Assessing pupils' progress in mathematics at Key Stage 3

Year 9 assessment package
Handling data

Examples of pupils' work

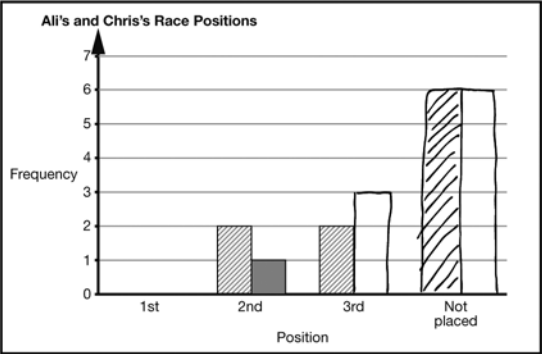# Year 9

Handling data

LESSON 1: *Runners up!*

Ali v Chris
Level 4

RUNNER	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	MEAN	RANGE
Ali	13.45	12.99 3rd	12.95	12.60 2nd	12.85	13.03	13.13	12.78 3rd	12.76	12.69 2nd	12.92	0.85
Chris	13.04	13.02	12.87 3rd	13.00	13.01	12.95 3rd	13.04	12.92	12.62 2nd	12.77 3rd	12.92	0.42

Complete this comparative bar chart.

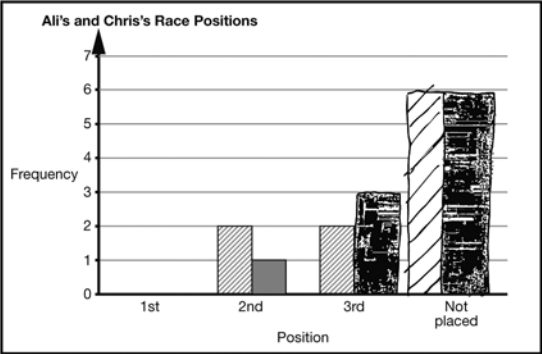Remember to add a key to your chart.

Key:

Complete this comparative bar chart.

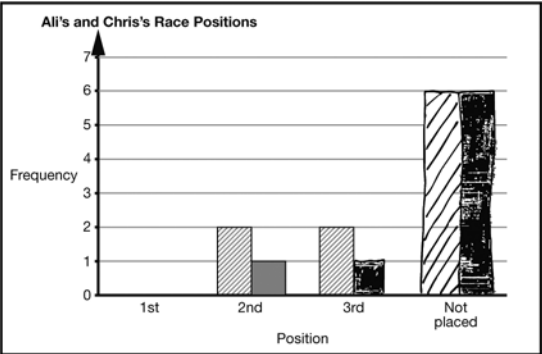Remember to add a key to your chart.

Key:

ALI IS the stripey Bar And Chris is the sour Bar

Complete this comparative bar chart.
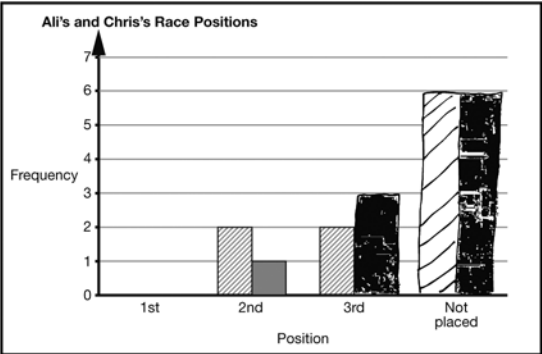
Remember to add a key to your chart.

Key:

= ALi
= Chris

Complete this comparative bar chart.

Remember to add a key to your chart.

Key:

Chris
ALi

Ali v Chris (continued)
Level 4

RUNNER	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	MEAN	RANGE
Ali	13.45	12.99 3rd	12.95	12.60 2nd	12.85	13.03	13.13	12.78 3rd	12.76	12.69 2nd	12.92	0.85
Chris	13.04	13.02	12.87 3rd	13.00	13.01	12.95 3rd	13.04	12.92	12.62 2nd	12.77 3rd	12.92	0.42

Now use the data to complete this line graph.

