



**THIRD SPACE
LEARNING**

Histogram Worksheet

Statistics and Probability

Grades 6 to 8

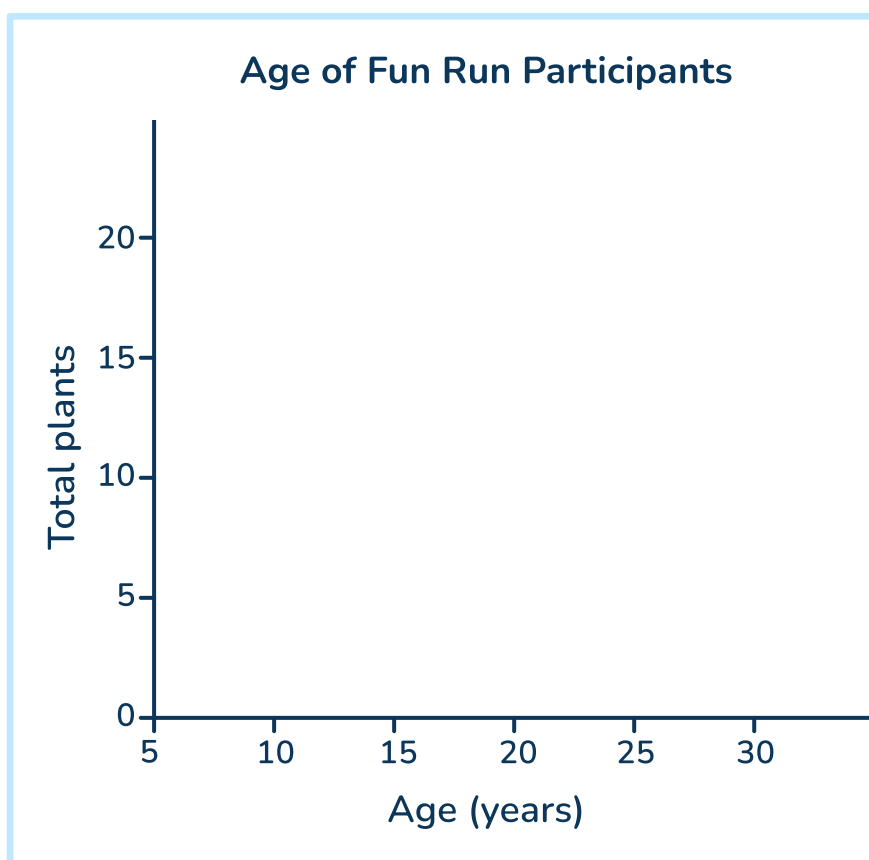
Questions

Name:

Date:

- 1 The table shows the ages of participants in a fun run. Create a histogram based on this data.

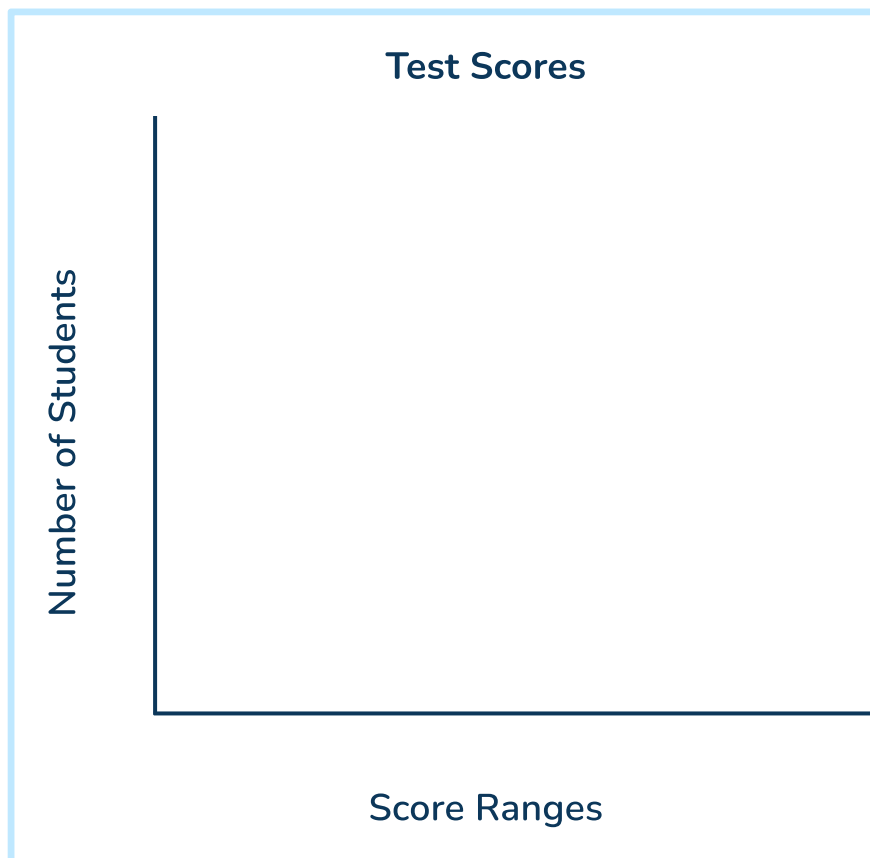
Age, y years	Number of Participants
$5 \leq y < 10$	6
$10 \leq y < 15$	12
$15 \leq y < 20$	18
$20 \leq y < 25$	14
$25 \leq y < 30$	8



Histogram Worksheet | Grades 6 to 8

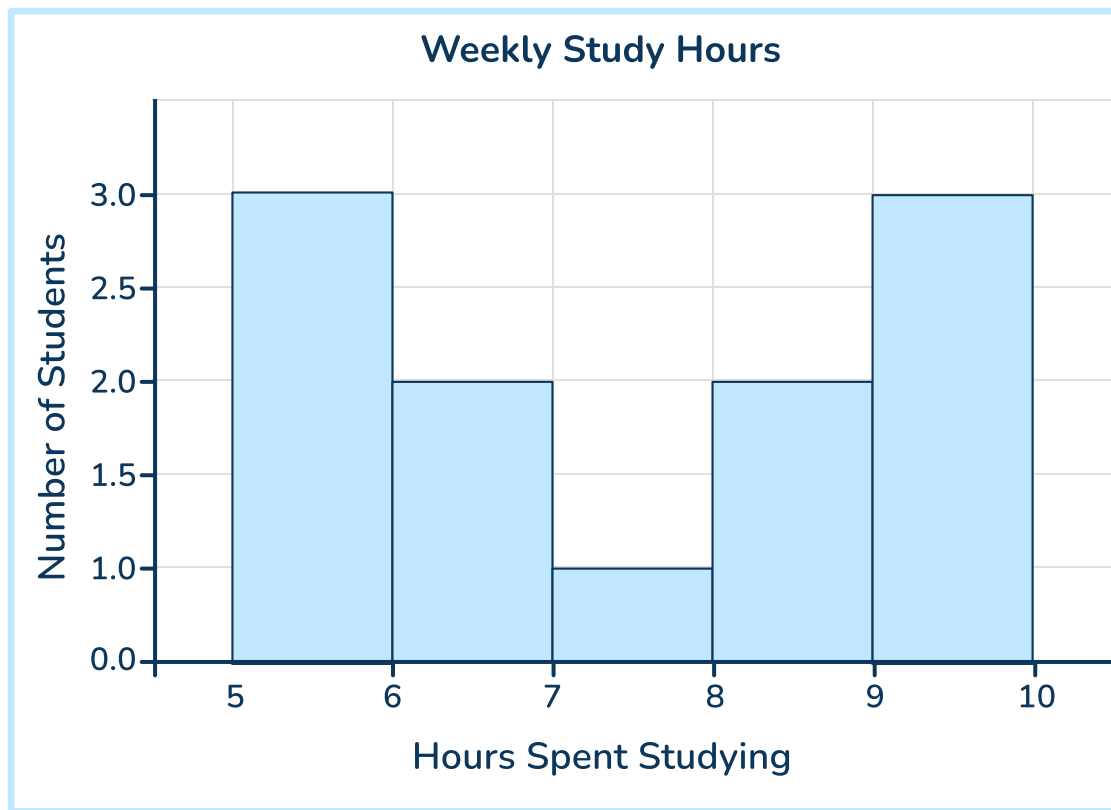
- 2 The table shows student test scores. Construct a histogram.

