## Varied Fluency <br> Step 6: Timetables

## National Curriculum Objectives:

Mathematics Year 5: (5M4) Solve problems involving converting between units of time

## Differentiation:

Developing Questions to support reading timetables, including converting between hours and minutes. Times in intervals of 10 minutes, within one hour and using the 12 hour clock. Expected Questions to support reading timetables including converting between hours and minutes or minutes and seconds. Time in intervals of 5 or 10 minutes, beyond one hour and using the $\mathbf{2 4}$ hour clock.
Greater Depth Questions to support reading timetables including converting between hours and minutes or minutes and seconds. Time in intervals of 1 minute, sometimes beyond one day and using the 24 hour clock.

## More Year 5 Converting Units resources.

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

## Timetables

1a. Look at the bus timetable below.

|  | Bus A | Bus B | Bus C | Bus D |
| :---: | :---: | :---: | :---: | :---: |
| Prestwich | $9: 10$ | $10: 10$ | $11: 00$ | $12: 00$ |
| Carr Clough | $9: 20$ | $10: 20$ | $11: 10$ | $12: 10$ |
| Kersal | $9: 30$ | $10: 30$ | $11: 20$ | $12: 20$ |
| Cromwell St. | $9: 40$ | $10: 40$ | $11: 30$ | $12: 30$ |
| Manchester | $9: 50$ | $10: 50$ | $11: 50$ | $12: 40$ |

How long does it take Bus $C$ to get from Cromwell Street to Manchester?

Which three buses take exactly the same amount of time to travel from Prestwich to Manchester?

1b. Look at the bus timetable below.

|  | Bus A | Bus B | Bus C | Bus D |
| :---: | :---: | :---: | :---: | :---: |
| Beeston | $7: 00$ | $8: 00$ | $9: 00$ | $10: 00$ |
| Infirmary St. | $7: 20$ | $8: 20$ | $9: 20$ | $10: 10$ |
| Headingley | $7: 40$ | $8: 40$ | $9: 40$ | $10: 30$ |
| Holt Park | $7: 50$ | $9: 50$ | $9: 50$ | $10: 40$ |

How long does it take for Bus A to get from Headingley to Holt Park?

Which bus takes the shortest amount of time to travel from Beeston to Holt Park?

2a. Here is a timetable for lake cruises.
Does each journey last the same amount of time?

|  | Boat <br> A | Boat <br> B | Boat <br> C | Boat <br> D |
| :---: | :---: | :---: | :---: | :---: |
| Glenridding | $2: 00$ | $3: 00$ | $4: 00$ | $5: 00$ |
| Aira Force | - | $3: 10$ | - | $5: 10$ |
| Howtown | $2: 30$ | $3: 30$ | - | $5: 30$ |
| Pooley Bridge | $2: 50$ | $3: 50$ | $4: 40$ | $5: 50$ |

How long does it take Boat C to get from Glenridding to Pooley Bridge?

3a. Football Club lasts ten minutes longer than Tennis Club. What time should Football Club end?

| Cricket | Hockey | Tennis | Dance | Football |
| :---: | :---: | :---: | :---: | :---: |
| $9: 00 \mathrm{am}$ | $9: 00 \mathrm{am}$ | $9: 10 \mathrm{am}$ | $9: 30 \mathrm{am}$ | $9: 00 \mathrm{am}$ |
| - | - | - | - | - |
| $9: 30 \mathrm{am}$ | $9: 40 \mathrm{am}$ | $9: 40 \mathrm{am}$ | $9: 50 \mathrm{am}$ | $?$ |

How long is the journey from Bowness to Brockhole?
2b. Here is a timetable for lake cruises.
Does each journey last the same amount of time?

| Leave Bowness | Arrive at <br> Brockhole |
| :---: | :---: |
| $10: 30$ | $10: 50$ |
| $11: 20$ | $11: 40$ |
| $13: 00$ | $13: 20$ |

3b. Talented lasts 20 minutes longer than Dance Off. What time should Dance Off end?

| Talented | Clock Beat | News | Dance Off |
| :---: | :---: | :---: | :---: |
| $4: 00 \mathrm{pm}$ | $5: 00 \mathrm{pm}$ | $5: 30 \mathrm{pm}$ | 7:00pm |
| - | - | - | - |
| $5: 00 \mathrm{pm}$ | $6: 00 \mathrm{pm}$ | 6:00pm | $?$ |

?

