Reasoning and Problem Solving Step 6: 24-hour Clock

National Curriculum Objectives:

Mathematics Year 3: (3M4b) <u>Tell and write the time from an analogue clock and 24-hour</u> <u>clocks</u>

Mathematics Year 3: (3M4d) Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., Before noon, afternoon, noon and midnight

Differentiation:

Questions 1, 4 and 7 (Problem Solving) Developing Ordering train times. 3 times, using 15 minute intervals. Expected Ordering train times. 5 times, using 5 minute intervals. Greater Depth Ordering train times. 5 times, using 1 minute intervals.

Questions 2, 5 and 8 (Reasoning)

Developing Finding the right robber based on times they were seen leaving a crime scene. 2 options, using 15 minute intervals.

Expected Finding the right robber based on times they were seen leaving a crime scene. 4 options, using 5 minute intervals.

Greater Depth Finding the right 2 robbers based on times they were seen leaving a crime scene. 4 options, using 1 minute intervals.

Questions 3, 6 and 9 (Problem Solving)

Developing Sorting times (24-hour clock, words and analogue clock) into 3 categories ('Before noon', 'After noon', and 'Can't tell'). 3 times, using 15 minute intervals. Expected Sorting times (24-hour clock, words and analogue clock) into 3 categories ('Before noon', 'After noon', and 'Can't tell'). 4 times, using 5 minute intervals. Greater Depth Sorting times (24-hour clock, words and analogue clock) into 3 categories ('Before noon', 'After noon', and 'Can't tell'). 3 times, using 1 minute intervals.

More <u>Year 3 Time</u> resources.

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



classroomsecrets.co.uk

Reasoning and Problem Solving – 24-hour Clock – Teaching Information

24-hour Clock		24-hour Clock					
1a. Here is an information board at a station. It shows when trains leave.			1b. Here is an information board at a station. It shows when trains leave.				
Train A	05:45		Train A		17:30		
Train B	20:00		Train B		11:15		
Train C	12:15		Train C		16:30		
Put the trains in order from earliest leaving to latest leaving in the day.		Put the trains in order from latest leaving to earliest leaving in the day.					
2a. A shop was robbed some time after 10.15am. Detective Ivor Clue knows when some criminals left the shop.			2b. A shop was robbed some time after 6.45pm. Detective Ivor Clue knows when some criminals left the shop.				
Rob Erry	09:45		Mo Formee		15:30		
Justin Jale	14:00		Nick Stuff		19:15		
Who should Detective Clue arrest? Explain your answer.			Who should Detective Clue arrest? Explain your answer.				
3a. Here are some different times.		;	3b. Here are some different times.				
A 21:55 C Ten minutes before			A 10:05 C Twenty-five past six in the evening				
midday							
Sort them into these categories:			Sort them into these categories:				
Before After Can't noon noon tell				After noon	Can't tell		
Classroom Secrets Limited 2019 classroom secrets.co.uk							