Key: ■ ....Chris........'s race times   △ ....Ali........'s race times

Ali v Chris (continued)
Level 4

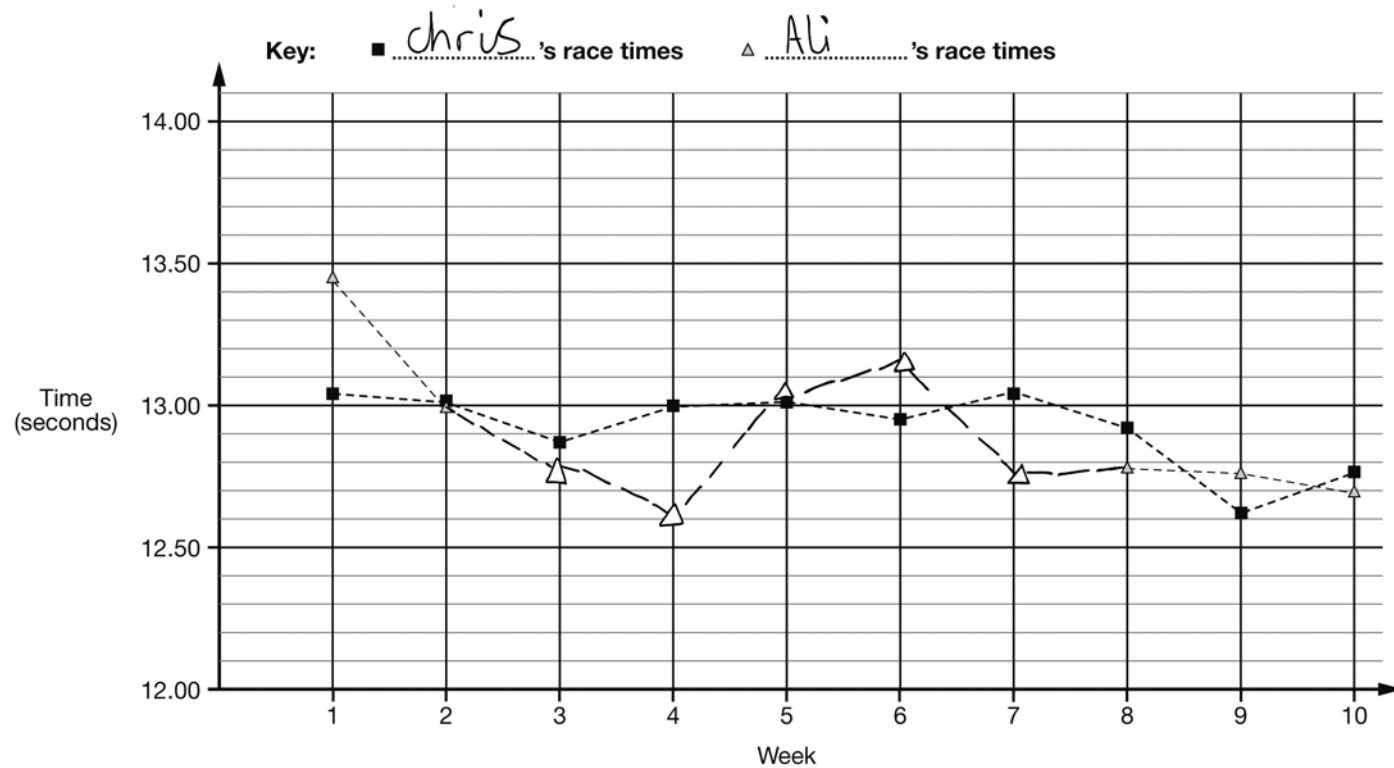| RUNNER	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	MEAN	RANGE
Ali	13.45	12.99 3rd	12.95	12.60 2nd	12.85	13.03	13.13	12.78 3rd	12.76	12.69 2nd	12.92	0.85
Chris	13.04	13.02	12.87 3rd	13.00	13.01	12.95 3rd	13.04	12.92	12.62 2nd	12.77 3rd	12.92	0.42

Now use the data to complete this line graph.

Key: ■ _chris_ 's race times   △ _Ali_ 's race times

Ali v Chris (continued)
Level 5

RUNNER	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	MEAN	RANGE
Ali	13.45	12.99 3rd	12.95	12.60 2nd	12.85	13.03	13.13	12.78 3rd	12.76	12.69 2nd	12.92	0.85
Chris	13.04	13.02	12.87 3rd	13.00	13.01	12.95 3rd	13.04	12.92	12.62 2nd	12.77 3rd	12.92	0.42