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4a. Look at the bus timetable below.

|  | Bus A | Bus B | Bus C | Bus D |
| :---: | :---: | :---: | :---: | :---: |
| Chester | $06: 45$ | $07: 15$ | $07: 45$ | $08: 15$ |
| Capenhurst | $06: 50$ | $07: 20$ | $07: 50$ | $08: 20$ |
| Hooton | $07: 05$ | $07: 35$ | $08: 05$ | $08: 35$ |
| Eastham | $07: 15$ | $07: 45$ | $08: 15$ | $08: 45$ |
| Bromborough | $07: 20$ | $07: 50$ | $08: 20$ | $08: 50$ |
| Liverpool | $07: 45$ | $08: 15$ | $08: 55$ | $09: 15$ |

Which bus takes the longest amount of time to get from Chester to Liverpool?

How many seconds does it take to get from Hooton to Eastham on Bus B?

4b. Look at the bus timetable below.

|  | Bus A | Bus B | Bus C | Bus D |
| :---: | :---: | :---: | :---: | :---: |
| Huddersfield | $06: 00$ | $06: 50$ | $08: 10$ | $09: 15$ |
| Emley | $06: 15$ | $07: 20$ | $08: 25$ | $09: 30$ |
| Flockton | $06: 20$ | $07: 25$ | $08: 30$ | $09: 35$ |
| Overton | $06: 25$ | $07: 30$ | $08: 35$ | $09: 40$ |
| Wakefield | $06: 45$ | $07: 40$ | $08: 55$ | $10: 00$ |

On Bus $A$, how much longer does it take to get from Emley to Wakefield than to get from Huddersfield to Emley?

How many seconds longer does it take to get from Huddersfield to Wakefield on Bus $B$ than the other buses?

5b. Each train takes the same amount of time to travel between each station.

| Harrogate | $10: 05$ | $12: 15$ | $13: 25$ |  |
| :---: | :---: | :---: | :---: | :---: |
| Knaresborough | $10: 25$ |  | $13: 45$ | $14: 55$ |
| Farnham | $10: 35$ |  | $13: 55$ |  |
| Copgrove |  | $13: 00$ |  | $15: 20$ |
| Ripon | $11: 00$ | $13: 10$ | $14: 20$ |  |

Calculate the missing times.

6b. Star Factor lasts ten minutes longer than Cake Bake. What time does Star Factor end?

| Footy Fever | Cake Bake | News | Star Factor |
| :---: | :---: | :---: | :---: |
| $13: 25$ | $16: 20$ | $17: 15$ | $17: 50$ |
| - | - | - | - |
| $14: 20$ | $16: 55$ | $18: 00$ | $?$ |

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7a. Look at the train timetable below.

|  | Train A | Train B | Train C | Train D |
| :---: | :---: | :---: | :---: | :---: |
| West Kirby | $18: 36$ | $19: 08$ | $19: 24$ | $19: 53$ |
| Hoylake | $18: 39$ | $19: 11$ | $19: 27$ | $19: 56$ |
| Leasowe | $18: 48$ | $19: 20$ | $19: 36$ | $20: 05$ |
| Birkenhead | $18: 54$ | $19: 26$ | $19: 42$ | $20: 11$ |
| Hamilton | $19: 01$ | $19: 33$ | $19: 49$ | $20: 18$ |
| Lime Street | $19: 08$ | $19: 40$ | $19: 56$ | $20: 25$ |

Train B is delayed for 17 minutes at Leasowe. What time will it arrive at the other stations?

How many more seconds does it take to get from Hamilton to Lime Street than West Kirby to Hoylake?

8a. Each boat takes the same amount of time to travel between each pier.

| Bankside Pier |  | $12: 46$ | $13: 04$ |  |
| :---: | :--- | :--- | :--- | :--- |
| Blackfriars Pier | $12: 22$ |  | $13: 07$ | $13: 31$ |
| Embankment Pier | $12: 29$ |  | $13: 14$ | $13: 38$ |
| Millbank Pier |  | $13: 04$ |  | $13: 46$ |
| Vauxhall Pier |  | $13: 07$ | $13: 25$ |  |
| Battersea Pier | $12: 43$ |  | $13: 28$ | $13: 52$ |

Calculate the missing times.

9a. Ballet lasts 18 minutes longer than Street Dance and ends 14 minutes before Tap begins. What time should Ballet start and end?

| Ballet | Tap | Street | Ballroom |
| :---: | :---: | :---: | :---: |
| $?$ | $13: 45$ | $15: 05$ | $15: 55$ |
| - | - | - | - |
| $?$ | $14: 10$ | $15: 55$ | $16: 45$ |

7b. Look at the bus timetable below.

|  | Bus A | Bus B | Bus C | Bus D |
| :---: | :---: | :---: | :---: | :---: |
| Lincoln | $05: 30$ | $05: 50$ | $06: 10$ | $06: 20$ |
| Waddington | $05: 46$ | $06: 07$ | $06: 27$ | $06: 48$ |
| Leadenham | $06: 04$ | $06: 25$ | $06: 45$ | $06: 59$ |
| Honington | $06: 21$ | $06: 42$ | $07: 02$ | $07: 26$ |
| Belton | $06: 27$ | $06: 52$ | $07: 12$ | $07: 38$ |
| Grantham | $06: 32$ | $06: 58$ | $07: 18$ | $07: 43$ |

Bus C is delayed for 27 minutes and Bus D is delayed for 2 minutes. Which bus arrives at Grantham soonest?