classroomsecrets.co.uk

© Classroom Secrets Limited 2019

Reasoning and Problem Solving – 24-hour Clock – Year 3 Developing

6a. Here are some different times. A B 00:10 Image: Construction of the second seco	24-hour Clock		24-hour Clock					
Irain B18:00Irain C07:05Irain D02:15Irain E22:45Put the trains in order from latest leaving to earliest leaving in the day.Image: Sar A shop was robbed some time after 03:35pm. Detective Ivor Clue knows when some criminals left the shop.Sa. A shop was robbed some time after 03:35pm. Detective Ivor Clue knows when some criminals left the shop.Image: Noah Fewtrix9:35Rob Banks16:30Eva Wayin15:10Misty Meena11:05Who should Detective Clue arrest?Explain your answer.Image: CCEight thirty-five at nightDCEight thirty-five at nightDDDSort them into these categories:BeforeA fiferCCSort them into these categories:BeforeAfterCan'tNoonDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD								
Train C 07:05 Train D 02:15 Train E 22:45 Put the trains in order from latest leaving to earliest leaving in the day. Put the trains in order from earliest leaving to latest leaving in the day. Sa. A shop was robbed some time after 03:35pm. Detective lvor Clue knows when some criminals left the shop. Sb. A shop was robbed some time after 01:40pm. Detective lvor Clue knows when some criminals left the shop. Noah Fewtrix 9:35 Rob Banks 16:30 Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Who should Detective Clue arrest? Eight thirty-five at night D C C Eight thirty-five at night D D 12:40 Sort them into these categories: Sort them into these categories: Before After Can't noon Moon After Can't noon Noon After Can't noon C Sort them into these categories: Sort them into these categories:	Train A	10:35		Train A	01:30			
Train D 02:15 Train E 22:45 Put the trains in order from latest leaving to earliest leaving in the day. Put the trains in order from earliest leaving to latest leaving in the day. So. A shop was robbed some time after 03:35pm. Detective lvor Clue knows when some criminals left the shop. Sb. A shop was robbed some time after 01:40pm. Detective lvor Clue knows when some criminals left the shop. Noah Fewtrix 9:35 Rob Banks 16:30 Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Who should Detective Clue arrest? Explain your answer. 6a. Here are some different times. A B 00:10 C C C C C Sort them into these categories: Sort them into these categories: Before After Can't noon Noon fell	Train B	18:00		Train B	19:20			
Train E 22:45 Put the trains in order from latest leaving to earliest leaving in the day. Train E 20:50 Put the trains in order from latest leaving to earliest leaving in the day. Put the trains in order from earliest leaving to latest leaving in the day. Put the trains in order from earliest leaving to latest leaving in the day. Sa. A shop was robbed some time after 03:35pm. Detective Ivor Clue knows when some criminals left the shop. Sb. A shop was robbed some time after 01.40pm. Detective Ivor Clue knows when some criminals left the shop. Noah Fewtrix 9:35 Rob Banks 16:30 Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Who should Detective Clue arrest? Explain your answer. 6 C C Quarter past four in the D D0:10 C C C C C Go: 10 D C C C C Go: 10 C C C C C Go: 10 D D D D D Sort	Train C	07:05		Train C	06:10			
Put the trains in order from latest leaving to earliest leaving in the day. Put the trains in order from earliest leaving to latest leaving in the day. Sa. A shop was robbed some time after 03:35pm. Detective lvor Clue knows when some criminals left the shop. Sb. A shop was robbed some time after 01.40pm. Detective lvor Clue knows when some criminals left the shop. Noah Fewtrix 9:35 Rob Banks 16:30 Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Who should Detective Clue arrest? Explain your answer. K C C Eight thirty-five at night D D0:10 D C C C C Ga. Here are some different times. A A B D0:10 D C C Quarter past four in the morning D 12:40 Sort them into these categories: Before After Can't noon Meen an indow here are categories: Sort them into these categories:	Train D	02:15		Train D	04:55			
to earliest leaving in the day. 5a. A shop was robbed some time after 03:35pm. Detective lvor Clue knows when some criminals left the shop. So. A shop was robbed some time after 03:35pm. Detective lvor Clue knows when some criminals left the shop. Sb. A shop was robbed some time after 01.40pm. Detective lvor Clue knows when some criminals left the shop. Noah Fewtrix 9:35 Rob Banks 16:30 Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Explain your answer. Who should Detective Clue arrest? Explain your answer. C C C Eight thirty-five at night D D C D Eight thirty-five at night D D D Sort them into these categories: Sort them into these categories: Before After Can't Before Matter Can't Doon noon	Train E	22:45		Train E	20:50			
Rob Banks 16:30 Rob Banks 16:30 Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Carrie Itov Explain your answer. Who should Detective Clue arrest? Image: Stress of the minto these categories: B Image: Stress of the minto these categories: B Image: Stress of the minto these categories: Can't Image: Stress of the minto these categories: B Image: Stress	to earliest leaving in the day. 5a. A shop was robbed some time after 03:35pm. Detective Ivor Clue knows when		to latest leaving in the day.					
Eva Wayin 15:10 Misty Meena 11:05 Who should Detective Clue arrest? Carrie Itov Explain your answer. Who should Detective Clue arrest? Solution B C C Eight thirty-five at night D D D Sort them into these categories: Sort them into these categories: Before After Can't Can't Conon Can't	Noah Fewtrix	9:35		Art Forger	13:15			
Misty Meena 11:05 Carrie Itov 12:35 Who should Detective Clue arrest? Who should Detective Clue arrest? Explain your answer. Image: Clue arrest? 6a. Here are some different times. A B Image: Clue arrest? Image: Clue arrest? 6a. Here are some different times. A B Image: Clue arrest? Image: Clue arrest? C C Image: Clue arrest? Image: Clue arrest? Image: Clue arrest? C C Image: Clue arrest? Image: Clue arrest? C C Image: Clue arrest? Image: Clue arrest? C Image: Clue arrest? Image: Clue arrest? Image: Clue arrest? C Image: Clue arrest? Image: Clue arrest? Image: Clue arrest? C Image: Clue arrest? Image: Clue arrest? Image: Clue arrest? C Image: Clue arrest? Image: Clue arrest? Image: Clue arrest? C Image: Clue arrest? Image: Clue arrest? Image: Clue arrest? C C Clue arrest? Image: Clue arrest? Image: Clue arrest? C C Clue arrest? Clue arrest? Image: Clue arre	Rob Banks	16:30		Nicole Ovit	10:45			
Who should Detective Clue arrest? Explain your answer. Image: A bit of the process of the proces of the proces of the process of the process of the process of the	Eva Wayin	15:10		Eli Zalot	13:50			
Explain your answer. Explain your answer. 6a. Here are some different times. 6b. Here are some different times. A B 00:10 0.10 C 0.10 D	Misty Meena	11:05		Carrie Itov	12:35			
A B 00:10 00:10 C 00:10 D 00:	Explain your answer.							
00:10CCCEight thirty- five at nightDD12:40Sort them into these categories:CBeforeAfter noonCan't tellCAfter noonCCCCQuarter past four in the morningD15:25Sort them into these categories:DBefore noonAfter noonCan't tell	6a. Here are some different times.		6b. Here are some different times.					
C Eight thirty- five at nightD D 12:40C Quarter past four in the morningD D 15:25Sort them into these categories:Sort them into these categories:Sort them into these categories:Before 	A	B		A	B			
five at night D five at night D 12:40 Sort them into these categories: Before After Can't noon tell four in the morning four in	00:10			22:50				
five at night D five at night D 12:40 Sort them into these categories: Before After Can't noon tell four in the morning four in	Fight thirty-	·		C Quarter past	<u>, 7. 6. 5</u>			
12:40morning15:25Sort them into these categories:Sort them into these categories:BeforeAfterCan'tnoonnoontell				-				
Before After Can't noon noon tell		12:40			15:25			
noon noon tell noon tell	Sort them into these categories:			Sort them into these categories:				
	Before At]		
			企	noon	noon tell	PS		

