## Lesson 4 - Statistics - Draw Pictograms

NC Objective:
Interpret and construct simple pictograms,
tally charts, block diagrams and simple tables

Resources needed:
Differentiated Sheets Teaching Slides

## Vocabulary:

Pictogram, data, represent, horizontally, vertically, symbol

Children use tally charts to produce pictograms. They build pictograms using concrete apparatus such as counters or cubes then move to drawing their own pictures. They need to be able to complete missing column or rows. They should use the same picture to represent all the data in the pictogram and line this up carefully. It is important that children see pictograms both horizontally and vertically.

## Key Questions:

How do you know how many images to draw?
What is the same and what is different about these two pictograms? (same data but shown horizontally and vertically) Which pictogram is easier to read? Why?
What simple symbol could we draw to represent the data?
Why did you choose this?

| W Working Towards | Working Within | NKH Greater Depth |
| :---: | :---: | :---: |
|  |  |  |
| Children complete the information separately on the pictograms and use the same picture to represent all the data in the pictogram and line this up carefully. | Children complete missing column or rows and use the same picture to represent all the data in the pictogram and line this up carefully. | Children complete missing columns or rows and use the same picture to represent all the data in the pictogram and line this up carefully. <br> On this sheet, they have to work out the number needed for the tally chart, which is represented complex words and number sentences. |
| Reasoning \& Problem Solving |  |  |
|  |  |  |

Tue 26th Maths
Complete the pictograms using the data given.


Key $\triangle=1$

| Flavour | Tally |
| :---: | :---: |
| Chocolate | HI III |
| Strawberry | HI |
| Vanilla | $\\|$ |
| Mint |  | | Strawberry |  |
| :---: | :---: | :---: |
| Vanilla |  |
| Mint |  |



| Vehicle | Tally |
| :---: | :---: |
| Car | HI HT |
| Bus | HI |
| Lorry |  |
| Van |  |

Key $\square=1$

| Vehicle |  |
| :---: | :--- |
| Car |  |
| Bus |  |
| Lorry |  |
| Van |  |

Complete the pictograms using the data given.


Key $\triangle=1$

| Flavour | Tally |
| :---: | :---: |
| Chocolate | $H_{H} \mathrm{III}$ |
| Strawberry | HH |
| Vanilla | $\\|$ |
| Mint |  |
| Chocolate | $\triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle$ |
| Strawberry | $\triangle \triangle \triangle \triangle \triangle$ |
| Vanilla | $\triangle \triangle$ |
| Mint | $\triangle$ |



Key $\square=1$

| Vehicle | Tally |
| :---: | :---: |
| Car | HI HI |
| Bus | HI |
| Lorry |  |
| Van |  |


| Vehicle |  |
| :---: | :--- |
| Car | $\square \square \square \square \square \square \square \square \square \square$ |
| Bus | $\square \square \square \square \square$ |
| Lorry |  |
| Van | $\square$ |

Tue 26th Maths
Complete the pictograms using the data given.

${ }_{K e g} \triangle=$

| Flavour | Tally |  |
| :---: | :--- | :---: |
| Chocolate | HI III |  |
| Strawberry | HY |  |
| Vanilla | $\\|$ |  |
| Mint |  |  |


| Flavour |  |
| :---: | :--- |
| Chocolate | $\triangle$ |
| Strawberry | $\triangle$ |
| Vanilla | $\triangle$ |
| Mint | $\triangle$ |



| Vehicle |  |
| :---: | :---: |
| Tally |  |
| Car | HI HI |
| Bus | HI |
| Lorry |  |
| Van |  |

Key $=1$

| Vehicle |  |
| :---: | :--- |
| Car | $\square$ |
| Bus | $\square \square \square \square$ |
| Lorry |  |
| Van | $\square$ |

Complete the pictograms using the data given.


