

# Measurement: Winter Sports

<b>Aim:</b> Solve problems involving converting between units of time.  I can solve problems involving converting between minutes and seconds.	<b>Success Criteria:</b> I can convert from minutes to seconds. I can convert from seconds to minutes. I can order timed events.  I can solve a problem involving timed events, converting from one unit to another.	<b>Resources:</b> <a href="#">Lesson Pack</a>  Individual whiteboards and pens – class set
	<b>Key/New Words:</b> Time, convert, minutes, seconds, timed event, bar model.	<b>Preparation:</b> <a href="#">Time Conversion Loop Card Game</a> – one class set  Differentiated <a href="#">Winter Sports Activity Sheet</a> – one per child

**Prior Learning:** It will be helpful if children can convert from minutes to seconds and vice versa.

## Learning Sequence

	<b>Time Conversion Loop Card Game:</b> Distribute the <a href="#">Time Conversion Loop Card Game</a> cards. Time the class as they play the loop card game. Repeat and try to improve the time.				
	<b>Combined Downhill and Slalom:</b> Set the context of the lesson by explaining that in winter sports there is a combined race, where competitors take part in two events: the downhill ski race and the slalom ski race. Children <b>order a group of competitors' times</b> for the downhill race, where the time is written in minutes and seconds (the seconds' time having one decimal place). They <b>add together the times for two events, converting minutes to seconds first, adding seconds, then converting to minutes and seconds</b> . The <a href="#">Lesson Presentation</a> shows how to use a bar model to visualise converting from seconds to minutes and seconds.				
	<b>Winter Sports:</b> Children complete the <a href="#">Winter Sports Activity Sheet</a> , <b>solving problems involving converting between minutes and seconds</b> . <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;"> <p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are whole numbers.</p> </td> <td style="width: 33%; text-align: center;"> <p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are up to one decimal place. They answer reasoning type questions.</p> </td> <td style="width: 33%; text-align: center;"> <p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are up to one decimal place. They answer more complex reasoning type questions.</p> </td> </tr> </table>	<p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are whole numbers.</p>	<p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are up to one decimal place. They answer reasoning type questions.</p>	<p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are up to one decimal place. They answer more complex reasoning type questions.</p>	
<p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are whole numbers.</p>	<p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are up to one decimal place. They answer reasoning type questions.</p>	<p>Children convert times in minutes and seconds to seconds and vice versa. They order timed events and calculate the difference between timed events. The numbers involved are up to one decimal place. They answer more complex reasoning type questions.</p>			
	<b>Penalties:</b> Children solve a further problem, adding penalties of five seconds to timed events.				

## Explore it

**Timeit:** Children set up their own activities which they time. One event will be something they can time in minutes and seconds (for instance running around the lap of the playground), the other something that can be timed in seconds (for instance dribbling a ball around cones). Children can draw a table of results for the times of a small group.

**Calculateit:** In pairs, children make a time by rolling a dice three times. The first number rolled is the minutes, the second and third are the seconds (if they roll a six for the second number, roll again). They convert the time they have made to seconds (for example 2 minutes 43 seconds = 163 seconds). They keep a running total of their seconds times. The first player to reach 500 seconds wins one point.



# Maths

## Measurement



# Winter Sports







# Aim

- I can solve problems involving converting between minutes and seconds.

# Success Criteria

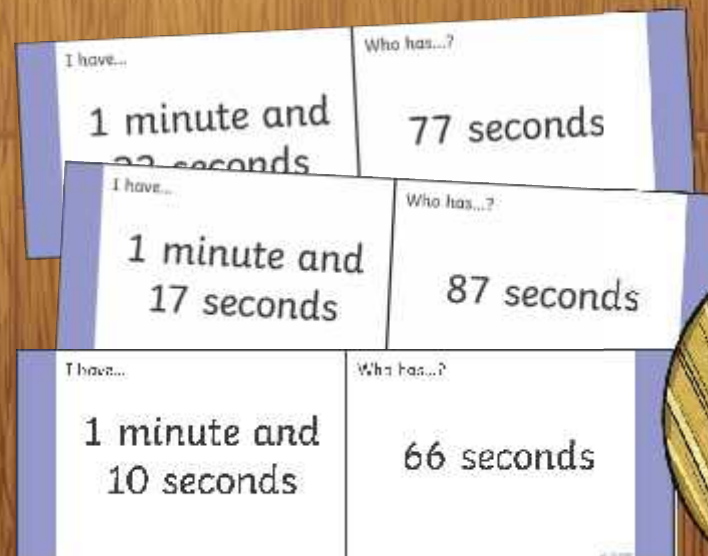
- I can convert from minutes to seconds.
- I can convert from seconds to minutes.
- I can order timed events.
- I can solve a problem involving timed events, converting from one unit of time to another.

# Time Conversion Loop Card Game



As a class play the **Time Conversion Loop Card Game**.  
Repeat and try to improve your time.

How much  
faster/slower  
were you?





# Combined Downhill and Slalom



Competitor	Time For Slalom
Christophe	1 minute 20 seconds
Andy	1 minute 41 seconds
Frederic	1 minute 50 seconds
Bertrand	2 minutes 3 seconds
Eric	2 minutes 21 seconds
David	2 minutes 22 seconds

Order the competitors from fastest to slowest.

Here are some of the competitors' times for the downhill race.

# Combined Downhill and Slalom



Here are the competitors' times for the slalom race.

Competitor	Time For Slalom
David	
Bertrand	
Eric	
Christophe	
Andy	56.8 seconds
Frederic	57.1 seconds

Order the competitors from fastest to slowest.

First look at the whole number. If there are 2 whole numbers the same, then look at the digit after the decimal point.





# Combined Downhill and Slalom



Competitor	Time For Downhill	Time For Slalom	Joint Times
Andy	1 minute 41 seconds	56.6 seconds	$60 + 41 + 56.6 = 157.6$ seconds
Bertrand	2 minutes 3 seconds	46 seconds	<b><math>120 + 3 + 46 = 169</math> seconds</b>
Christophe	1 minute 20 seconds	56.5 seconds	<b><math>60 + 20 + 56.5 = 136.5</math> seconds</b>
David	2 minutes 22 seconds	42.9 seconds	<b><math>120 + 22 + 42.9 = 184.9</math> seconds</b>
Eric	2 minutes 21 seconds	47.9 seconds	<b><math>120 + 21 + 47.9 = 188.9</math> seconds</b>
Frederic	1 minute 50 seconds	57.1 seconds	<b><math>60 + 50 + 57.1 = 167.1</math> seconds</b>



# Combined Downhill and Slalom



Competitor	Joint Times (Seconds)	Joint Times (Minutes and Seconds)
Andy	157.6 seconds	<i>2 minutes 37.6 seconds</i>

Convert Andy's time from seconds to minutes and seconds.

