



## Y5&6 – Maths using Statistics with links to Sustainable Travel - Lesson 2

<b>Objectives:</b>	<ul style="list-style-type: none"> <li>To complete, read and interpret information in timetables.</li> </ul>
<b>Success Criteria:</b>	<ul style="list-style-type: none"> <li>An understanding of the layout</li> <li>Accurate reading</li> <li>Transferral of information</li> </ul>
<p><b>Starter Activity</b>  <a href="http://www.primaryresources.co.uk/maths/pdfs/bustimes.pdf">http://www.primaryresources.co.uk/maths/pdfs/bustimes.pdf</a>            Bus Timetables (3 sheets) (Stephen Ballie) – see p.2 and additional information on pages 3-9 which can be used as required – in class or for homework.</p> <p>Quick fire questions about the time table.</p> <p>NB can be easily adapted to reflect the local area.</p> <p><b>Teacher Input with key questions:</b>            What do time tables do?            Why are they important?            What happens if we misread them?            When might we have to use more than one for a journey?            Do they all work in the same way?            How can we record timetable information rather than just print it off?            How can reading timetables help us plan our journey in terms of cost as well as time?</p> <p><a href="http://www.primaryresources.co.uk/maths/mathsE2.htm">http://www.primaryresources.co.uk/maths/mathsE2.htm</a> Bus Journey Planning (Gwyneth Pocock)</p> <p>Using wipe board and pens – work through the problems.            What other questions could be asked?</p> <p>Explain the word – itinerary – who might use them and why they are important and link with time tables closely.</p>	<p><b>LA 3b – 4c</b>  <a href="http://www.primaryresources.co.uk/maths/pdfs/railway_timetables.pdf">http://www.primaryresources.co.uk/maths/pdfs/railway_timetables.pdf</a>            Complete and answer the questions. LSA support. See p.11.</p> <p><b>MA 4b – 4a</b>  <a href="http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/timetables/index.htm">http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/timetables/index.htm</a>            In pairs using ICT suite to work through questions.</p> <p><b>HA 5c – 5b</b>  <a href="http://www.go-ahead.com/~media/Files/G/Go-Ahead/storage/pdf/ks-2- numeracy/factsheet-2-bus-timetables.pdf">http://www.go-ahead.com/~media/Files/G/Go-Ahead/storage/pdf/ks-2- numeracy/factsheet-2-bus-timetables.pdf</a>            Using the above timetable create an itinerary for a visitor to the local area. CT to support. See p.12.</p> <p><b>Plenary</b>            From each group – what are you now able to do?            What skills have you used?            How would you feel about using timetables now?</p>



## Starter activity



### Edenbrooke Primary School Bus Service

A new service has been started by Buslink Belfast's newest bus company especially for children attending Edenbrooke. In the afternoon there is a reduced service and the bus does not stop at all of the places on the route.

	A	B	C	D	E
City Centre	14:10	14:50	14:10	14:10	14:10
Castle Court	14:11		14:11	14:11	14:11
Lower North Street		14:53			
Shankill Leisure Centre	14:13		14:13	14:13	14:13
Spectrum Centre		14:59			
Edenbrooke Primary School	14:14		14:14	14:14	14:14
Vine Centre	14:19	15:04	14:19	14:19	14:19
Mater Hospital					
Belfast Telegraph	14:23		14:23	14:23	14:23
Castle Court		15:07			
City Centre	14:27	15:10	14:27	14:27	14:27

Look at the information in the table and then answer the questions in the spaces.

# Maths



## Edenbrooke Primary School Bus Service

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City Centre	14:10	14:50	14:10	14:10	14:10
Castle Court	14:11		14:11	14:11	14:11
Lower North Street		14:53			
Shankill Leisure Centre	14:13		14:13	14:13	14:13
Spectrum Centre		14:59			
Edenbrooke Primary School	14:14		14:14	14:14	14:14
Vine Centre	14:19	15:04	14:19	14:19	14:19
Mater Hospital					
Belfast Telegraph	14:23		14:23	14:23	14:23
Castle Court		15:07			
City Centre	14:27	15:10	14:27	14:27	14:27

Look at the information in the table and then answer the questions in the spaces.

How long does Bus A take from the City Centre to these places?