Key $\triangle=1$



Key $\square=1$

| Vehicle | Tally |
| :---: | :---: |
| Car | HI HI |
| Bus | HI |
| Lorry |  |
| Van |  |


| Vehicle |  |
| :---: | :--- |
| Car | $\square \square \square \square \square \square \square \square \square \square$ |
| Bus | $\square \square \square \square \square$ |
| Lorry |  |
| Van | $\square$ |

Tue 26th Maths
Complete the pictograms using the data given.

| Key $\bigcirc=1$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Fruit | Tally | Total | Fruit |  |
| Strawberry |  | fifty-two subtract <br> 48 ones |  |  |
| Pear |  | Twenty subbract one <br> and a halt tens | Strawberry | $\bigcirc \bigcirc$ |
| Apple |  | one hundred ones <br> subtract १9 ones |  |  |
| Peach | Apple |  |  |  |
| Half sixteen ones | Peach | $\bigcirc \bigcirc$ |  |  |


| Key $\triangle=$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Flavour | Tally | Total | Flavour |  |
| Chocolate |  | $\begin{gathered} \text { six tens subtract } 50 \\ \text { ones } \end{gathered}$ | Chocolate | $\triangle$ |
| Strawberry |  | 4 tens - 3 tens | Strawberry | $\triangle$ |
| Vanilla |  | half of 4 tens subtract 17 | Vanilla | $\triangle$ |
| Mint |  | $10 \times 0$ ones | Mint |  |


| Name | Tally | Total |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tia |  | haf of 2 ones add <br> five |  |  |  |
| Zach |  | Zero add 9 ones <br> subtract four |  |  |  |
| Rosie |  | five mutipled by <br> one |  |  |  |
|  | 40 halved and <br> halved again |  |  |  |  |
| Leanna |  |  |  |  |  |


| Key $\quad=1$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Vehicle | Tally | Total | Vehicle |  |
| Car |  | $\begin{aligned} & \hline 8 \text { tens subtract } \\ & \text { seventy-three } \end{aligned}$ | Car | $\square$ |
| Bus |  | eighteen ones subtract two $\times 5$ | Bus | $\square \square \square$ |
| Lorry |  | fify ones minus 50 | Lorry |  |
| Van |  | 1 ten add the product 2 and zero | Van | $\square$ |

Complete the pictograms using the data given.

| Key $\bigcirc=1$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Fruit | Tally | Total | Fruit |  |
| Strawberry | \|||| | fiftytwo subbract 48 ones | Strawberry | $\bigcirc \bigcirc \bigcirc$ |
| Pear | HH | Twenty subtract one and a half tens | Pear | $\bigcirc \bigcirc \bigcirc$ |
| Apple | 1 | one hundred ones subtract 99 ones | Apple | $\bigcirc$ |
| Peach | HY III | Half sixteen ones | Peach | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |


| Key $\triangle=\underline{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Flavour | Tally | Total | Flavour |  |
| Chocolate | HH HH | six tens subtract 50 ones | Chocolate | $\triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle$ |
| Strawberry | HH HH | 4 tens - 3 tens | Strawberry | $\triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle$ |
| Vanilla | \||| | half of 4 tens subtract 17 | Vanilla | $\triangle \triangle \triangle$ |
| Mint |  | $10 \times 0$ ones | Mint |  |


| Name | Tally | Total | $\text { - } 1 \text { goal }$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tia | HH I | half of 2 ones add five five |  |  |  |  |  |
| Zach | HH | Zero add 9 ones subtract four |  |  |  |  |  |
| Rosie | HH | $\begin{aligned} & \text { five multiplied by } \\ & \text { one } \end{aligned}$ |  |  |  |  |  |
| Leanna | HH HH | 40 halved and halved again |  | Tia | zach | Rosie | Leanna |


| Key $\square=1$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Vehicle | Tally | Total | Vehicle |  |
| Car | HY II | 8 tens subtract seventy-three | Car |  |
| Bus | HY III | eighteen ones subtract two x 5 | Bus | $\square \square$ |
| Lorry |  | fifty ones minus 50 | Lorry |  |
| Van | HH HH | 1 ten add the product 2 and zero | Van | $\square \square \square \square \square \square \square \square$ |

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour |  |
| :--- | :--- |
| Chocolate | HH HH I HH II |
| Strawberry | HH HH II |
| Vanilla | HH III HH |
| Mint | HH III |

The pictogram is built using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 00000000 |
| Strawberry | 00000 |
| Vanilla | 0000000 |
| Mint | 000 |

Which statement is incorrect? Why?
-There are 3 votes for mint instead of 8 .
-There are 10 votes for strawberry instead of 12.
-There are 8 votes for chocolate instead of 17.