1 minute = 60 seconds  
2 minutes = 120 seconds  
3 minutes = 180 seconds

**157.6 seconds**

1 minute (60 seconds)

1 minute (60 seconds)

37.6 seconds

1.  $157.6 - 120 = 37.6$  seconds

# Combined Downhill and Slalom



Competitor	Joint Times (Seconds)	Joint Times (Minutes and Seconds)
Christophe	136.8 seconds	2 minutes 16.8 seconds
Andy	157.6 seconds	2 minutes 37.6 seconds
Frederic	167.1 seconds	2 minutes 47.1 seconds
▼	169 seconds	2 minutes 49 seconds

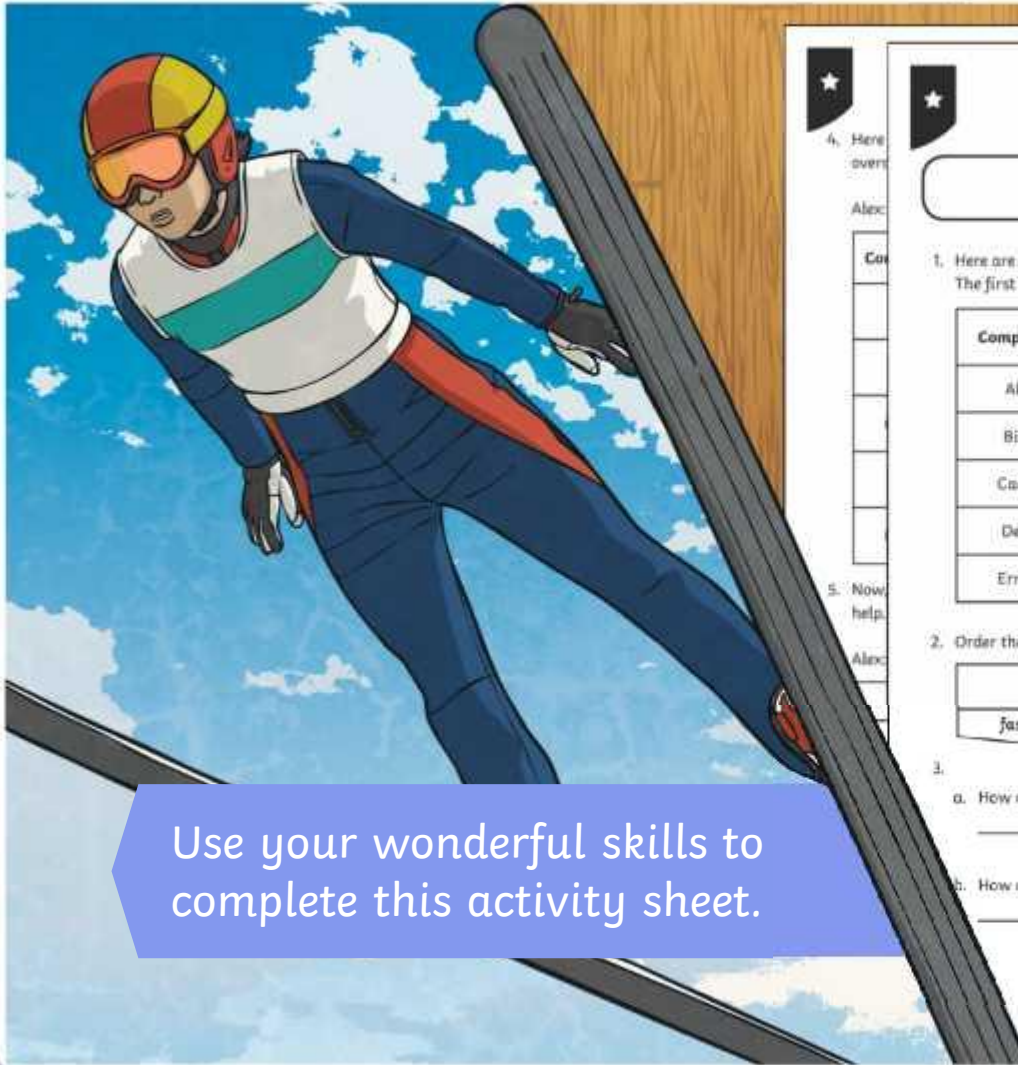
Use a bar model to convert the seconds times to minutes and seconds for the remaining competitors.

1 minute = 60 seconds  
2 minutes = 120 seconds  
3 minutes = 180 seconds





# Winter Sports



Use your wonderful skills to complete this activity sheet.

4. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Alex: \_\_\_\_\_

Carlos: \_\_\_\_\_

Dean: \_\_\_\_\_

Ernest: \_\_\_\_\_

5. Now order the competitors from fastest to slowest.

Alex: \_\_\_\_\_

Carlos: \_\_\_\_\_

Dean: \_\_\_\_\_

Ernest: \_\_\_\_\_

### Winter Sports

I can solve problems involving converting from minutes to seconds.