How many more seconds does it take to get from Honington to Belton on Bus D than Bus B?

8b. Each train takes the same amount of time to travel between each station.

| Birmingham | $22: 33$ |  | $23: 27$ |  |
| :---: | :---: | :---: | :---: | :---: |
| Coventry | $22: 49$ | $23: 12$ |  |  |
| Milton Keynes |  | $23: 27$ |  | $00: 16$ |
| Watford | $23: 47$ | $00: 10$ | $00: 41$ |  |
| London Euston | $23: 56$ |  | $00: 50$ | $01: 08$ |

Calculate the missing times.

9b. Life lasts 16 minutes longer than Top Car and ends 12 minutes before The Hunt begins. What time should Life start and end?

| Life | The Hunt | News | Top Car |
| :---: | :---: | :---: | :---: |
| $?$ | $13: 45$ | $15: 05$ | $15: 55$ |
| - | - | - | - |
| $?$ | $14: 10$ | $15: 55$ | $16: 45$ |

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## Varied Fluency Timetables

Developing
1a. 20 minutes; $\mathrm{A}, \mathrm{B}$ and D
2a. No; 40 minutes
3a. 9:40am

## Expected

4a. C; 600 seconds
5a.

| London Euston | $18: 35$ | $19: 00$ | $19: 25$ | $19: 50$ |
| :---: | :---: | :---: | :---: | :---: |
| Watford | $18: 50$ | $19: 15$ | $19: 40$ | $20: 05$ |
| Milton Keynes | $19: 10$ | $19: 35$ | $20: 00$ | $20: 25$ |
| Coventry | $19: 45$ | $20: 10$ | $20: 35$ | $21: 00$ |
| Birmingham | $20: 00$ | $20: 25$ | $20: 50$ | $21: 15$ |

6a. 17:15

## Greater Depth

7a. Birkenhead - 19:43; Hamilton - 19:50;
Lime Street - 19:57; 240 seconds
8a.

| Bankside Pier | $12: 19$ | $12: 46$ | $13: 04$ | $13: 28$ |
| :---: | :---: | :---: | :---: | :---: |
| Blackfriars Pier | $12: 22$ | $12: 49$ | $13: 07$ | $13: 31$ |
| Embankment <br> Pier | $12: 29$ | $12: 56$ | $13: 14$ | $13: 38$ |
| Millbank Pier | $12: 37$ | $13: 04$ | $13: 22$ | $13: 46$ |
| Vauxhall Pier | $12: 40$ | $13: 07$ | $13: 25$ | $13: 49$ |
| Battersea Pier | $12: 43$ | $13: 10$ | $13: 28$ | $13: 52$ |

Developing
1b. 10 minutes; D
2b. Yes; 20 minutes
3b. 7:40pm

## Expected

4b. 15 minutes; 300 seconds
5b.

| Harrogate | $10: 05$ | $12: 15$ | $13: 25$ | $14: 35$ |
| :---: | :---: | :---: | :---: | :---: |
| Knaresborough | $10: 25$ | $12: 35$ | $13: 45$ | $14: 55$ |
| Farnham | $10: 35$ | $12: 45$ | $13: 55$ | $15: 05$ |
| Copgrove | $10: 50$ | $13: 00$ | $14: 10$ | $15: 20$ |
| Ripon | $11: 00$ | $13: 10$ | $14: 20$ | $15: 30$ |

6b. 18:35

## Greater Depth

7b. Both buses arrive at the same time (07:45); 120 seconds
8b.

| Birmingham | $22: 33$ | $22: 56$ | $23: 27$ | $23: 45$ |
| :---: | :---: | :---: | :---: | :---: |
| Coventry | $22: 49$ | $23: 12$ | $23: 43$ | $00: 01$ |
| Milton Keynes | $23: 04$ | $23: 27$ | $23: 58$ | $00: 16$ |
| Watford | $23: 47$ | $00: 10$ | $00: 41$ | $00: 59$ |
| London Euston | $23: 56$ | $00: 19$ | $00: 50$ | $01: 08$ |

9b. 12:27-13:33

9a. 12:23-13:31


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    Varied Fluency - Timetables - Year 5 Greater Depth