Rosie drew a tally chart showing the score of each child.

| Name | Score |
| :--- | :--- |
| Esin | HH HY III |
| Leanna | HH HH II |
| Zach | III |
| Tia | HI III |

Using this data she drew a pictogram.


Can you recreate the pictogram? Explain your method.

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour |  |
| :--- | :--- |
| Chocolate | HH HH I HH II |
| Strawberry | HH HI \|| |
| Vanilla | HH \||| HH |
| Mint | HH I\|| |

The pictogram is built using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 0000000 |
| Strawberry | 00000 |
| Vanilla | 000000 |
| Mint | 000 |

Which statement is incorrect? Why?
-There are 3 votes for mint instead of 8 .

- There are 10 votes for strawberry instead of 12 .
-There are 8 votes for chocolate instead of 17.

Rosie drew a tally chart showing the score of each child.

| Name | Score |
| :--- | :--- |
| Esin | HI HY III |
| Leanna | HI HH II |
| Zach | III |
| Tia | HI III |

Using this data she drew a pictogram.


Can you recreate the pictogram?
Explain your method.

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour |  |
| :--- | :--- |
| Chocolate | HI HH I HH II |
| Strawberry | HH HY II |
| Vanilla | HH IIII HI |
| Mint | HH III |

The pictogram is built using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 00000000 |
| Strawberry | 00000 |
| Vanilla | 000000 |
| Mint | 000 |

Which statement is incorrect? Why?
-There are 3 votes for mint instead of 8 .
-There are 10 votes for strawberry instead of 12.
-There are 8 votes for chocolate instead of 17. The second statement: There are 5 votes for strawberry instead of 12
The third statement: There are 8 votes for chocolate instead of 17.

Rosie drew a tally chart showing the score of each child.

| Name | Score |
| :--- | :--- |
| Esin | HH HH III |
| Leanna | HH HH II |
| Zach | III |
| Tia | HI III |

Using this data she drew a pictogram.


Can you recreate the pictogram?
Explain your method.
The pictogram shows that Zach has 3 points according to the tally chart, so the key is $\Delta=1$
Esin: 13; Leanna: 12; Tia: 8

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour |  |
| :--- | :--- |
| Chocolate | HH HI I HH II |
| Strawberry | HH HH II |
| Vanilla | HH IIII HI |
| Mint | HH III |

The pictogram is built using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 00000000 |
| Strawberry | 00000 |
| Vanilla | 000000 |
| Mint | 000 |

Which statement is incorrect? Why?
-There are 3 votes for mint instead of 8 .
-There are 10 votes for strawberry instead of 12.
-There are 8 votes for chocolate instead of 17.
The second statement: There are 5 votes for strawberry instead of 12
The third statement: There are 8 votes for chocolate instead of 17 .

Rosie drew a tally chart showing the score of each child.

| Name | Score |
| :--- | :--- |
| Esin | HH YH III |
| Leanna | HH HH II |
| Zach | III |
| Tia | HH III |

Using this data she drew a pictogram.


Can you recreate the pictogram?
Explain your method.
The pictogram shows that Zach has 3 points according to the tally chart, so the key is $\Delta=1$
Esin: 13; Leanna: 12; Tia: 8

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally |
| :---: | :---: |
| Chocolate | HH HH I HH II |
| Strawberry | HH HHII |
| Vanilla | HH IIII HH |
| Mint | HH III |

The pictogram is made using the given information.

| Flavour | $=1$ |
| :--- | :---: |
| Chocolate | 0 |
| Strawberry | 0 |
| Vanilla |  |
| Mint |  |

Find the mistakes.
Explain your answer.