Lower North Street	minutes	Spectrum Centre	minutes
Vine Centre	minutes	Mater Hospital	minutes
Belfast Telegraph	minutes	Edenbrooke Primary School	minutes
Castle Court	minutes	Shankill Leisure Centre	minutes

How long does it take for these journeys on Bus A

Castle Court to Mater Hospital	minutes
Spectrum Centre to Belfast Telegraph	minutes
Lower North Street to Vine Centre	minutes
Shankill Leisure Centre to City Centre	minutes
Mater Hospital to Castle Court	minutes
Edenbrooke Primary School to Castle Court	minutes

# Maths



**Answer these questions based on the information in the timetable:**

1. I live near the Shankill Leisure Centre and have to go the Mater Hospital for a 10:15 appointment. What bus must I get to make sure that I am not late, and at what time?
2. I miss Bus B at the City Centre by 6 minutes how long do I have to wait until I can catch the next bus?
3. Bus C leaves Castle Court 7 minutes late at what time does it arrive at Edenbrooke Primary School?
4. Bus E is 4 minutes early, what time does it arrive at the Belfast Telegraph?
5. Which Bus could you get from the City Centre to arrive in school on time?
6. I miss Bus D at The Spectrum Centre by 8 minutes how long do I have to wait until I can catch the next bus?
7. I miss Bus C at the Vine Centre by 9 minutes how long do I have to wait until I can catch the next bus?

# Maths



## Edenbrooke Primary School Bus Service

A new service has been started by Buslink Belfast's newest bus company especially for children attending Edenbrooke. In the afternoon there is a reduced service and the bus does not stop at all of the places on the route.

	A	B	C	D	E
City Centre	14:10	14:50	15:15	15:35	16:09
Castle Court	14:11			15:36	16:10
Lower North Street		14:53	15:18		16:12
Shankill Leisure Centre	14:13		15:20	15:40	16:14
Spectrum Centre		14:59		15:42	16:16
Edenbrooke Primary School	14:14		15:24		16:18
Vine Centre	14:19	15:04		15:46	16:21
Mater Hospital			15:28		16:25
Belfast Telegraph	14:23			15:48	16:28
Castle Court		15:07	15:33		16:30
City Centre	14:27	15:10	15:35	15:51	16:31

Look at the information in the table and then answer the questions in the spaces.

How long does Bus C take from the City Centre to these places?

Vine Centre	minutes	Mater Hospital	minutes
Belfast Telegraph	minutes	Edenbrooke Primary School	minutes
Castle Court	minutes	Shankill Leisure Centre	minutes

During the afternoon when can I get a bus at the following locations?

Lower North Street	
Shankill Leisure Centre	
Edenbrooke Primary School	
Vine Centre	
Belfast Telegraph	

Answer these questions based on the information in the timetable.

In the afternoon how long does it take each bus to complete its journey?

Bus A	Bus B	Bus C	Bus D	Bus E

# Maths



How long does it take for these journeys on Bus E

Castle Court to Mater Hospital	minutes
Spectrum Centre to Belfast Telegraph	minutes
Lower North Street to Vine Centre	minutes
Shankill Leisure Centre to City Centre	minutes
Mater Hospital to Castle Court	minutes
Edenbrooke Primary School to Castle Court	minutes

Answer these questions based on the information in the timetable.

- I live near the Spectrum Centre and have to go the Belfast Telegraph for a 16:00 appointment. What bus must I get to make sure that I am not late, and at what time?
- I miss Bus B at the City Centre by 8 minutes how long do I have to wait until I can catch the next bus?
- Bus C leaves Lower North Street 7 minutes late at what time does it arrive at Edenbrooke Primary School?
- Bus E is 5 minutes early, what time does it arrive at The Vine Centre?
- What time is the first bus you could get after school?
- I miss Bus D at The Spectrum Centre by 7 minutes how long do I have to wait until I can catch the next bus?
- I miss Bus A at Edenbrooke Primary School by 8 minutes how long do I have to wait until I can catch the next bus?

# Maths



## Edenbrooke Primary School Bus Service

A new service has been started by Buslink Belfast's newest bus company especially for children attending Edenbrooke. In the evening there is a reduced service and the bus does not stop at all of the places on the route.

	A	B	C	D	E
City Centre	17:10	18:50	19:40	20:25	21:55
Castle Court	17:11		19:41		21:56
Lower North Street		18:51			21:57
Shankill Leisure Centre	17:12	18:53		20:28	21:58
Spectrum Centre		18:54	19:43		22:01
Edenbrooke Primary School	17:13		19:45		22:03
Vine Centre	17:15			20:32	22:06
Mater Hospital		18:59	19:48		22:09
Belfast Telegraph	17:20	19:03		20:33	22:11
Castle Court			19:51		22:13
City Centre	17:21	19:07	19:52	20:35	22:15

Look at the information in the table and then answer the questions in the spaces.