Score ranges, x	Frequency
$50 \leq y < 60$	2
$60 \leq y < 70$	8
$70 \leq y < 80$	10
$80 \leq y < 90$	12
$90 \leq y < 100$	5



Histogram Worksheet | Grades 6 to 8

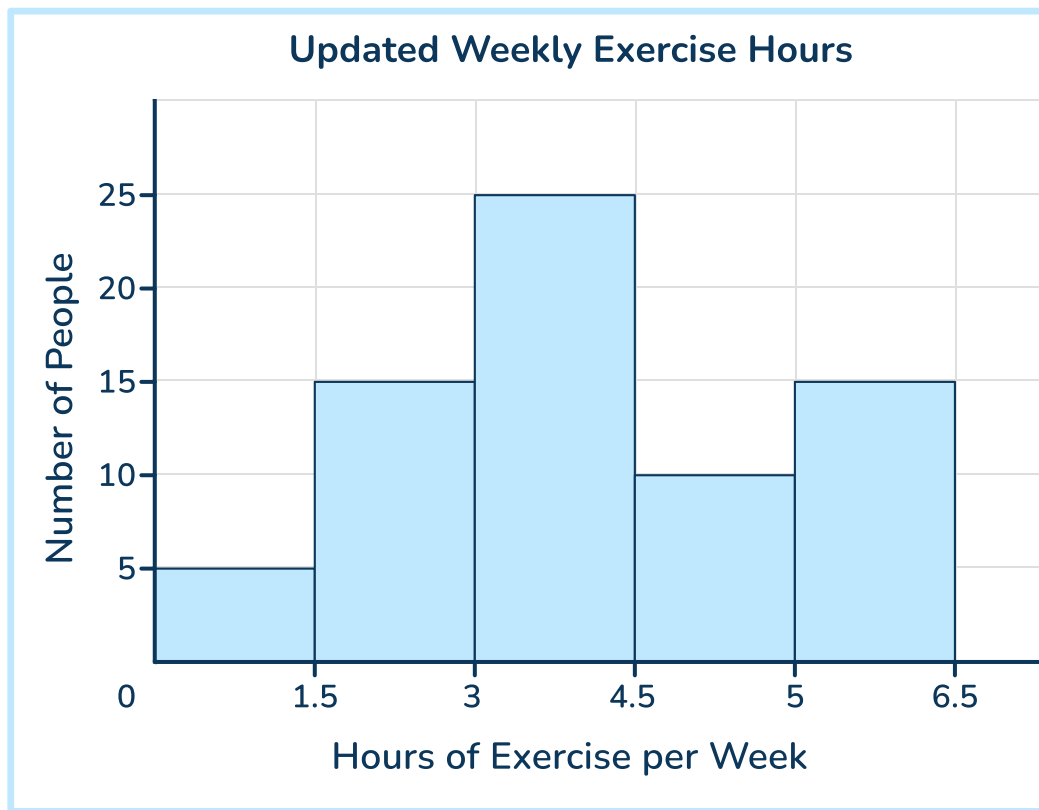
- 3 This histogram shows how many hours students study. Create the table based on this data.



Hours Spent Studying, h	Number of Students

Histogram Worksheet | Grades 6 to 8

- 4 This histogram shows how many hours people exercise each week. Create the table based on this data.

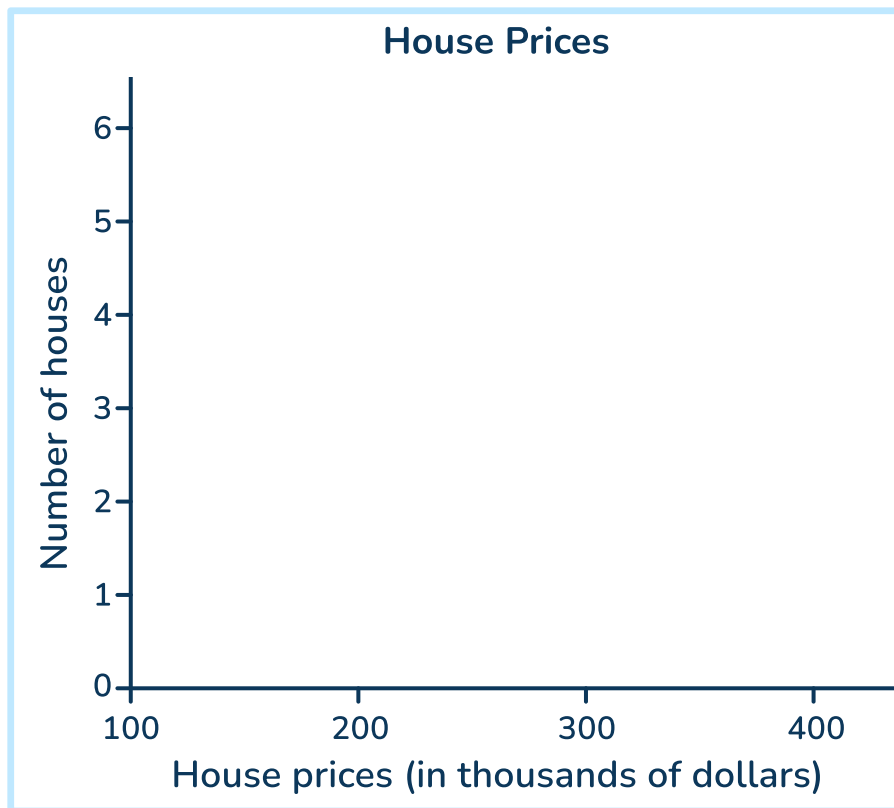


Hours of Exercise per Week, e	Number of People

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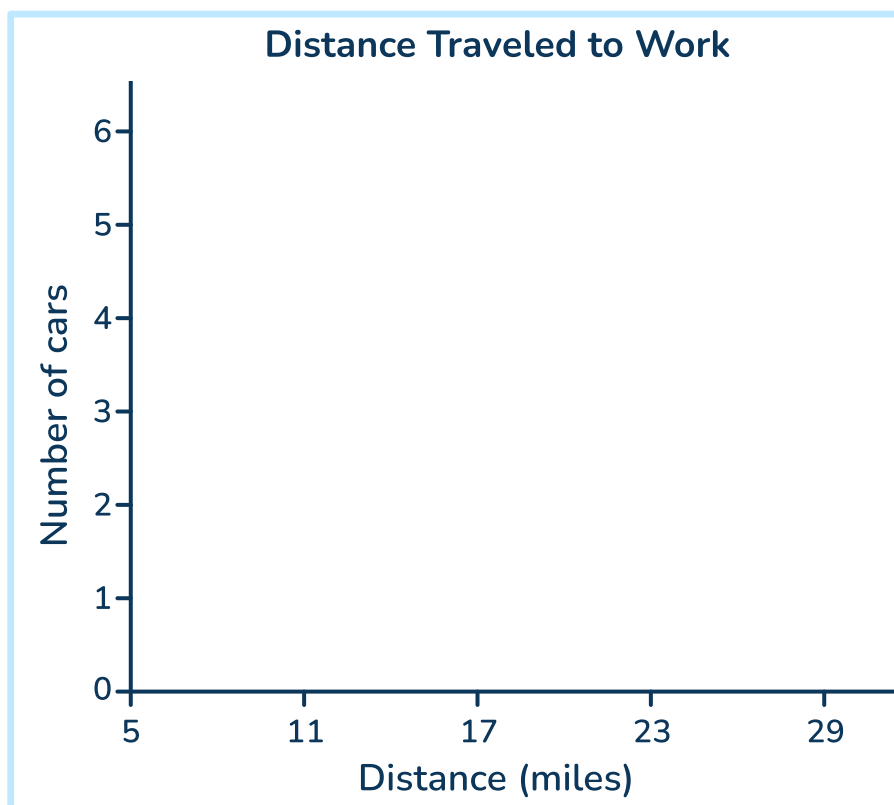
- 5 Below is a list of house prices (in thousands of dollars). Make a histogram for the data.

150, 200, 250, 200, 150, 100, 300, 250, 200, 300



- 6 Create a histogram for distances traveled by car per day (miles).

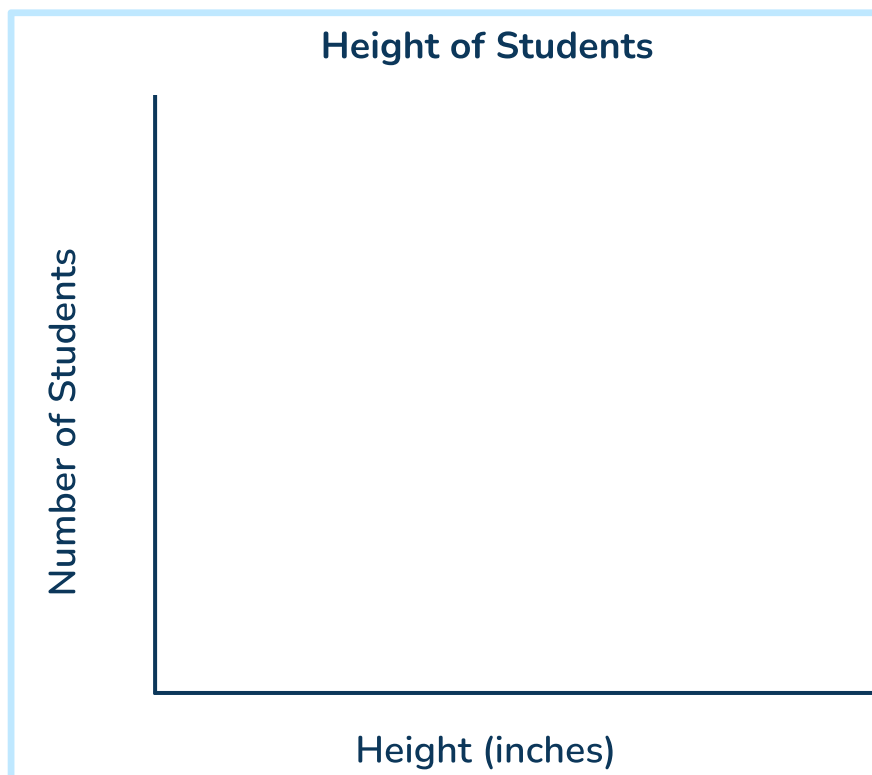
5.8, 10.3, 15.5, 12.8, 18.2, 20.6, 25.6, 21.9, 16.2, 16.1, 14.3, 9.8, 22.3