Rosie drew a tally chart showing the score of each child.

| Name | Score |  |
| :--- | :--- | :---: |
| Esin | HH IU HI |  |
| Leanna | HII I |  |
| Zach | $\\|\\|$ |  |
| Tia | IH HI II |  |

Using this data she drew a pictogram.
But now Zach has $10 \times 0$ ones points more.


Can you recreate the pictogram? Explain your method.
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The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally |
| :--- | :--- |
| Chocolate | HH HY I HH II |
| Strawberry | HH HY II |
| Vanilla | HH \||| HI |
| Mint | HH \||| |

The pictogram is made using the given information

| Flavour | $=1$ |
| :--- | :---: |
| Chocolate | $=1$ |
| Strawberry |  |
| Vanilla |  |
| Mint |  |

Find the mistakes.
Explain your answer.

Rosie drew a tally chart showing the score of each child.

| Name | Score |  |
| :--- | :--- | :---: |
| Esin | HH UII HI |  |
| Leanna | HHI |  |
| Zach | III |  |
| Tia | IH HI II |  |

Using this data she drew a pictogram.
But now Zach has $10 \times 0$ ones points more.


Can you recreate the pictogram?
Explain your method.

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally |
| :--- | :--- |
| Chocolate | HH HH I HH II |
| Strawberry | HI HI II |
| Vanilla | HI III HI |
| Mint | HI III |

The pictogram is made using the given information

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 00000000000 |
| Strawberry | 0000000 |
| Vanilla | 0000000000000 |
| Mint | 00000000 |

Find the mistakes.
Explain your answer.
There are two mistakes:

1) There are 12 votes for chocolate instead of 18 .
2) There are 7 votes for strawberry instead of 12 .

Rosie drew a tally chart showing the score of each child.

| Name | Score |  |
| :--- | :--- | :---: |
| Esin | HH III HI |  |
| Leanna | HHI |  |
| Zach | III |  |
| Tia | $\mid \mathrm{HH} \quad$ II |  |

Using this data she drew a pictogram.
But now Zach has $10 \times 0$ ones points more.


Can you recreate the pictogram?
Explain your method.
The pictogram shows that Zach has 3 points according to the tally chart, so the key is $\Delta=1$
Zach's points didn't change because $10 \times 0$ is equal to 0 .
Esin: 13; Leanna: 11; Zach: 3; Tia: 8

The tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally |
| :--- | :--- |
| Chocolate | HH HH I HH II |
| Strawberry | HH HI II |
| Vanilla | HH III HI |
| Mint | HI III |

The pictogram is made using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 00000000000 |
| Strawberry | 0000000 |
| Vanilla | 0000000000000 |
| Mint | 00000000 |

Find the mistakes.
Explain your answer.
There are two mistakes:

1) There are 12 votes for chocolate instead of 18.
2) There are 7 votes for strawberry instead of 12.

Rosie drew a tally chart showing the score of each child.

| Name | Score |  |
| :--- | :--- | :--- |
| Esin | HH III HI |  |
| Leanna | HII I $\quad$ HI |  |
| Zach | III |  |
| Tia | I HI II |  |

Using this data she drew a pictogram.
But now Zach has $10 \times 0$ ones points more.


Can you recreate the pictogram?
Explain your method.
The pictogram shows that Zach has 3 points according to the tally chart, so the key is $\Delta=1$
Zach's points didn't change because $10 \times 0$ is equal to 0 .
Esin: 13; Leanna: 11; Zach: 3; Tia: 8

The stained tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally | Total |
| :--- | :--- | :--- |
| Chocolate |  |  |
| Strawberry |  | 33 ones subtract one <br> and a half tens |
| Vanilla |  | 3 multiplied by four |
| Mint |  |  |

The pictogram is made using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chacolate | 000000000000 |
| Strawberry | 0000000 |
| Vanilla | 0000000000000 |
| Mint | 00000000 |

Find the mistakes. Explain your answer.

$|$| Rosie drew a tally chart showing |
| :--- |
| the score of each child. |


| Name | Tally | Total |
| :--- | :--- | :--- |
| Esin |  | Fifty-eight subtract 45 |
| Leanna |  | Half of 4 tens subtract 8 |
| Zach |  | Zero add 9 ones subtract six |
| Tia |  | 1 hundred ones subtract 92 ones |

Using this data she drew a pictogram but now
Zach has $10 \times 0$ ones extra points.