1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes And Seconds)	Time For Downhill (Seconds)
Alex	1 minute 35 seconds	$60 + 35 = 95$ seconds
Billy	2 minutes 9 seconds	
Carlos	1 minute 36 seconds	
Dean	1 minute 32 seconds	
Ernest	2 minutes 30 seconds	

2. Order the competitors from fastest to slowest.

fastest				slowest

3. a. How much faster was Billy than Ernest?  
\_\_\_\_\_

b. How much slower was Alex than Dean?  
\_\_\_\_\_

# Penalties



Competitor	Time For Slalom	Number of Flags Missed	Joint Times
Beatrice	1 minute 56 seconds	2	$60 + 56 + 10 = 126$ seconds
Carole	2 minutes 9.5 seconds	0	$120 + 9.5 = 129.5$ seconds
Alina	1 minute 53.6 seconds	4	$60 + 53.6 + 20 = 133.6$ seconds
Elisa	1 minute 59.9 seconds	3	$60 + 59.9 + 15 = 134.9$ seconds
Davina	2 minutes 12 seconds	1	$120 + 12 + 5 = 137$ seconds
Fiona	2 minutes 11.1 seconds	2	$120 + 11.1 + 10 = 141.1$ seconds



# Aim

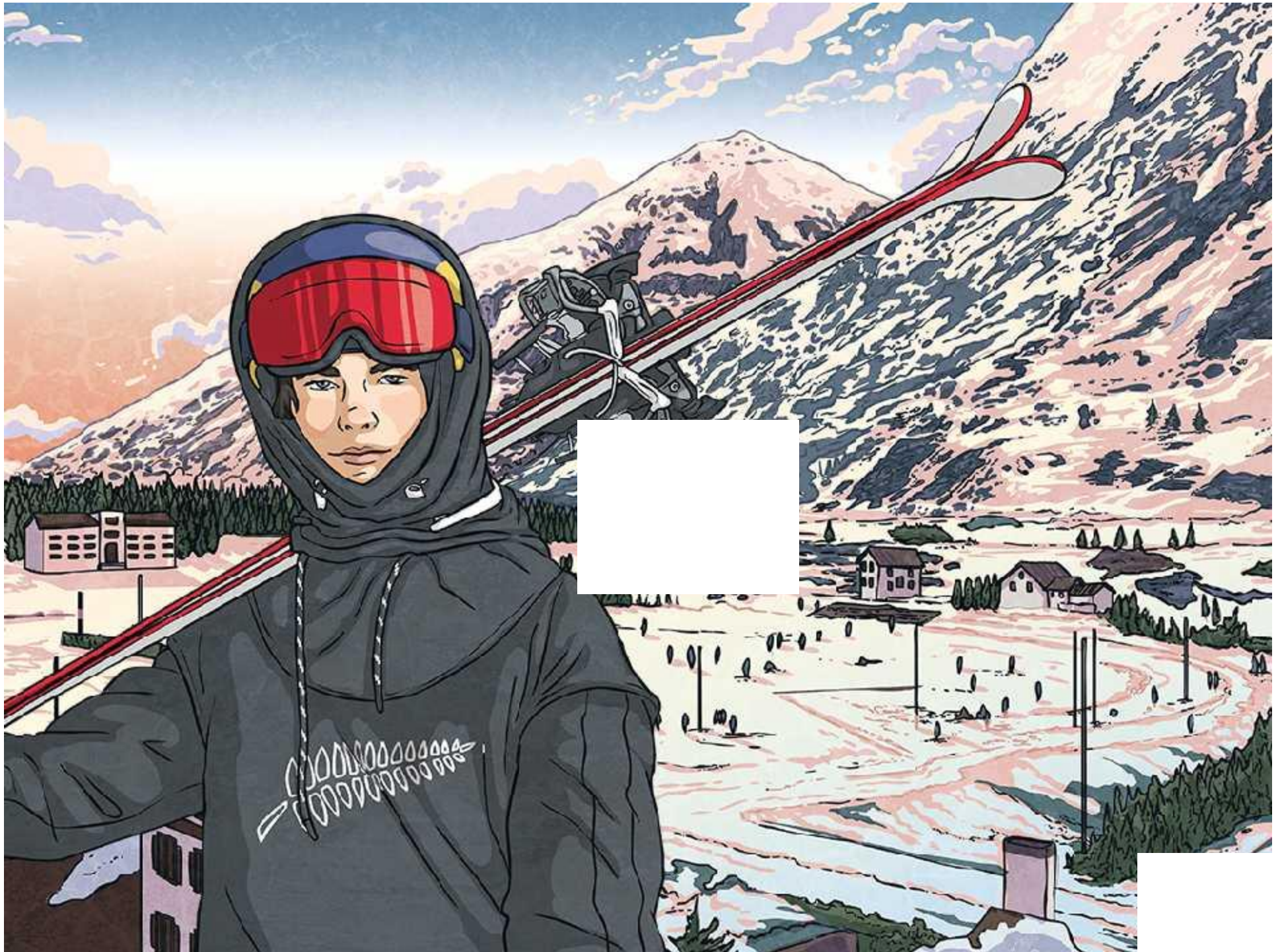


- I can solve problems involving converting between minutes and seconds.

# Success Criteria

- I can convert from minutes to seconds.
- I can convert from seconds to minutes.
- I can order timed events.
- I can solve a problem involving timed events, converting from one unit of time to another.







<b>Aim:</b> I can solve problems involving converting between minutes and seconds.				<b>Date:</b>					
				<b>Delivered By:</b>			<b>Support:</b>		
<b>Success Criteria</b>	<b>Me</b>	<b>Friend</b>	<b>Teacher</b>	<b>T</b>	<b>PPA</b>	<b>S</b>	<b>I</b>	<b>AL</b>	<b>GP</b>
I can convert from minutes to seconds.				<b>Notes/Evidence</b>					
I can convert from seconds to minutes.									
I can order timed events.									
I can solve a problem involving timed events, converting from one unit to another.									
Next Steps									
) _____									
) _____									

<b>T</b>	Teacher	<b>I</b>	Independent
<b>PPA</b>	Planning, Preparation and Assessment	<b>AL</b>	Adult Led
<b>S</b>	Supply	<b>GP</b>	Guided Practice

<b>Aim:</b> I can solve problems involving converting between minutes and seconds.				<b>Date:</b>					
				<b>Delivered By:</b>			<b>Support:</b>		
<b>Success Criteria</b>	<b>Me</b>	<b>Friend</b>	<b>Teacher</b>	<b>T</b>	<b>PPA</b>	<b>S</b>	<b>I</b>	<b>AL</b>	<b>GP</b>
I can convert from minutes to seconds.				<b>Notes/Evidence</b>					
I can convert from seconds to minutes.									
I can order timed events.									
I can solve a problem involving timed events, converting from one unit to another.									
Next Steps									
) _____									
) _____									

<b>T</b>	Teacher	<b>I</b>	Independent
<b>PPA</b>	Planning, Preparation and Assessment	<b>AL</b>	Adult Led
<b>S</b>	Supply	<b>GP</b>	Guided Practice