Histogram Worksheet | Grades 6 to 8

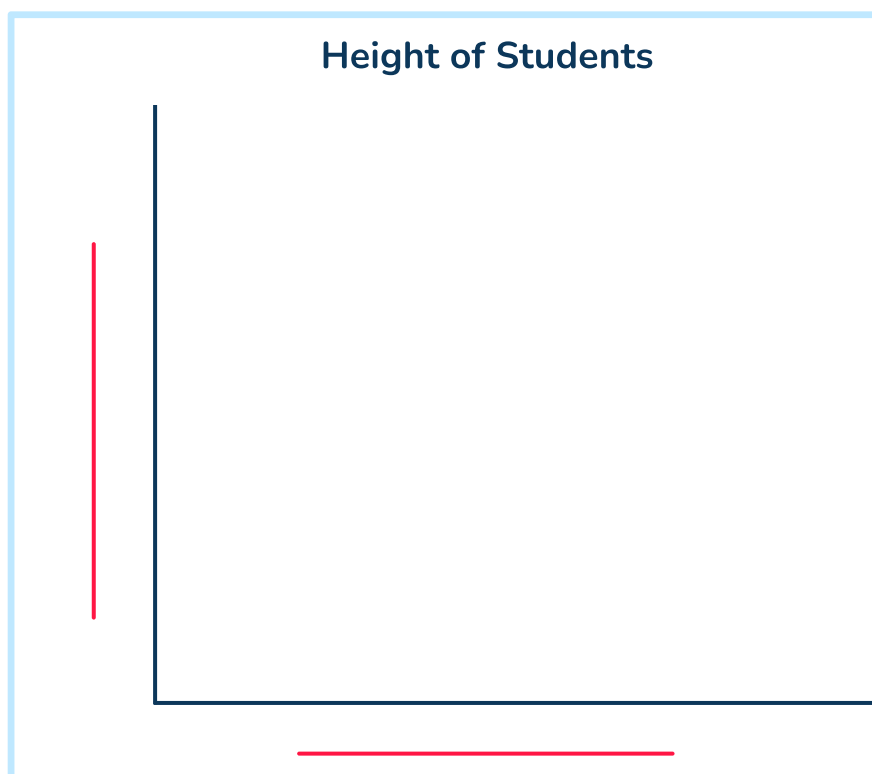
- 7 The heights of students in a class are recorded below (in inches). Create a histogram with a bin width of 2 inches.

54, 53, 56, 52, 58, 60, 55, 62, 56, 54, 55, 52, 58, 56



- 8 A list of weekly sales (items sold) for a shop is below. Create a histogram with a bin size of 5. Label the units on the x and y axes.

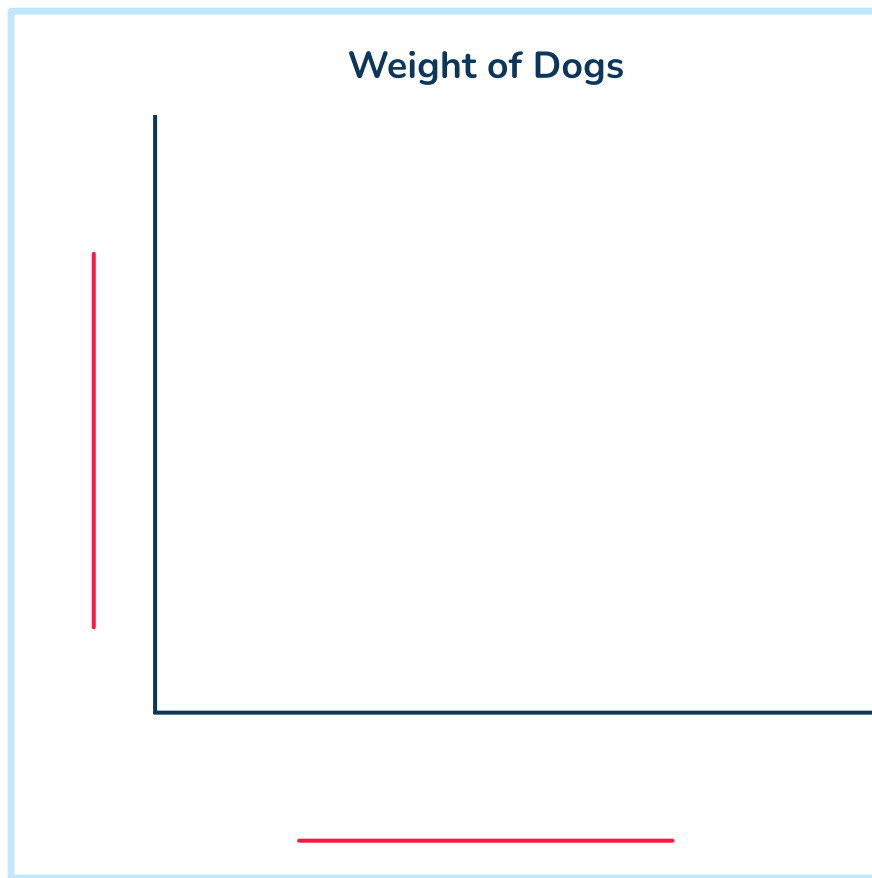
50, 55, 60, 65, 55, 45, 60, 70, 56, 57, 59



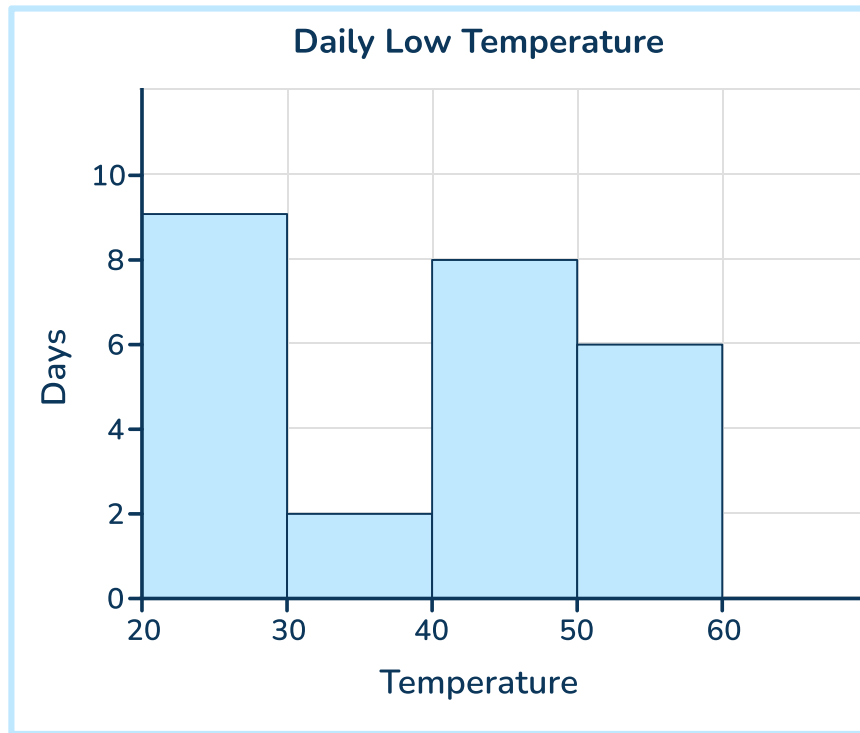
Histogram Worksheet | Grades 6 to 8

- 9 The weights of various dogs (lbs) are recorded here. Create a histogram with a bin size of 5. Label the units on the x and y axes.

10.5, 20.4, 15.1, 25.3, 20.4, 10.9, 15.1, 20.8, 29.2, 15.0



10



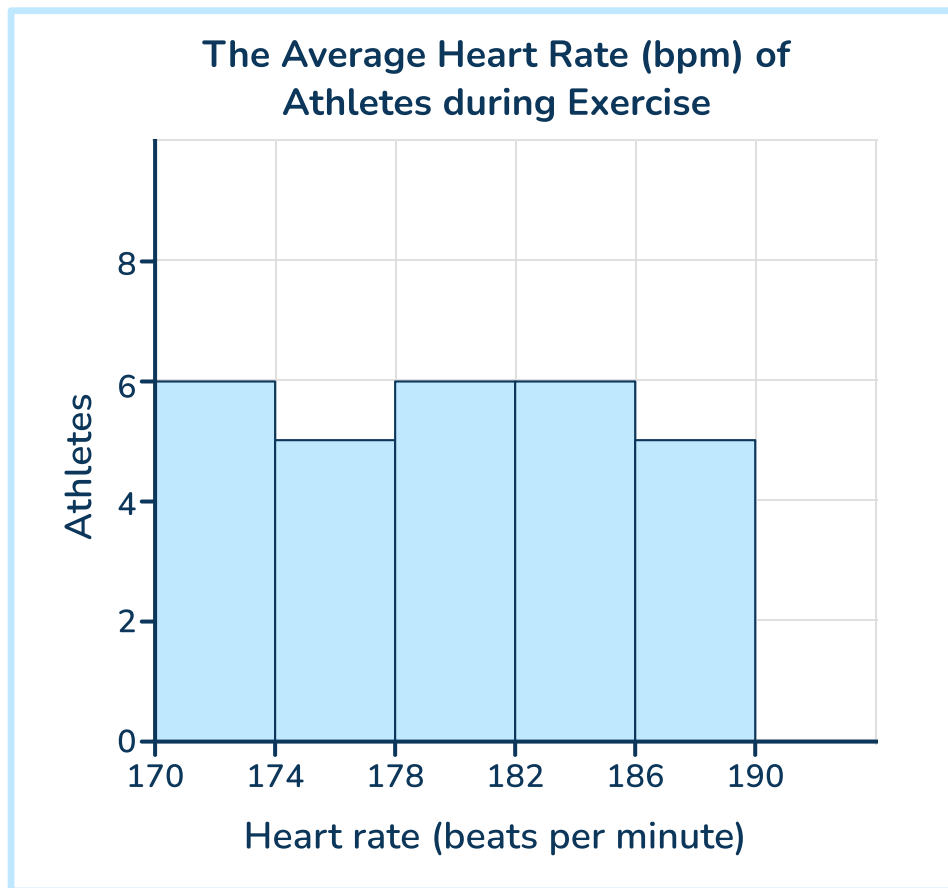
A) How many days does the histogram represent?

Answer

B) Give an example of a data point that could be in the histogram, including the units.