classroomsecrets.co.uk

CLASSROOM Secrets

© Classroom Secrets Limited 2019

Reasoning and Problem Solving – 24-hour Clock – Year 3 Expected

24-hour Clock		24-hour Clock					
7a. Here is an information board at a station. It shows when trains leave.		7b. Here is an information board at a station. It shows when trains leave.					
Train A	03:19		Train A	\		22:09	
Train B	15:32		Train B	,		13:34	
Train C	05:43		Train C	:		09:48	
Train D	20:56		Train D)		15:27	
Train E	21:07		Train E			16:21	
Put the trains in order from earliest leaving to latest leaving in the day.		Put the trains in order from latest leaving to earliest leaving in the day. 8b. A shop was robbed some time after 08.13pm. Detective Ivor Clue knows when some criminals left the shop.					PS
Rob Ing	12:19		Owen Money		20:21]
Anna Bitmore	09:36		Em Bezzle		08:43		
Kat Burglar	13:01	Lars Senny		18:18			
Will Steal	12:26	Phil Mybag		20:31			
Who should Detective Clue arrest? Explain your answer.		Who should Detective Clue arrest? Explain your answer.					R
9a. Here are some different times.		9b. Here are some different times.					
	C		Α	Ē	8	С	
Eight minutes to 08:			Six thirty- three at	[18:	14	Nineteen minutes	
five in the E	in the evening		night	E		past	
D morning	2 F		D	··· 11	2	midday F	
19:57	17:22		22:19	· 8	3 4 5	г 11:56)
Sort them into these categories:		Sort them into these categories:				-	
	fter Can't		Before	A	fter	Can't]
	oon tell _{PS}		noon	n	oon	tell	PS

classroomsecrets.co.uk

CLASSROOM Secrets © Classroom Secrets Limited 2019

Reasoning and Problem Solving – 24-hour Clock – Year 3 Greater Depth

Reasoning and Problem Solving 24-hour Clock

Developing

1a. Train A, Train C, Train B.
2a. Justin Jale, because the other criminal left the shop before 10.15am.
3a. Before noon: C. After noon: A. Can't tell: B.

Expected

4a. Train E, Train B, Train A, Train C, Train D.
5a. Rob Banks, because all the other criminals left the shop before 3.35pm.
6a. Before noon: A. After noon: C, D. Can't tell: B.

Greater Depth

7a. Train A, Train C, Train B, Train D, Train E. 8a. Kat Burglar and Will Steal, because all the other criminals left the shop before 12.24pm.

9a. Before noon: A, B. After noon: C, D, F. Can't tell: E.

Reasoning and Problem Solving 24-hour Clock

Developing

1b. Train A, Train C, Train B.
2b. Nick Stuff, because the other criminal left the shop before 6.45pm.
3b. Before noon: A. After noon: C. Can't tell: B.

Expected

4b. Train A, Train D, Train C, Train B, Train E.
5b. Eli Zalot, because all the other criminals left the shop before 1.40pm.
6b. Before noon: C. After noon: A, D. Can't tell: B.

Greater Depth

7b. Train A, Train E, Train D, Train B, Train C. 8b. Owen Money and Phil Mybag, because all the other criminals left the shop before 8.13pm.

9b. Before noon: F. After noon: A, B, C, D. Can't tell: E



classroomsecrets.co.uk

Reasoning and Problem Solving – 24-hour Clock ANSWERS