How long does Bus D take from the City Centre to these places?

Vine Centre	minutes	Mater Hospital	minutes
Belfast Telegraph	minutes	Shankill Leisure Centre	minutes

During the evening when can I get a bus at the following locations?

Lower North Street	
Shankill Leisure Centre	
Edenbrooke Primary School	
Vine Centre	
Belfast Telegraph	

Answer these questions based on the information in the timetable.

In the evening how long does it take each bus to complete its journey?

Bus A	Bus B	Bus C	Bus D	Bus E



# Maths



How long does it take for these journeys on Bus B

Lower North Street to Belfast Telegraph	minutes
Spectrum Centre to City Centre	minutes
Lower North Street to Mater Hospital	minutes
Shankill Leisure Centre to Belfast Telegraph	minutes
Mater Hospital to City Centre	minutes

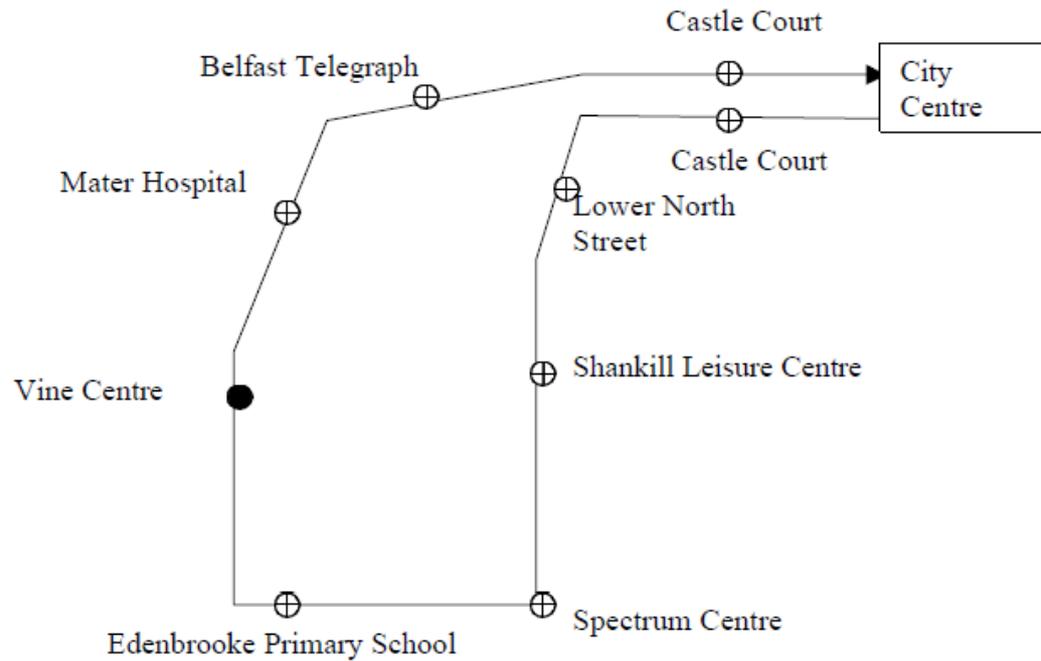
Answer these questions based on the information in the timetable.

- I live near Edenbrooke Primary School and have to go the City Centre for a meeting at 20:00. What bus must I get to make sure that I am not late, and at what time?
- I live near The Shankill Leisure Centre and I am going to a cinema in the City Centre to watch a film that commences at 21:00. What bus must I get to make sure that I am not late, and at what time?
- I miss Bus C at the City Centre by 9 minutes how long do I have to wait until I can catch the next bus?
- I arrive at the Mater Hospital at 6:54pm, when Bus B arrives it is three minutes late. At what time does it arrive?
- Bus E is 4 minutes early, what time does it arrive at The Spectrum Centre?
- I miss Bus A at Castle Court by 6 minutes how long do I have to wait until I can catch the next bus, and at what time does it arrive?
- I miss Bus D at The Shankill Leisure Centre by 10 minutes how long do I have to wait until I can catch the next bus, and at what time does it arrive?





## Bus Route



# Maths



	3a	3b	3a	3b	3a
Newport Centre	09.00	09.10	09.20	09.30	09.40
Police station	09.10	09.20	09.30	09.40	09.50
Hospital	09.15	-----	09.35	-----	09.55
Tesco	09:20	09.25	09.40	09.45	10.00
Duffryn	09.30	09.35	09.50	09.55	10.10
Tesco	09.40	09.45	10.00	10.05	10.20
Hospital	09.45	-----	10.05	10.15	10.25
Police Station	09.50	09.55	10.15	-----	10.30
Newport Centre	10.00	10.05	10.20	10.25	10.40

How long does the 3a take to get from Newport to Duffryn?