Answer

11



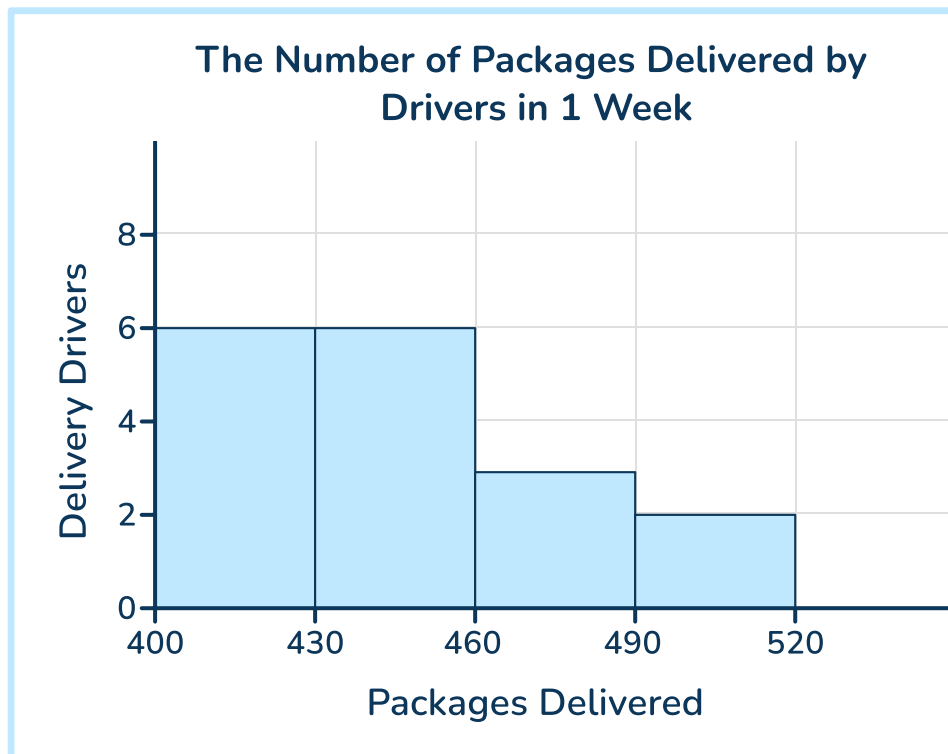
A) How many athletes does the histogram represent?

Answer

B) Give an example of a data point that could be in the histogram, including the units.

Answer

12



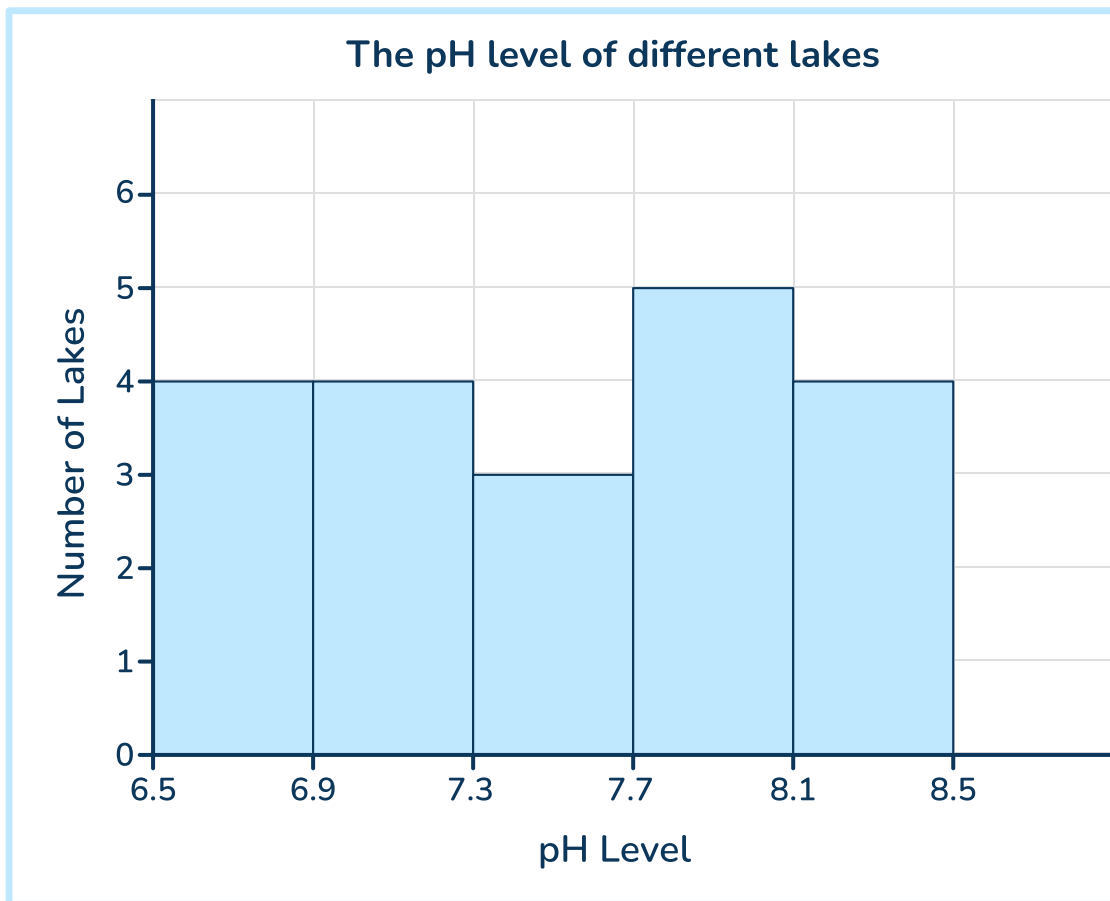
A) How many delivery drivers does the histogram represent?

Answer

B) Give an example of a data point that could be in the histogram, including the units.

Answer

13



A) How many lakes does the histogram represent?

Answer

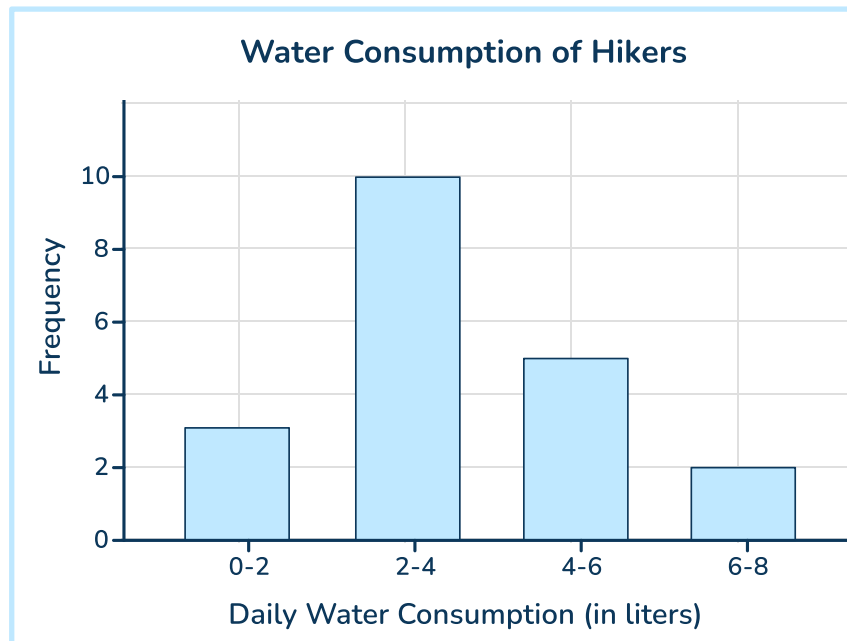
B) Give an example of a data point that could be in the histogram, including the units.

Answer

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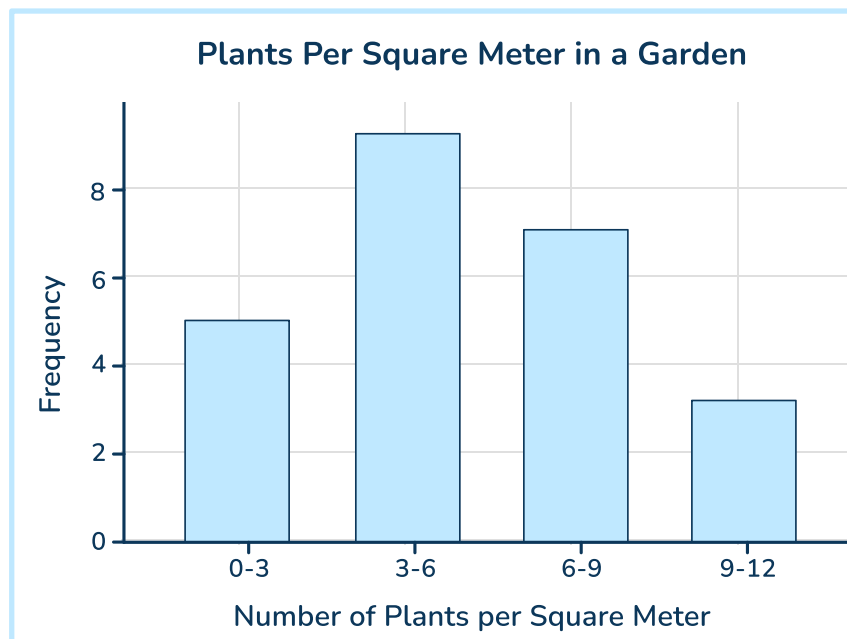
- 14** The histogram shows the amount of water consumed daily by hikers (in liters).

What bin contains the median?