<p data-bbox="379 271 577 344"><b>Start</b></p>	<p data-bbox="820 103 1011 138">Who has...?</p> <p data-bbox="922 271 1337 344"><b>65 seconds</b></p>
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<p data-bbox="181 645 316 680">I have...</p> <p data-bbox="225 757 737 936"><b>1 minute and 5 seconds</b></p>	<p data-bbox="820 645 1011 680">Who has...?</p> <p data-bbox="922 808 1337 882"><b>72 seconds</b></p>
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<p data-bbox="181 1184 316 1220">I have...</p> <p data-bbox="225 1299 737 1478"><b>1 minute and 12 seconds</b></p>	<p data-bbox="820 1184 1011 1220">Who has...?</p> <p data-bbox="922 1350 1337 1424"><b>69 seconds</b></p>
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<p data-bbox="181 1724 316 1760">I have...</p> <p data-bbox="225 1839 737 2018"><b>1 minute and 9 seconds</b></p>	<p data-bbox="820 1724 1011 1760">Who has...?</p> <p data-bbox="922 1892 1337 1966"><b>83 seconds</b></p>
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I have...

1 minute and  
23 seconds

Who has...?

77 seconds

I have...

1 minute and  
17 seconds

Who has...?

87 seconds

I have...

1 minute and  
27 seconds

Who has...?

70 seconds

I have...

1 minute and  
10 seconds

Who has...?

66 seconds

I have...

1 minute and  
6 seconds

Who has...?

89 seconds

I have...

1 minute and  
29 seconds

Who has...?

100 seconds

I have...

1 minute and  
40 seconds

Who has...?

105 seconds

I have...

1 minute and  
45 seconds

Who has...?

76 seconds



I have...

1 minute and  
16 seconds

Who has...?

119 seconds

I have...

1 minute and  
59 seconds

Who has...?

117 seconds

I have...

1 minute and  
57 seconds

Who has...?

61 seconds

I have...

1 minute and  
1 second

Who has...?

109 seconds

I have...

1 minute and  
49 seconds

Who has...?

99 seconds

I have...

1 minute and  
39 seconds

Who has...?

111 seconds

I have...

1 minute and  
51 seconds

Who has...?

92 seconds

I have...

1 minute and  
32 seconds

Who has...?

96 seconds



I have...

1 minute and  
36 seconds

Who has...?

104 seconds

I have...

1 minute and  
44 seconds

Who has...?

79 seconds

I have...

1 minute and  
19 seconds

Who has...?

97 seconds

I have...

1 minute and  
37 seconds

Who has...?

113 seconds?

I have...

1 minute and  
53 seconds

Who has...?

88 seconds

I have...

1 minute and  
28 seconds

Who has...?

106 seconds

I have...

1 minute and  
46 seconds

Who has...?

91 seconds

I have...

1 minute and  
31 seconds

Who has...?

115 seconds

I have...

1 minute and  
55 seconds

Who has...?

118 seconds

I have...

1 minute and  
58 seconds

Who has...?

74 seconds

I have...

1 minute and  
14 seconds

Who has...?

93 seconds

I have...

1 minute and  
33 seconds

Finish





# Winter Sports

I can solve problems involving converting from minutes to seconds.



1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes and Seconds)	Time For Downhill (Seconds)
Alex	1 minute 35 seconds	$60 + 35 = 95$ seconds
Billy	2 minutes 9 seconds	
Carlos	1 minute 36 seconds	
Dean	1 minute 32 seconds	
Ernest	2 minutes 30 seconds	

2. Order the competitors from fastest to slowest.

fastest				slowest

3.  
a. How much faster was Billy than Ernest?

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- b. How much slower was Alex than Dean?

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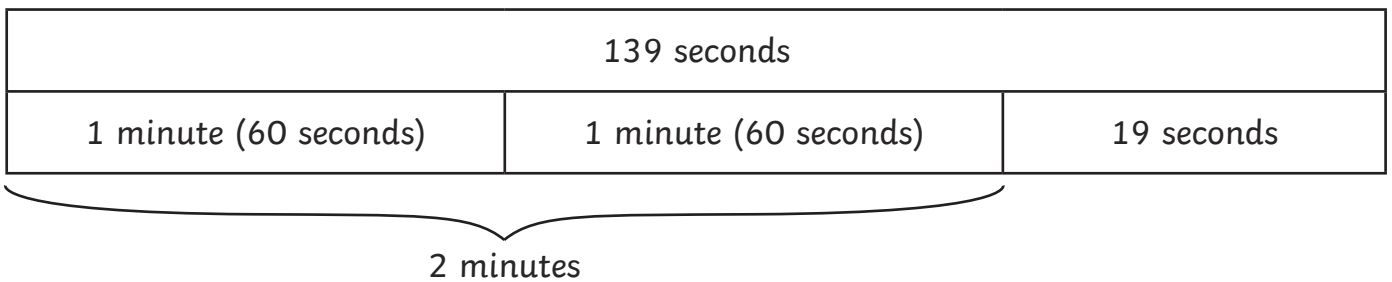
4. Here are the competitors' times for the slalom. Add their times to the table and calculate the overall time in seconds. The first one has been done for you.

Alex: 44 seconds   Billy: 39 seconds   Carlos: 47 seconds   Dean: 54 seconds   Ernest: 35 seconds

Competitor	Time For Downhill	Time For Slalom	Time For Downhill
Alex	1 minute 35 seconds	44 seconds	$60 + 35 + 44 = 139$ seconds
Billy	2 minutes 9 seconds		
Carlos	1 minute 36 seconds		
Dean	1 minute 32 seconds		
Ernest	2 minutes 30 seconds		

5. Now, convert the combined times from seconds to minutes and seconds. Use a bar model to help. The first one has been done for you.

Alex: 2 minutes 19 seconds



Billy:



Carlos:

Dean:

Ernest:



# Winter Sports Answers

1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes and Seconds)	Time For Downhill (Seconds)
Alex	1 minute 35 seconds	$60 + 35 = 95$ seconds
Billy	2 minutes 9 seconds	$120 + 9 = 129$ seconds
Carlos	1 minute 36 seconds	$60 + 36 = 96$ seconds
Dean	1 minute 32 seconds	$60 + 32 = 92$ seconds
Ernest	2 minutes 30 seconds	$120 + 30 = 150$ seconds

2. Order the competitors from fastest to slowest.

<i>Dean</i>	<i>Alex</i>	<i>Carlos</i>	<i>Billy</i>	<i>Ernest</i>
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3.  
a. How much faster was Billy than Ernest?