You have to be at the hospital at 10.20. What bus should you catch?

You have an interview in TESCO at 09.30. What time would you need to leave Newport Central bus station to get to your interview?



**TESCO**  
Opening times

Monday	06.00 - midnight
Tuesday	06.00 - midnight
Wednesday	06.00 - midnight
Thursday	06.00 - midnight
Friday	06.00 - midnight
Saturday	06.00 - midnight
Sunday	10.00 - 16.00

Why wouldn't they have an interview at 09.00 on a Sunday?



## LA Activity

Success criteria:

- I can understand the 24-hour clock.
- I can use a number line to find out the length of time between two given times.
- I can use the QUACK procedures for solving problems.

QUACK procedures for solving problems:



- |   |                                          |
|---|------------------------------------------|
| Q | Understand the <u>Q</u> uestion          |
| U | <u>U</u> nderstand important information |
| A | <u>A</u> pproximate                      |
| C | <u>C</u> alculate                        |
| K | Check <u>K</u> the answer                |

M. Watson

Railway Station	A	B	C	D
Bristol Temple Meads	09:40	10:05	11:05	12:35
Bristol Parkway	09:50	10:15	11:15	12:45
Cheltenham Spa	10:10	10:30	11:30	13:00
Gloucester	10:25	.....	11:45	13:15
Birmingham New Street	10:45	.....	12:05	.....
Birmingham International	11:05	11:20	12:25	13:55
Coventry	11:30	11:55	12:50	14:25

### SECTION A

- (1) What time does the 09:40 from Bristol Temple Meads arrive at Coventry?
- (2) Which is the fastest train from Bristol Temple Meads to Coventry?
- (3) At how many stations does the 10:15 from Bristol Parkway stop before it reaches Coventry?
- (4) How long does it take the 13:55 from Birmingham International to reach Coventry?
- (5) You have to arrive at Birmingham International at 2:00 pm. Which train would you catch from Cheltenham Spa?
- (6) You get to Gloucester at 09:30. How long will you have to wait for a train at Coventry?

### SECTION B

- (1) Trains E, F, G and H run exactly twelve hours later than trains A, B, C and D. Draw a timetable for them, using 24-hour clock notation.

### HOMEWORK

- (1) Design your own timetable, with three trains and six stations. (You do not have to use the stations listed above, and can make up your own names).



## HA Activity

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Winlaton • Blaydon • Swalwell • Metrocentre • Dunston • Bensham • Team Valley

**Mondays to Fridays only (except Public Holidays)**

<b>Winlaton Bus Station</b> Stand B	0514 0636 0706 0736 0806	<b>Team Valley South Bus Station</b>	1605 1635 1705 1735 1805
<b>Blaydon Bus Station</b> Stand C	0522 0644 0714 0744 0814	Team Valley Shopping Village	1608 1638 1708 1738 1808
Swalwell Monument	0528 0650 0720 0750 0820	<b>Team Valley Kingsway North</b>	1613 1643 1713 1743 1813
<b>Metrocentre Interchange</b> Stand H	0533 0655 0725 0755 0825	Lobley Hill Road/Victoria Road	1618 1648 1718 1748 1818
Dunston Monument	0538 0701 0731 0801 0831	Bolam Street Flats	1620 1650 1720 1750 1820
<b>Dunston Dun Cow</b>	0539 0702 0732 0802 0832	<b>Dunston Dun Cow</b>	1624 1654 1724 1754 1824
Bolam Street	0542 0705 0735 0805 0835	Dunston Monument	1625 1655 1725 1755 1825
Lobley Hill Road/Victoria Road	0544 0707 0737 0807 0837	<b>Metrocentre Interchange</b> Stand D	1631 1701 1731 1801 1831
<b>Team Valley Kingsway North</b>	0546 0709 0739 0809 0839	Swalwell Monument	1636 1706 1736 1806 1836
Team Valley Shopping Village	0548 0712 0742 0812 0842	<b>Blaydon Bus Station</b> Stand A	1642 1712 1742 1812 1842
<b>Team Valley Kingsway South</b>	0550 0715 0745 0815 0845	<b>Winlaton Bus Station</b>	1648 1718 1748 1818 1848

# Maths