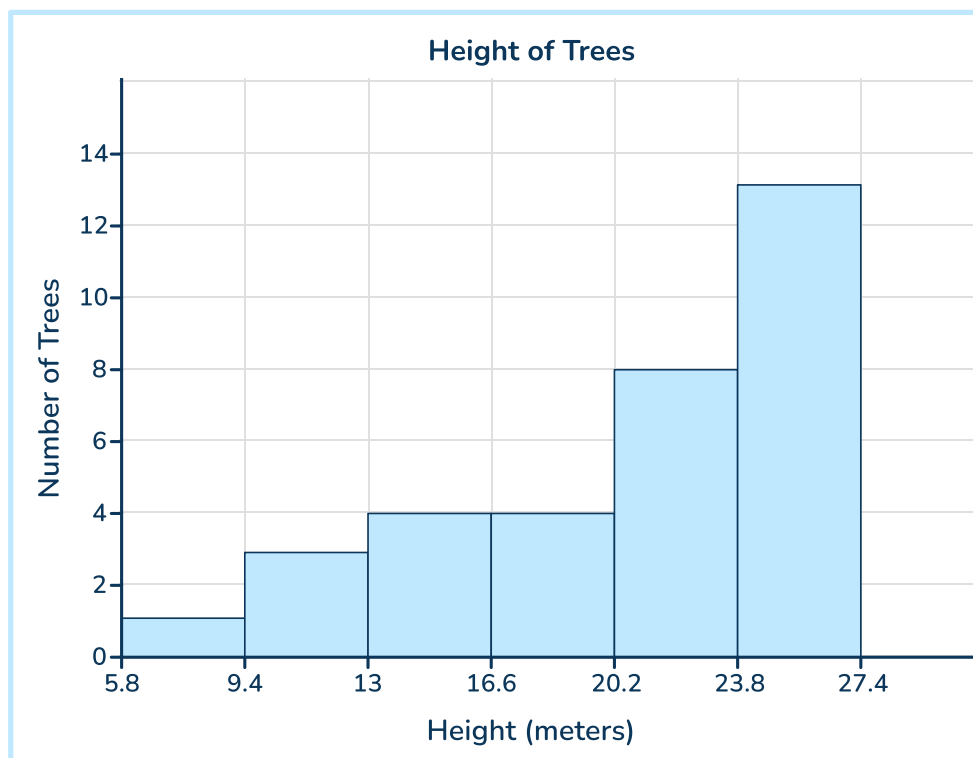
Answer

- 15** What bin contains the median number of plants?



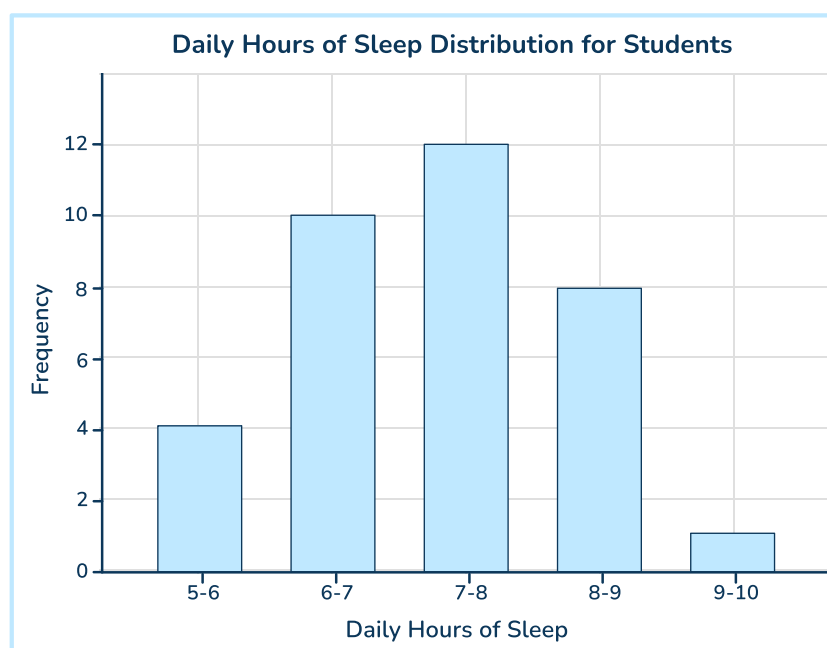
Answer

16 What bin contains the median height?



Answer

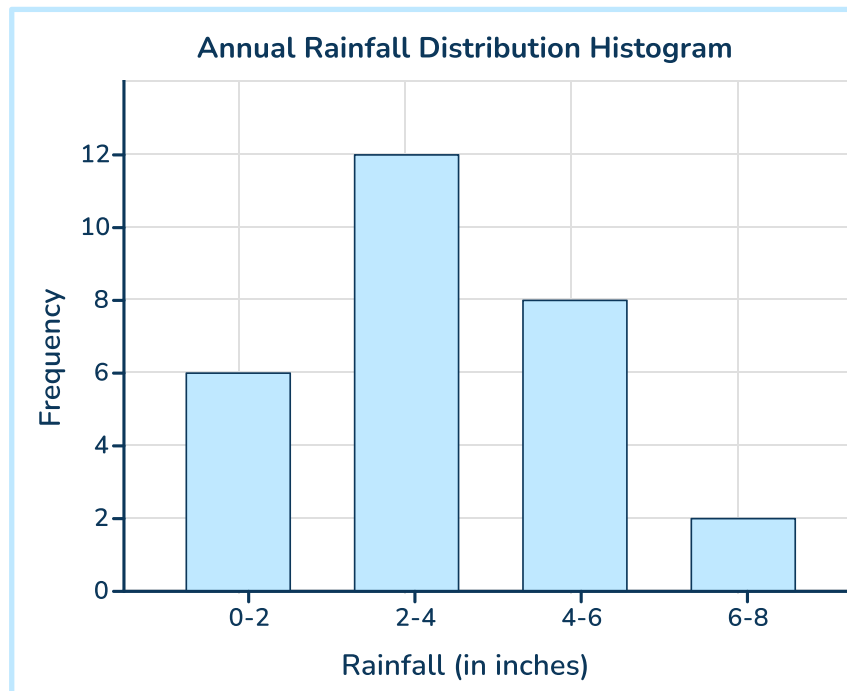
17 Describe the center and spread of the following histogram showing daily hours of sleep for students.



Answer

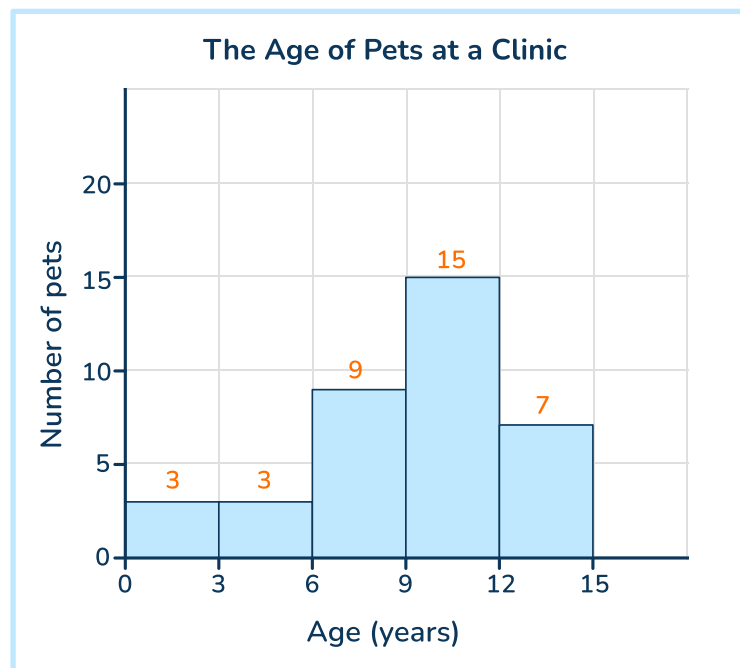
Histogram Worksheet | Grades 6 to 8

- 18 Describe the center and spread of the following histogram for rainfall (in inches) over a year.



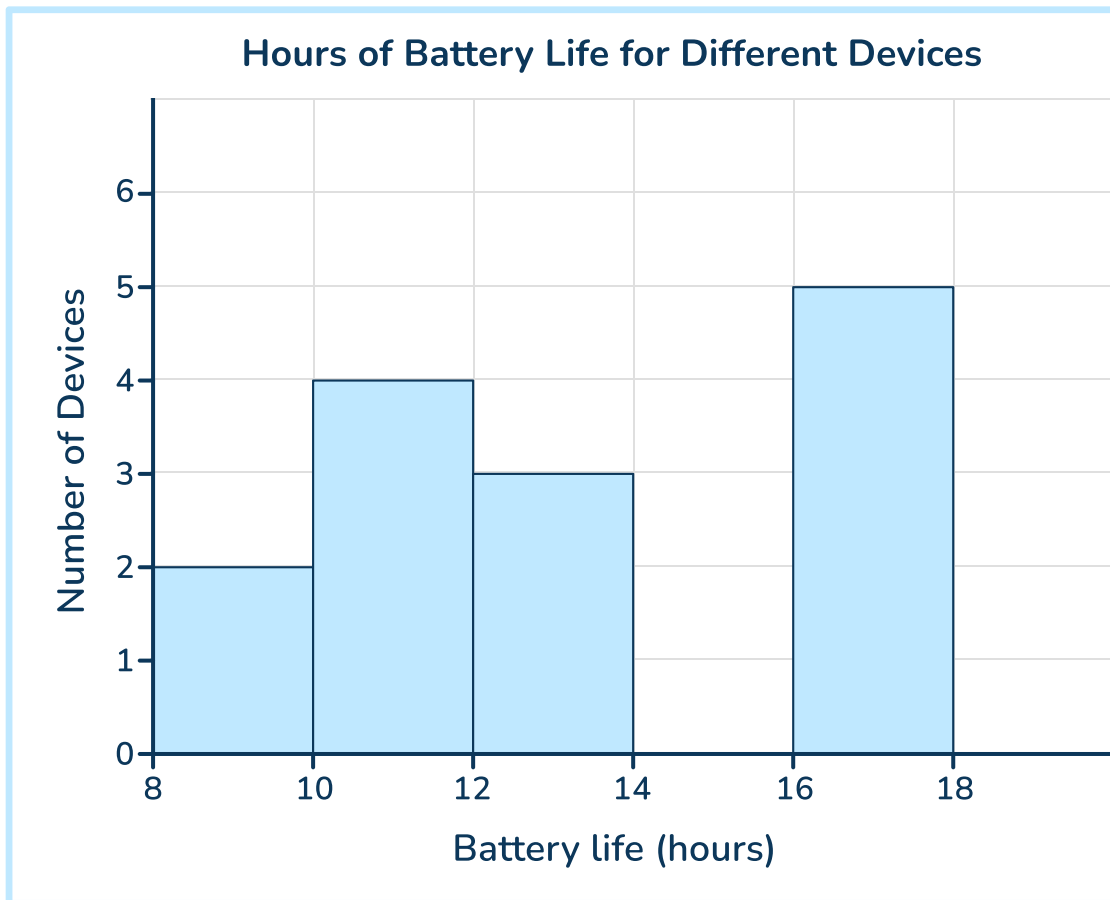
Answer

- 19 This histogram shows pet ages at a clinic. Describe the center and spread.



