		
Carol	**Castor**	**Gill**
12:33	11:33	11:33
00:33	21:33	23:33

Explain who has correctly guessed the two times the clock could be showing.

GD

R

Reasoning and Problem Solving
Analogue to Digital – 24 Hour

Developing

1a. 7 chimes. The next hour will be 19:00, which is 7pm, so he will hear 7 chimes.

2a. Yes, Tali arrived on time.

3a. Murray has correctly guessed the two times. Explanations can focus either on his answer or the mistakes of the other child.

Expected

4a. 8 chimes. The next hour will be 20:00, which is 8pm, so she will hear 8 chimes.

5a. Liz arrived on time. Neil arrived 10 minutes late.

6a. Sean has correctly guessed the two times. Explanations can focus either on his answer or the mistakes of the other children.

Greater Depth

7a. 12 chimes at the next hour and 11 at the previous hour. The next hour will be 00:00, which is 12am, so there will be 12 chimes. The previous hour was 23:00, which is 11pm, so there would have been 11 chimes.

8a. Val arrived 2 minutes early. Okoye arrived on time. Cam arrived 1 minute late.

9a. Gabe has correctly guessed the two times. Explanations can focus either on his answer or the mistakes of the other children.

Reasoning and Problem Solving
Analogue to Digital – 24 Hour

Developing

1b. 4 chimes. The next hour will be 16:00, which is 4pm, so she will hear 4 chimes.

2b. Yes, however, Jay arrived 15 minutes early.

3b. Ivy has correctly guessed the two times. Explanations can focus either on her answer or the mistakes of the other child.

Expected

4b. 9 chimes. The previous hour was 21:00, which is 9pm, so he would have heard 9 chimes.

5b. Suki arrived on time. Grant arrived 10 minutes early.

6b. Krish has correctly guessed the two times. Explanations can focus either on his answer or the mistakes of the other children.

Greater Depth

7b. 3 chimes at the next hour and 2 at the previous hour. The next hour will be 15:00, which is 3pm, so there will be 3 chimes. The previous hour was 14:00, which is 2pm, so there would have been 2 chimes.

8b. Trey arrived 8 minutes early. Di arrived on time. Kobe arrived 16 minutes late.

9b. Gill has correctly guessed the two times. Explanations can focus either on her answer or the mistakes of the other children.