*21 seconds*

- b. How much slower was Alex than Dean?

*3 seconds*

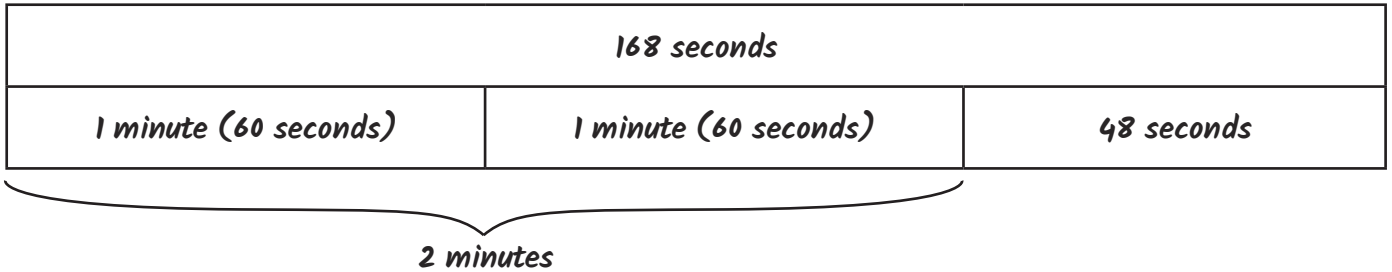
4. Here are the competitors' times for the slalom. Add their times to the table and calculate the overall time in seconds. The first one has been done for you.

Competitor	Time For Downhill	Time For Slalom	Time For Downhill
Alex	1 minute 35 seconds	44 seconds	$60 + 35 + 44 = 139$ seconds
Billy	2 minutes 9 seconds	<i>39 seconds</i>	$120 + 9 + 39 = 168$ seconds
Carlos	1 minute 36 seconds	<i>47 seconds</i>	$60 + 36 + 47 = 143$ seconds
Dean	1 minute 32 seconds	<i>54 seconds</i>	$60 + 32 + 54 = 146$ seconds
Ernest	2 minutes 30 seconds	<i>35 seconds</i>	$120 + 30 + 35 = 185$ seconds

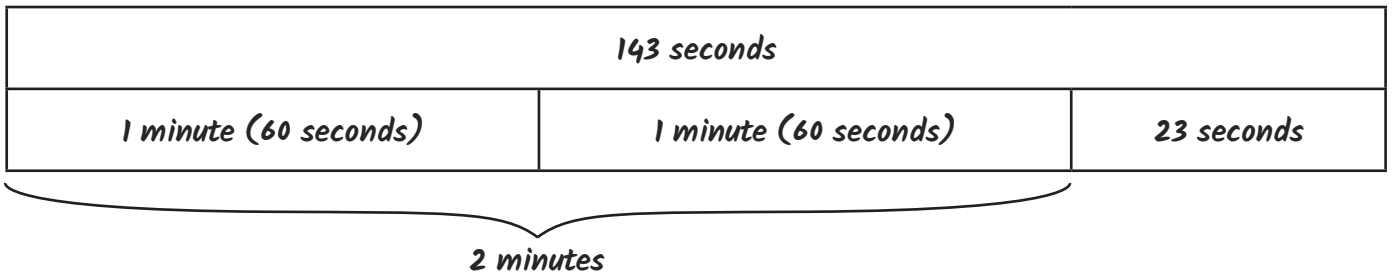


5. Now, convert the combined times from seconds to minutes and seconds. Use a bar model to help. The first one has been done for you.

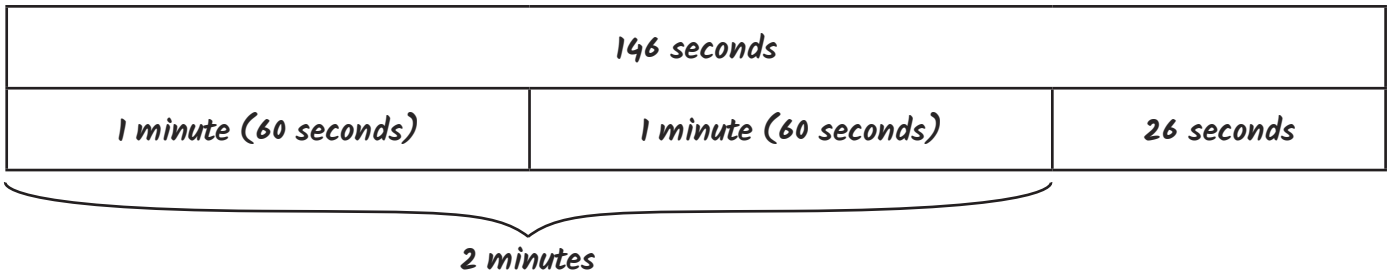
Billy: *2 minutes 48 seconds*



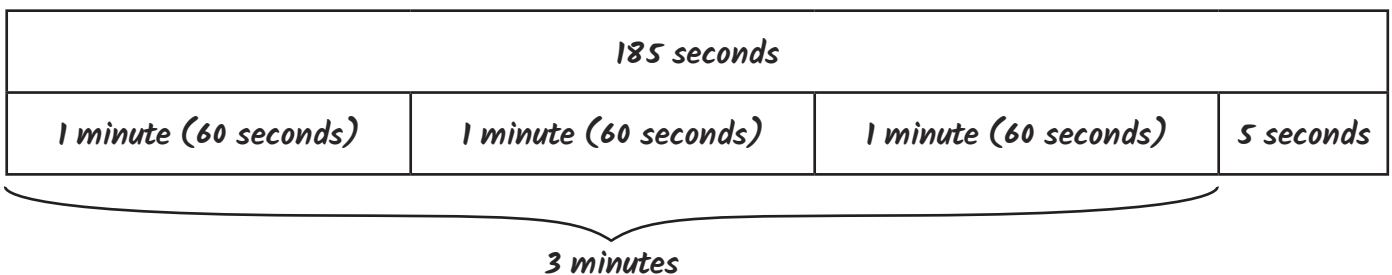
Carlos: *2 minutes 23 seconds*



Dean: *2 minutes 26 seconds*



Ernest: *3 minutes 5 seconds*





# Winter Sports

I can solve problems involving converting from minutes to seconds.