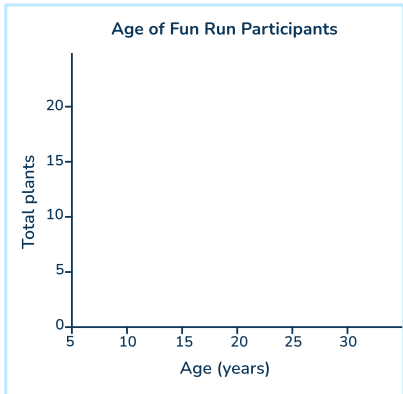
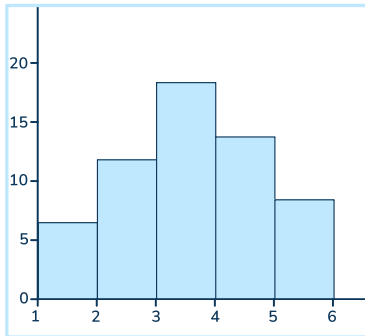
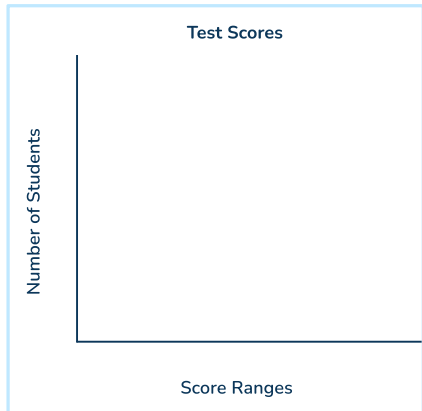
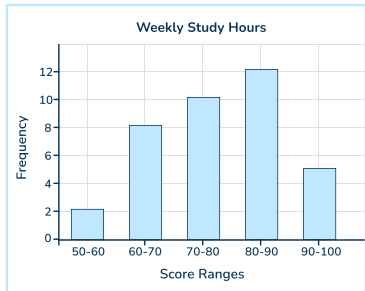
Answer

- 20 This histogram shows battery life of different electronic devices. Describe the center and spread.

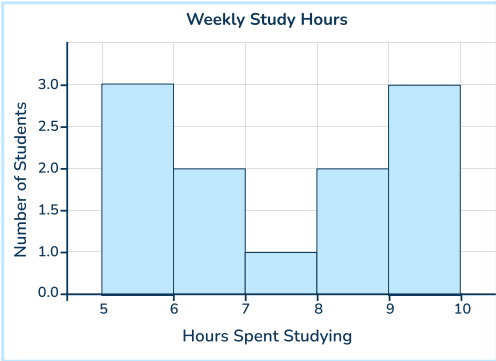
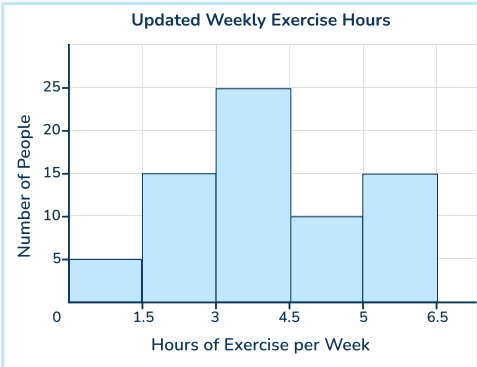


Answer

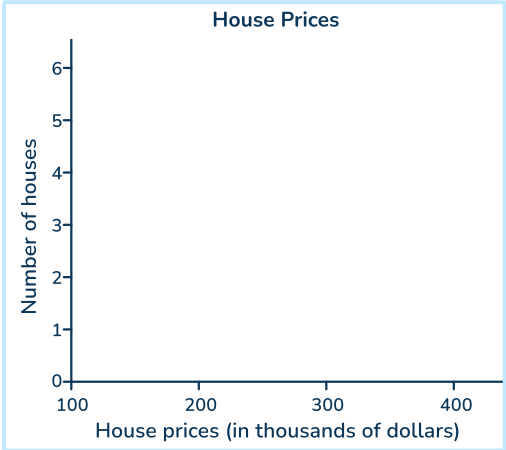
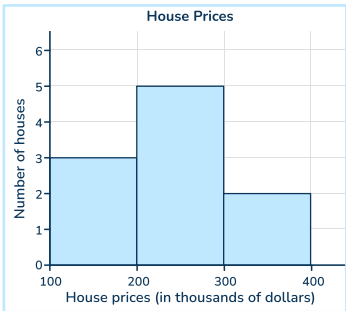
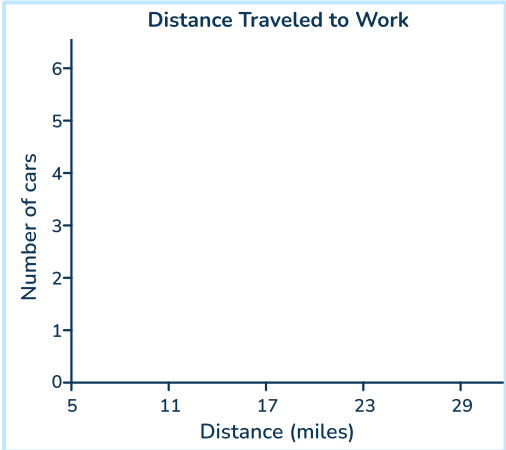
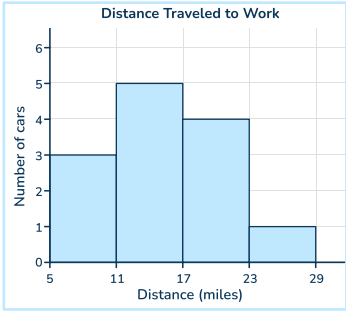
Answers