Can you complete the tally chart and recreate the pictogram?
Explain your method.

The stained tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally | Total |
| :--- | :--- | :--- |
| Chocolate |  |  |
| Strawberry |  | 33 ones subtract one |
| and a half tens |  |  |,

The pictogram is made using the given information

| Flavour | $=1$ |
| :--- | :--- |
| Chacolate | 000000000000 |
| Strawberry | 0000000 |
| Vanilla | 0000000000000 |
| Mint | 0000000 |

Find the mistakes.
Explain your answer.

Rosie drew a tally chart showing the score of each child.

| Name | Tally | Total |
| :--- | :--- | :--- |
| Esin |  | Fifty-eight subtract 45 |
| Leanna |  | Half of 4 tens subtract 8 |
| Zach |  | Zero add 9 ones subtract six |
| Tia |  | 1 hundred ones subtract 92 ones |

Using this data she drew a pictogram but now Zach has $10 \times 0$ ones extra points.


Can you complete the tally chart and recreate the pictogram?
Explain your method.

The stained tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally | Total |
| :--- | :--- | :--- |
| Chocolate |  | 33 ones subtract one <br> and a half tens 18 |
| Strawberry |  | 3 multiplied by four 1 1 | 2

The pictogram is made using the given information

| Flavour | $=1$ |
| :--- | :--- |
| Chocolate | 00000000000 |
| Strawberry | 0000000 |
| Vanilla | 0000000000000 |
| Mint | 00000000 |

Find the mistakes.
There are two mistakes:
Explain your answer.

1) There are 12 votes for chocolate instead of 18 .
2) There are 7 votes for strawberry instead of 12.

Rosie drew a tally chart showing the score of each child.

| Name | Tally | Total |  |
| :--- | :--- | :--- | :--- |
| Esin |  | Fifty-eight subtract 45 | 13 |
| Leanna |  | Half of 4 tens subtract 8 | 12 |
| Zach |  | Zero add 9 ones subtract six | 3 |
| Tia |  | 1 hundred ones subtract 92 ones 88 |  | Using this data she drew a pictogram.



Can you complete the tally chart and recreate the pictogram? Explain your method.

The pictogram shows that Zach has 3 points according to the tally chart, so the key is $\Delta=1$
Zach's points didn't change because $10 \times 0$ is equal to 0 .
Esin: 13; Leanna: 12; Zach: 3; Tia: 8

The stained tally chart shows the favourite ice-cream flavours in Class 2.

| Flavour | Tally | Total |
| :---: | :---: | :---: |
| Chocolate |  | 33 ones subtract one and a half tens 18 |
| Strawberry |  | 3 multiplied by four |
| Vanilla |  | 56 halved and halved again 14 |
| Mint | 1 | Half of sixteen ones 8 |

The pictogram is made using the given information.

| Flavour | $=1$ |
| :--- | :--- |
| Chacolate | 000000000000 |
| Strawberry | 0000000 |
| Vanilla | 0000000000000 |
| Mint | 00000000 |

Find the mistakes.
There are two mistakes: Explain your answer.

1) There are 18 votes for strawberry instead of 12.
2) There are 12 votes for chocolate instead of 7 .

Rosie drew a tally chart showing the score of each child.

| Name | Tally | Total |  |
| :--- | :--- | :--- | :--- |
| Esin |  | Fifty-eight subtract 45 | 13 |
| Leanna |  | Half of 4 tens subtract 8 | 12 |
| Zach |  | Zero add 9 ones subtract six | 3 |
| Tia |  | 1 1 hundred ones subtract 92 ones |  |

Using this data she drew a pictogram.


Can you complete the tally chart and recreate the pictogram? Explain your method.
The pictogram shows that Zach has 3 points according to the tally chart, so the key is $\Delta=1$
Zach's points didn't change because $10 \times 0$ is equal to 0 .
Esin: 13; Leanna: 12; Zach: 3; Tia: 8