1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes and Seconds)	Time For Downhill (Seconds)
Agneta	1 minute 28 seconds	$60 + 28 = 88$ seconds
Barbara	2 minutes 9 seconds	
Ceri	1 minute 47 seconds	
Davina	2 minute 18 seconds	
Eleanor	1 minutes 51 seconds	
Fawzia	1 minutes 30 seconds	

2. Order the competitors from slowest to fastest.

slowest					fastest

3. Whose time for the slalom was closest to 2 minutes? It may be more than one person. Show how you know.





4. Here are the competitors' times for the slalom. Add the times to the table and calculate the overall time in seconds. The first one has been done for you.

Agneta: 44.2 seconds   Barbara: 37.8 seconds   Ceri: 43.2 seconds   Davina: 51 seconds  
 Eleanor: 43.8 seconds   Fawzia: 42.1 seconds

Competitor	Time For Downhill	Time For Slalom	Time For Downhill
Agneta	1 minute 28 seconds	44.2 seconds	$60 + 28 + 44.2$ $= 132.2$ seconds
Barbara	2 minutes 9 seconds		
Ceri	1 minute 47 seconds		
Davina	2 minutes 18 seconds		
Eleanor	1 minute 51 seconds		
Fawzia	1 minute 30 seconds		

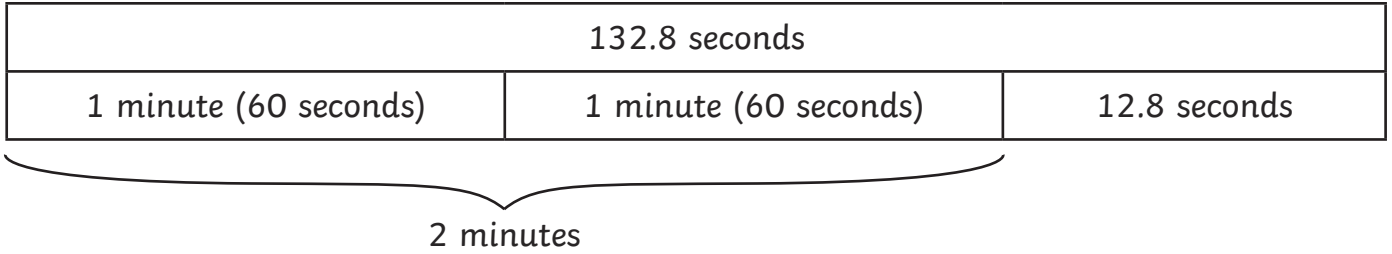
5. Say whether the following statements are true or false.

- |   | True                     | False                    |
|---|--------------------------|--------------------------|
| a. The winner's combined time was over a minute faster than the skier who finished in last place. | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Barbara had the biggest difference in her time for the two races.                              | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Fawazia was faster in Agneta in both events.   | <input type="checkbox"/> | <input type="checkbox"/> |



6. Convert the combined times to minutes and seconds for the named competitors. Use a bar model to help. One has been done for you.

Agneta: 2 minutes 12.8 seconds



Barbara:

Ceri:

Davina:



# Winter Sports Answers

1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes and Seconds)	Time For Downhill (Seconds)
Agneta	1 minute 28 seconds	$60 + 28 = 88$ seconds
Barbara	2 minutes 9 seconds	$120 + 9 = 129$ seconds
Ceri	1 minute 47 seconds	$60 + 47 = 107$ seconds
Davina	2 minute 18 seconds	$120 + 18 = 138$ seconds
Eleanor	1 minutes 51 seconds	$60 + 51 = 111$ seconds
Fawzia	1 minutes 30 seconds	$60 + 30 = 90$ seconds

2. Order the competitors from slowest to fastest.

<i>Davina</i>	<i>Barbara</i>	<i>Eleanor</i>	<i>Ceri</i>	<i>Fawzia</i>	<i>Agneta</i>
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3. Whose time for the slalom was closest to 2 minutes? It may be more than one person. Show how you know.

*Barbara and Eleanor's slalom times are the closest to 2 minutes. Barbara is 9 seconds more than 2 minutes and Eleanor's is 9 seconds less.*

4. Here are the competitors' times for the slalom. Add the times to the table and calculate the overall time in seconds. The first one has been done for you.

Competitor	Time For Downhill	Time For Slalom	Time For Downhill
Agneta	1 minute 28 seconds	44.2 seconds	$60 + 28 + 44.2 = 132.2$ seconds
Barbara	2 minutes 9 seconds	37.8 seconds	$120 + 9 + 37.8 = 166.8$ seconds
Ceri	1 minute 47 seconds	43.2 seconds	$60 + 47 + 43.2 = 150.2$ seconds
Davina	2 minutes 18 seconds	51 seconds	$120 + 18 + 51 = 189$ seconds
Eleanor	1 minute 51 seconds	43.8 seconds	$60 + 51 + 43.8 = 154.8$ seconds
Fawzia	1 minute 30 seconds	42.1 seconds	$60 + 30 + 42.1 = 132.1$ seconds





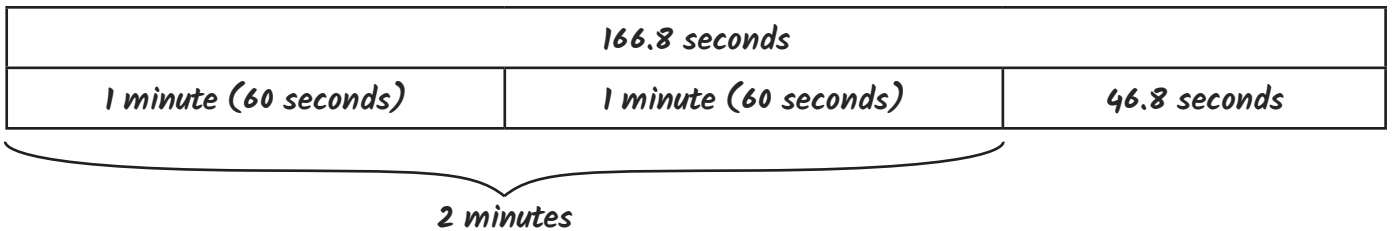
5. Say whether the following statements are true or false.