Question number	Question	Answers	Standard												
1	<p>The table shows the ages of participants in a fun run. Create a histogram based on this data.</p> <table><thead><tr><th>Age, y years</th><th>Number of Participants</th></tr></thead><tbody><tr><td>$5 \leq y < 10$</td><td>6</td></tr><tr><td>$10 \leq y < 15$</td><td>12</td></tr><tr><td>$15 \leq y < 20$</td><td>18</td></tr><tr><td>$20 \leq y < 25$</td><td>14</td></tr><tr><td>$25 \leq y < 30$</td><td>8</td></tr></tbody></table> <div><p>Age of Fun Run Participants</p></div>	Age, y years	Number of Participants	$5 \leq y < 10$	6	$10 \leq y < 15$	12	$15 \leq y < 20$	18	$20 \leq y < 25$	14	$25 \leq y < 30$	8		6.SP.B.4
Age, y years	Number of Participants														
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2	<p>The table shows student test scores. Construct a histogram.</p> <table><thead><tr><th>Score ranges, x</th><th>Frequency</th></tr></thead><tbody><tr><td>$50 \leq y < 60$</td><td>2</td></tr><tr><td>$60 \leq y < 70$</td><td>8</td></tr><tr><td>$70 \leq y < 80$</td><td>10</td></tr><tr><td>$80 \leq y < 90$</td><td>12</td></tr><tr><td>$90 \leq y < 100$</td><td>5</td></tr></tbody></table> <div><p>Test Scores</p></div>	Score ranges, x	Frequency	$50 \leq y < 60$	2	$60 \leq y < 70$	8	$70 \leq y < 80$	10	$80 \leq y < 90$	12	$90 \leq y < 100$	5		6.SP.B.4
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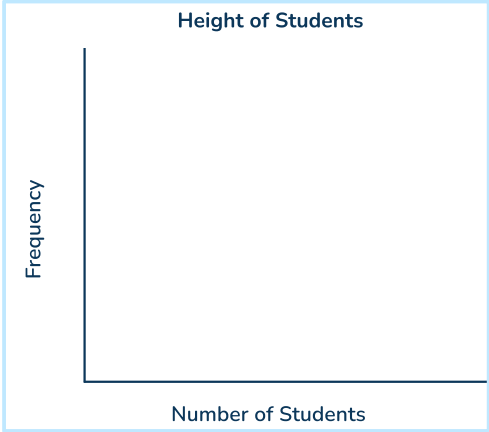
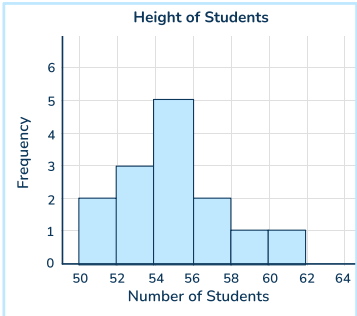
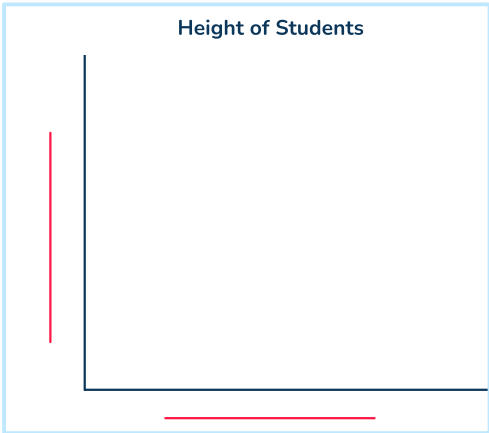
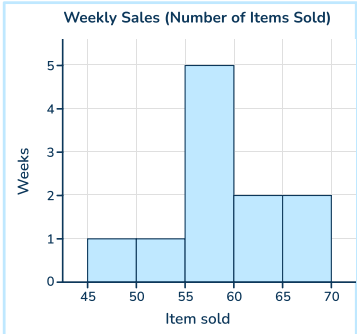
Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard																								
3	<p>This histogram shows how many hours students study. Create the table based on this data.</p> <div><p>Weekly Study Hours</p></div> <table><thead><tr><th>Hours Spent Studying, h</th><th>Number of Students</th></tr></thead><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table>	Hours Spent Studying, h	Number of Students											<table><thead><tr><th>Hours Spent Studying, h</th><th>Number of Students</th></tr></thead><tbody><tr><td>$5 \leq h < 6$</td><td>3</td></tr><tr><td>$6 \leq h < 7$</td><td>2</td></tr><tr><td>$7 \leq h < 8$</td><td>1</td></tr><tr><td>$8 \leq h < 9$</td><td>2</td></tr><tr><td>$9 \leq h < 10$</td><td>3</td></tr></tbody></table>	Hours Spent Studying, h	Number of Students	$5 \leq h < 6$	3	$6 \leq h < 7$	2	$7 \leq h < 8$	1	$8 \leq h < 9$	2	$9 \leq h < 10$	3	6.SP.B.4
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4	<p>This histogram shows how many hours people exercise each week. Create the table based on this data.</p> <div><p>Updated Weekly Exercise Hours</p></div> <table><thead><tr><th>Hours of Exercise per Week, e</th><th>Number of People</th></tr></thead><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table>	Hours of Exercise per Week, e	Number of People											<table><thead><tr><th>Hours of Exercise per Week, e</th><th>Number of People</th></tr></thead><tbody><tr><td>$0 \leq h < 1.5$</td><td>5</td></tr><tr><td>$1.5 \leq h < 3$</td><td>15</td></tr><tr><td>$3 \leq h < 4.5$</td><td>25</td></tr><tr><td>$4.5 \leq h < 6$</td><td>10</td></tr><tr><td>$6 \leq h < 6.5$</td><td>15</td></tr></tbody></table>	Hours of Exercise per Week, e	Number of People	$0 \leq h < 1.5$	5	$1.5 \leq h < 3$	15	$3 \leq h < 4.5$	25	$4.5 \leq h < 6$	10	$6 \leq h < 6.5$	15	6.SP.B.4
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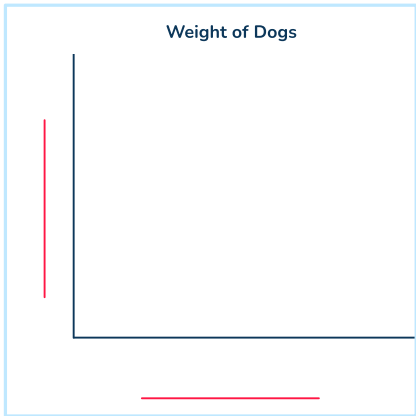
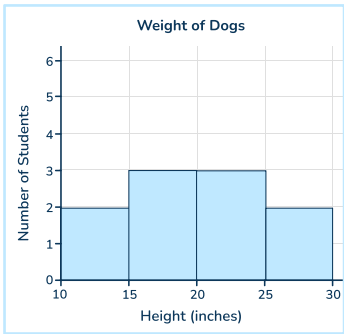
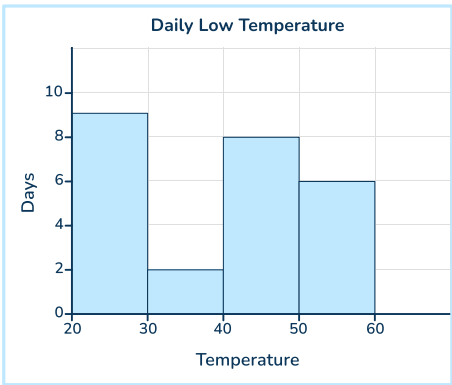
Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
5	<p>Below is a list of house prices (in thousands of dollars). Make a histogram for the data.</p> <p>150, 200, 250, 200, 150, 100, 300, 250, 200, 300</p> 		6.SP.B.4
6	<p>Create a histogram for distances traveled by car per day (miles).</p> <p>5.8, 10.3, 15.5, 12.8, 18.2, 20.6, 25.6, 21.9, 16.2, 16.1, 14.3, 9.8, 22.3</p> 		6.SP.B.4

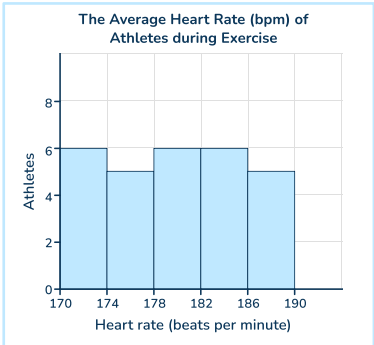
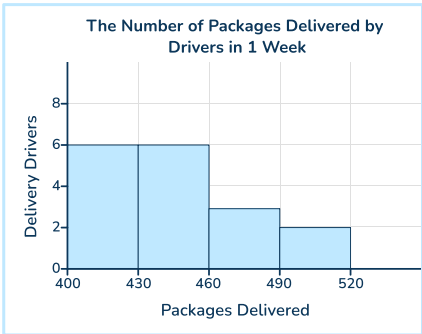
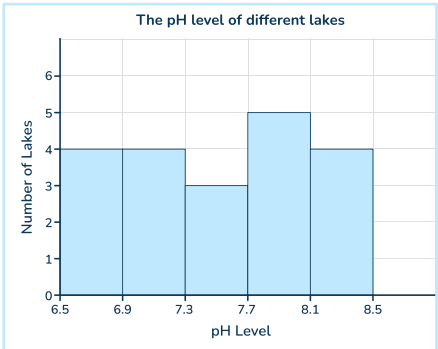
Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
7	<p>The heights of students in a class are recorded below (in inches). Create a histogram with a bin width of 2 inches.</p> <p>54, 53, 56, 52, 58, 60, 55, 62, 56, 54, 55, 52, 58, 56</p> 		6.SP.B.4
8	<p>A list of weekly sales (items sold) for a shop is below. Create a histogram with a bin size of 5. Label the units on the x and y axes.</p> <p>50, 55, 60, 65, 55, 45, 60, 70, 56, 57, 59</p> 		6.SP.B.4

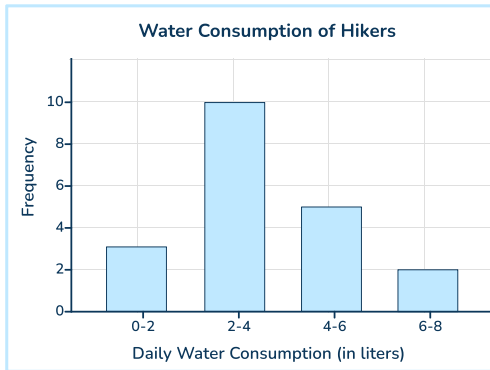
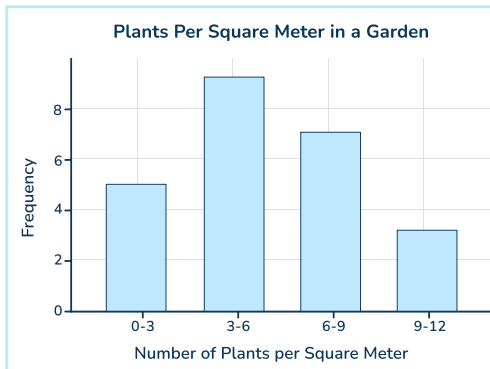
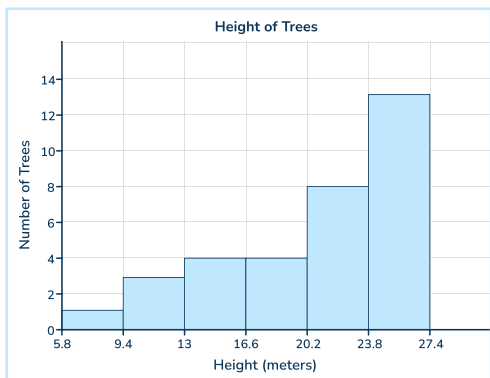
Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
9	<p>The weights of various dogs (lbs) are recorded here. Create a histogram. Create a histogram with a bin size of 5. Label the units on the x and y axes.</p> <p>10.5, 20.4, 15.1, 25.3, 20.4, 10.9, 15.1, 20.8, 29.2, 15.0</p> 		6.SP.B.4
10	 <p>A) How many days does the histogram represent?</p> <p>B) Give an example of a data point that could be in the histogram, including the units.</p>	<p>A) 25 days</p> <p>B) An answer '20 degrees' to less than '60 degrees' is correct</p>	6.SP.B.4, 6.SP.B.5