True    False

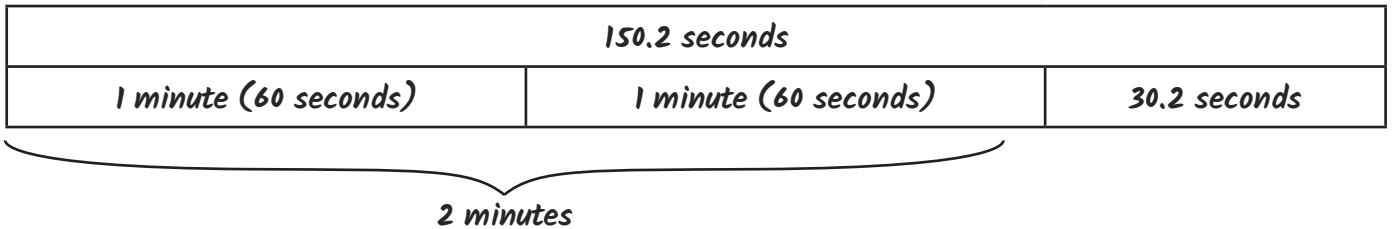
- a. The winner's combined time was over a minute faster than the skier who finished in last place.
- b. Barbara had the biggest difference in her time for the two races.
- c. Fawazia was faster in Agneta in both events.

6.

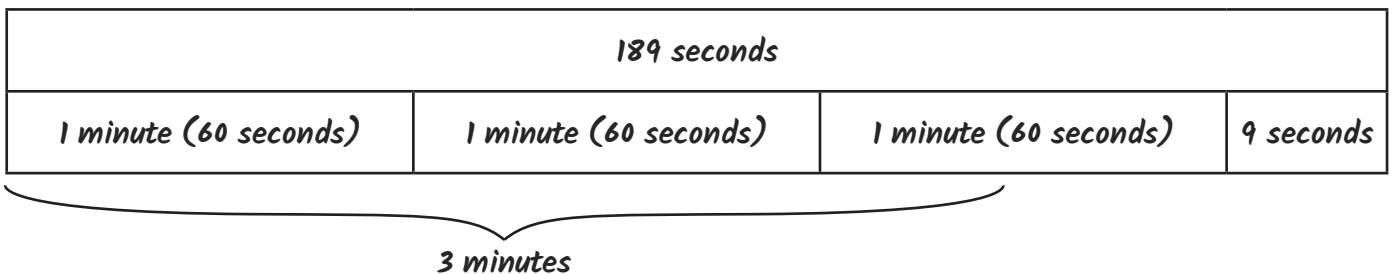
Barbara: *2 minutes 46.8 seconds*



Ceri: *2 minutes 30.2 seconds*



Davina: *3 minutes 9 seconds*





# Winter Sports

I can solve problems involving converting from minutes to seconds.



1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes and Seconds)	Time For Downhill (Seconds)
Arthur	1 minute 24.6 seconds	$60 + 24.6 = 84.6$ seconds
Bobby	1 minute 59.2 seconds	
Carol	2 minutes 37.4 seconds	
Daphne	1 minute 28 seconds	
Eric	2 minutes 6.3 seconds	
Felicity	1 minute 27.1 seconds	

2. Order the competitors from slowest to fastest.

slowest					fastest

3.  
a. How much faster was Arthur than Bobby?

---

- b. How much slower was Eric than Arthur?

---



4. Here are the competitors' times for the slalom. Add the times to the table and calculate the overall time in seconds. The first one has been done for you.

Arthur: 43.2 seconds   Bobby: 46.8 seconds   Carol: 24.9 seconds   Daphne: 58.4 seconds  
Eric: 45 seconds   Felicity: 34.4 seconds

Competitor	Time For Downhill	Time For Slalom	Time For Downhill
Arthur	1 minute 24.6 seconds	43.2 seconds	$60 + 24.6 + 43.2$ $= 127.8$ seconds
Bobby	1 minute 59.2 seconds		
Carol	2 minutes 37.4 seconds		
Daphne	1 minute 28 seconds		
Eric	2 minutes 6.3 seconds		
Felicity	1 minute 27.1 seconds		

5. Say whether the following statements are true or false.

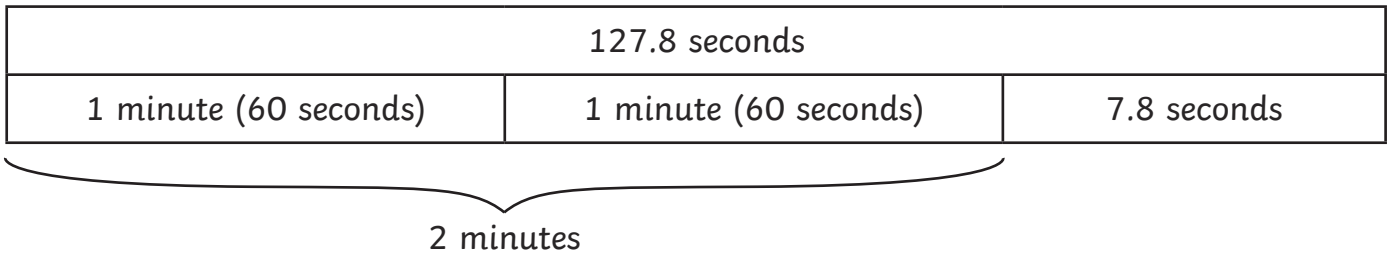
- |  | True                     | False                    |
|--|--------------------------|--------------------------|
| a. Arthur was more than half a minute faster than Daphne in the combined event.  | <input type="checkbox"/> | <input type="checkbox"/> |
| b. The fastest slalom skier won the combined event.                              | <input type="checkbox"/> | <input type="checkbox"/> |
| c. The person who came second place overall beat the winner in one of the races. | <input type="checkbox"/> | <input type="checkbox"/> |



6. Eric says, 'If only I had been 5 seconds faster in the slalom, then I would've beaten Bobby in the overall competition.' Is he right? Show how you know.

7. Convert the combined times from seconds to minutes and seconds for the named competitors. Use a bar model to help. One has been done for you:

Arthur: 2 minutes 7.8 seconds



Carol:

Daphne:

Eric:





# Winter Sports Answers

1. Here are some competitors' times for a downhill ski race. Change the times to seconds. The first one has been done for you.

Competitor	Time For Downhill (Minutes and Seconds)	Time For Downhill (Seconds)
Arthur	1 minute 24.6 seconds	$60 + 24.6 = 84.6$ seconds
Bobby	1 minute 59.2 seconds	$60 + 59.2 = 119.2$ seconds
Carol	2 minutes 37.4 seconds	$120 + 37.4 = 157.4$ seconds
Daphne	1 minute 28 seconds	$60 + 28 = 88$ seconds
Eric	2 minutes 6.3 seconds	$120 + 6.3 = 126.3$ seconds
Felicity	1 minute 27.1 seconds	$60 + 27.1 = 87.1$ seconds

2. Order the competitors from slowest to fastest.

<i>Carol</i>	<i>Eric</i>	<i>Bobby</i>	<i>Daphne</i>	<i>Felicity</i>	<i>Arthur</i>
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3.  
a. How much faster was Arthur than Bobby?

*34.6 seconds*

- b. How much slower was Eric than Arthur?

*41.7 seconds*

4. Here are the competitors' times for the slalom. Add the times to the table and calculate the overall time in seconds. The first one has been done for you.

Competitor	Time For Downhill	Time For Slalom	Time For Downhill
Arthur	1 minute 24.6 seconds	43.2 seconds	$60 + 24.6 + 43.2 = 127.8$ seconds
Bobby	1 minute 59.2 seconds	<i>46.8 seconds</i>	$60 + 59.2 + 46.8 = 166$ seconds
Carol	2 minutes 37.4 seconds	<i>24.9 seconds</i>	$120 + 37.4 + 24.9 = 182.3$ seconds
Daphne	1 minute 28 seconds	<i>58.4 seconds</i>	$60 + 28 + 58.4 = 146.4$ seconds
Eric	2 minutes 6.3 seconds	<i>45 seconds</i>	$120 + 6.3 + 45 = 171.3$ seconds
Felicity	1 minute 27.1 seconds	<i>34.4 seconds</i>	$60 + 27.1 + 34.4 = 121.5$ seconds



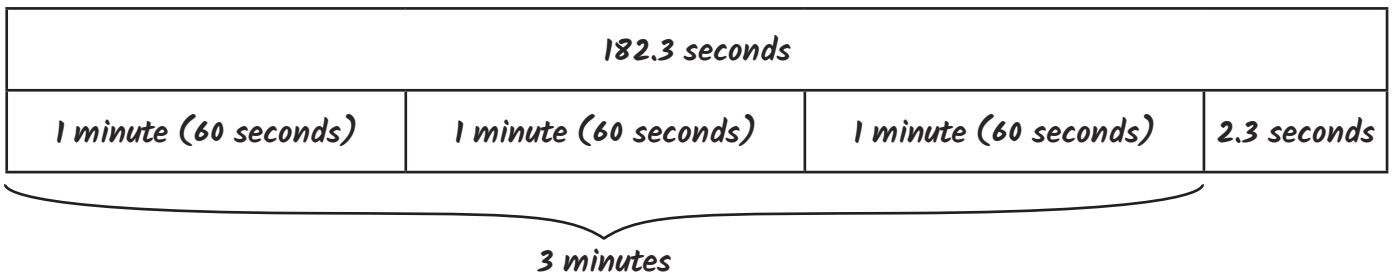
5. Say whether the following statements are true or false.

- |  | True                                | False                               |
|--|-------------------------------------|-------------------------------------|
| a. Arthur was more than half a minute faster than Daphne in the combined event.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b. The fastest slalom skier won the combined event.                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c. The person who came second place overall beat the winner in one of the races. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

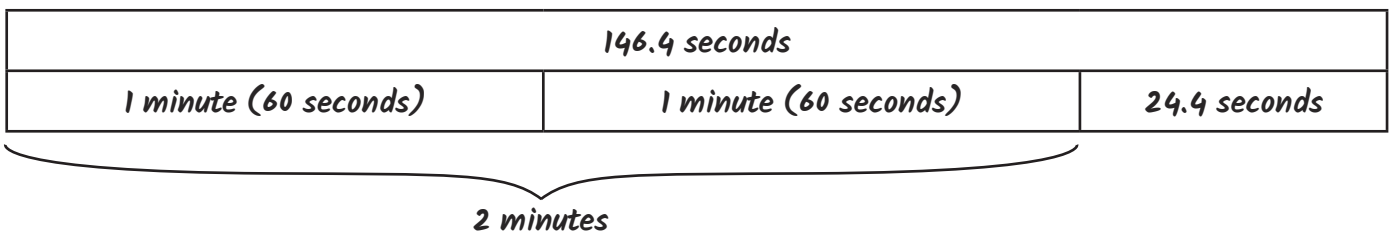
6. Eric says, 'If only I had been 5 seconds faster in the slalom, then I would've been faster than Bobby.' Is he right? Show how you know.

*He was not right. 5 seconds less than his time =  $171.3 - 5 = 166.3$  seconds. Bobby's overall time was 166 seconds, so Bobby is still faster.*

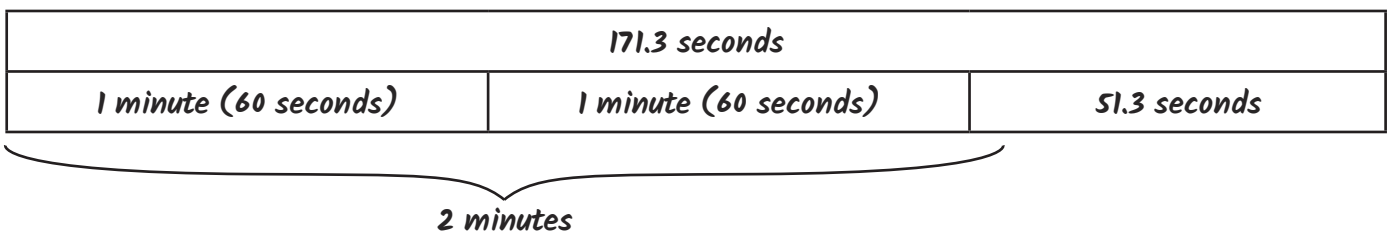
7. Carol: 3 minutes 2.3 seconds



Daphne: 2 minutes 26.4 seconds



Eric: 2 minutes 51.3 seconds



Measurement | Winter Sports

<b>I can solve problems involving converting between minutes and seconds.</b>		
I can convert from minutes to seconds.		
I can convert from seconds to minutes.		
I can order timed events.		
I can solve a problem involving timed events, converting from one unit to another.		

Measurement | Winter Sports

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