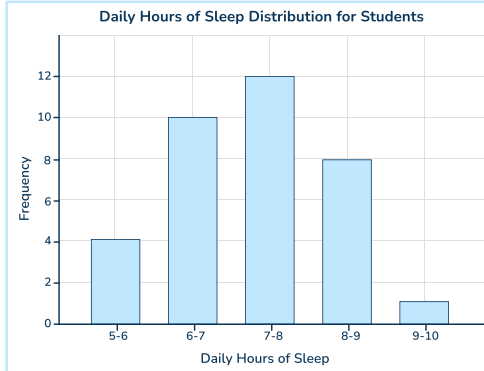
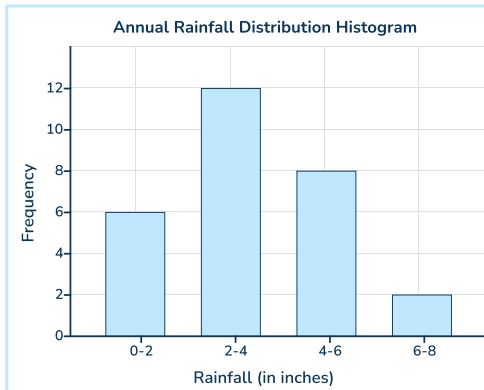
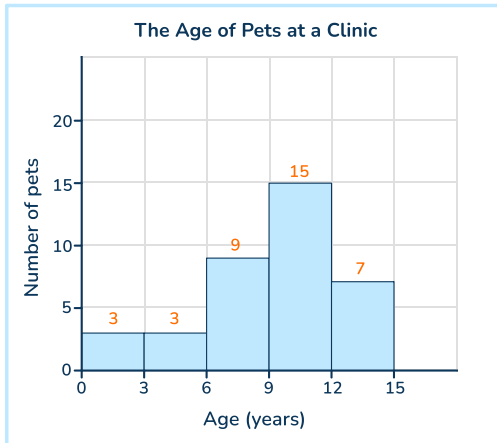
Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
11	<p>The Average Heart Rate (bpm) of Athletes during Exercise</p>  <p>A) How many athletes does the histogram represent? B) Give an example of a data point that could be in the histogram, including the units.</p>	<p>A) 28 athletes B) An answer from '170 heart rate(bpm)' to less than '190 heart rate (bpm)' is correct</p>	6.SP.B.4, 6.SP.B.5
12	<p>The Number of Packages Delivered by Drivers in 1 Week</p>  <p>A)How many delivery drivers does the histogram represent? B) Give an example of a data point that could be in the histogram, including the units.</p>	<p>A) 17 B) An answer from '400 packages' to less than '520 packages' is correct</p>	6.SP.B.4, 6.SP.B.5
13	<p>The pH level of different lakes</p>  <p>A) How many lakes does the histogram represent? B) Give an example of a data point that could be in the histogram, including the units.</p>	<p>A) 20 B) An answer from '6.5 pH level' to less than '8.5 pH level' is correct</p>	6.SP.B.4, 6.SP.B.5

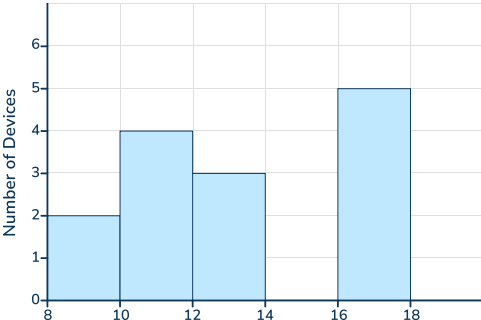
Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard														
14	<p>The histogram shows the amount of water consumed daily by hikers (in liters).</p> <p>What bin contains the median?</p> <div><p>Water Consumption of Hikers</p><table><thead><tr><th>Daily Water Consumption (in liters)</th><th>Frequency</th></tr></thead><tbody><tr><td>0-2</td><td>3</td></tr><tr><td>2-4</td><td>10</td></tr><tr><td>4-6</td><td>5</td></tr><tr><td>6-8</td><td>2</td></tr></tbody></table></div>	Daily Water Consumption (in liters)	Frequency	0-2	3	2-4	10	4-6	5	6-8	2	2-4	6.SP.B.4, 6.SP.B.5				
Daily Water Consumption (in liters)	Frequency																
0-2	3																
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4-6	5																
6-8	2																
15	<p>What bin contains the median number of plants?</p> <div><p>Plants Per Square Meter in a Garden</p><table><thead><tr><th>Number of Plants per Square Meter</th><th>Frequency</th></tr></thead><tbody><tr><td>0-3</td><td>5</td></tr><tr><td>3-6</td><td>9</td></tr><tr><td>6-9</td><td>7</td></tr><tr><td>9-12</td><td>3</td></tr></tbody></table></div>	Number of Plants per Square Meter	Frequency	0-3	5	3-6	9	6-9	7	9-12	3	3-6	6.SP.B.4, 6.SP.B.5				
Number of Plants per Square Meter	Frequency																
0-3	5																
3-6	9																
6-9	7																
9-12	3																
16	<div><p>Height of Trees</p><table><thead><tr><th>Height (meters)</th><th>Number of Trees</th></tr></thead><tbody><tr><td>5.8-9.4</td><td>1</td></tr><tr><td>9.4-13</td><td>3</td></tr><tr><td>13-16.6</td><td>4</td></tr><tr><td>16.6-20.2</td><td>4</td></tr><tr><td>20.2-23.8</td><td>8</td></tr><tr><td>23.8-27.4</td><td>13</td></tr></tbody></table></div> <p>What bin contains the median height?</p>	Height (meters)	Number of Trees	5.8-9.4	1	9.4-13	3	13-16.6	4	16.6-20.2	4	20.2-23.8	8	23.8-27.4	13	20.2-23.8	6.SP.B.4, 6.SP.B.5
Height (meters)	Number of Trees																
5.8-9.4	1																
9.4-13	3																
13-16.6	4																
16.6-20.2	4																
20.2-23.8	8																
23.8-27.4	13																

Histogram Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard												
17	<p>Describe the center and spread of the following histogram showing daily hours of sleep for students.</p>  <table><caption>Daily Hours of Sleep Distribution for Students</caption><thead><tr><th>Daily Hours of Sleep</th><th>Frequency</th></tr></thead><tbody><tr><td>5-6</td><td>4</td></tr><tr><td>6-7</td><td>10</td></tr><tr><td>7-8</td><td>12</td></tr><tr><td>8-9</td><td>8</td></tr><tr><td>9-10</td><td>1</td></tr></tbody></table>	Daily Hours of Sleep	Frequency	5-6	4	6-7	10	7-8	12	8-9	8	9-10	1	<p>Answers may vary. Example answer: The spread is from 5 to 10 hours, with the data center around the median in the 7-8 bin. Overall the data is symmetrical, with slightly more data on the left side.</p>	6.SP.B.4, 6.SP.B.5
Daily Hours of Sleep	Frequency														
5-6	4														
6-7	10														
7-8	12														
8-9	8														
9-10	1														
18	<p>Describe the center and spread of the following histogram for rainfall (in inches) over a year.</p>  <table><caption>Annual Rainfall Distribution Histogram</caption><thead><tr><th>Rainfall (in inches)</th><th>Frequency</th></tr></thead><tbody><tr><td>0-2</td><td>6</td></tr><tr><td>2-4</td><td>12</td></tr><tr><td>4-6</td><td>8</td></tr><tr><td>6-8</td><td>2</td></tr></tbody></table>	Rainfall (in inches)	Frequency	0-2	6	2-4	12	4-6	8	6-8	2	<p>Answers may vary. Example answer: The median lies in the 2-4 bin, with the data mostly centering around this bin. There are more data points and variability above the median bin, than below.</p>	6.SP.B.4, 6.SP.B.5		
Rainfall (in inches)	Frequency														
0-2	6														
2-4	12														
4-6	8														
6-8	2														
19	<p>This histogram shows pet ages at a clinic. Describe the center and spread.</p>  <table><caption>The Age of Pets at a Clinic</caption><thead><tr><th>Age (years)</th><th>Number of pets</th></tr></thead><tbody><tr><td>0-3</td><td>3</td></tr><tr><td>3-6</td><td>3</td></tr><tr><td>6-9</td><td>9</td></tr><tr><td>9-12</td><td>15</td></tr><tr><td>12-15</td><td>7</td></tr></tbody></table>	Age (years)	Number of pets	0-3	3	3-6	3	6-9	9	9-12	15	12-15	7	<p>The data is centered around the median. However, the median is on the right side of the graph, because there are 3 bins below the median and only 1 above the median. The data is slightly left-skewed.</p>	6.SP.B.4, 6.SP.B.5
Age (years)	Number of pets														
0-3	3														
3-6	3														
6-9	9														
9-12	15														
12-15	7														

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Question number	Question	Answers	Standard												
20	<p>This histogram shows battery life of different electronic devices. Describe the center and spread.</p> <div><p>Hours of Battery Life for Different Devices</p><table><thead><tr><th>Battery life (hours)</th><th>Number of Devices</th></tr></thead><tbody><tr><td>8-10</td><td>2</td></tr><tr><td>10-12</td><td>4</td></tr><tr><td>12-14</td><td>3</td></tr><tr><td>14-16</td><td>0</td></tr><tr><td>16-18</td><td>5</td></tr></tbody></table></div>	Battery life (hours)	Number of Devices	8-10	2	10-12	4	12-14	3	14-16	0	16-18	5	<p>Answers may vary. Example answer: The median is in the 12-14 bin, but the data is not very centered around this. There is a gap in the data from 14-16 and the largest bin is the last bin.</p>	6.SP.B.4, 6.SP.B.5
Battery life (hours)	Number of Devices														
8-10	2														
10-12	4														
12-14	3														
14-16	0														
16-18	5														

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