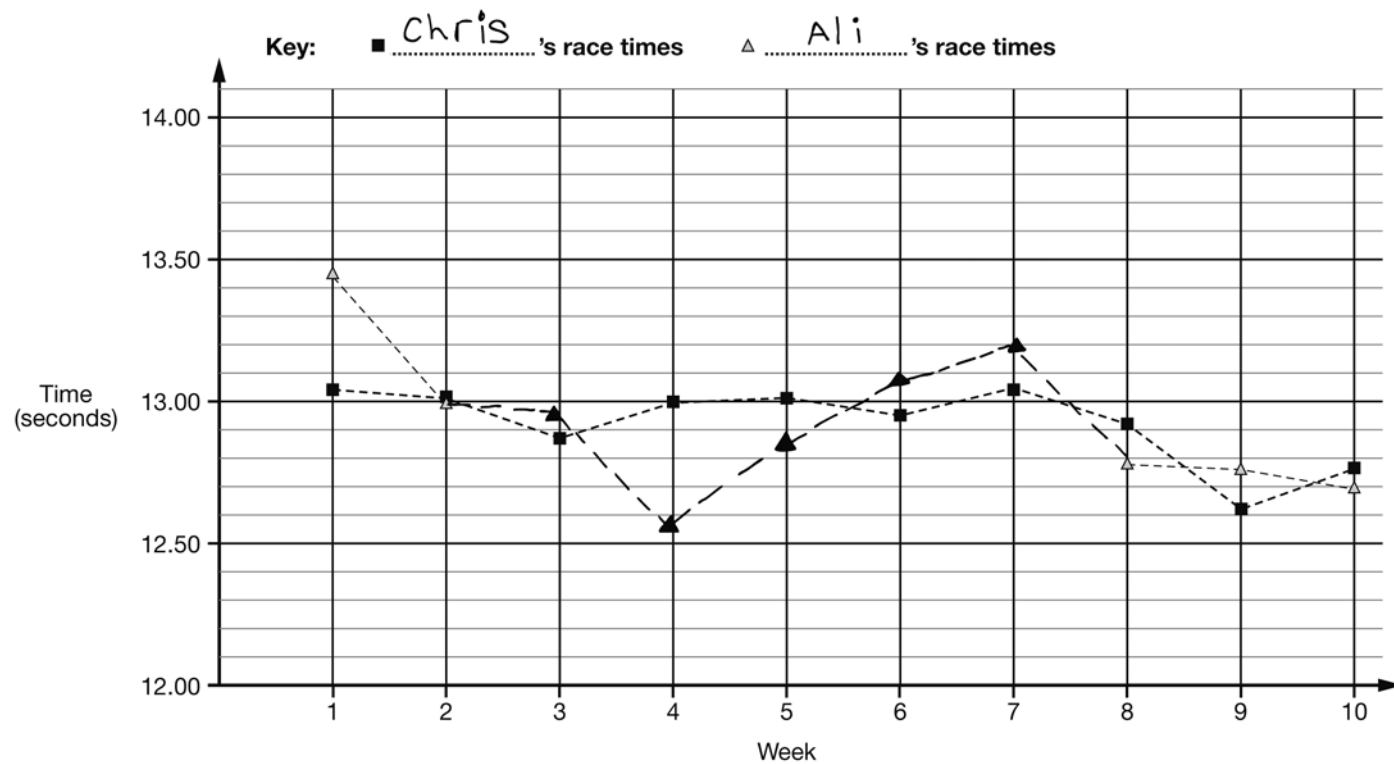Now use the data to complete this line graph.

Key: ■ ....Chris........'s race times   △ ....Ali........'s race times

Ali v Chris (continued again)
Level 4

How did Ali's and Chris's race **positions** compare?

Alis or chris did not
Finch 1st in any race
Bet Ali come Higher
Places then chris and
they did not get placed
6 times.

Explain how Ali's and Chris's race **times** change over the ten weeks.

What do the mean and range tell you about each runner's performance?

Chris & Ali's has both got
12.0t as there mean

Which runner do you think is better? Why?

ALI's Because she has
ligher Places than chris
She has had to seconds
2 3rds where as chris has
had 1 second and 3 3rs.

How did Ali's and Chris's race **positions** compare?

They compare by Both Ali & chris
not getting any 1st Place &
they come below 3rd place 6 times

Explain how Ali's and Chris's race **times** change over the ten weeks.

They Both start quite slow but they
build up & by the end of the 10
weeks they have got a bit faster &
have come 3rd & 2nd in loses races.

What do the mean and range tell you about each runner's performance?

That they have the same mean &
simular range.

Which runner do you think is better? Why?

I think Ali is better coz she
came 2nd More times than
chris.

Ali v Chris (continued again)
Level 5

How did Ali's and Chris's race **positions** compare?

Chris comes 3rd more and ali comes 2nd more @

How did Ali's and Chris's race **positions** compare?

Ali has won 2 silver medales but Chris 1

Ali 2 3rd pisdoon but Chris 3.

Explain how Ali's and Chris's race **times** change over the ten weeks.

chris' time went down in ten week and so did Ali

Explain how Ali's and Chris's race **times** change over the ten weeks.

Chris stares off is faster than Ali but when the 10 races are over Ali is faster than chris.

What do the mean and range tell you about each runner's performance?

that do chris is more consistance than ali's

What do the mean and range tell you about each runner's performance?

The range tells us that the differance between them the mean is there avage Shore

Which runner do you think is better? Why?

i think chris because he run's at the same speed every time

Which runner do you think is better? Why?

Ali is a better runner because Chris works hard in the first race and then slows down but Ali starts off slow then gets faster

Ali v Chris (continued again)
Level 6

How did Ali's and Chris's race **positions** compare?

They compare because they both haven't won and their second place times are roughly the same And they both came unplaced 6 times

Explain how Ali's and Chris's race **times** change over the ten weeks.

Ali and chris's race times become better they both started on 13. seconds and have come down to a 12.

What do the mean and range tell you about each runner's performance?

The mean tells us that they run generally the same speed. The range is different which shows that Ali is a more fluctulated runner

Which runner do you think is better? Why?

I think chris is better because his times stay roughly the same and they are balanced

How did Ali's and Chris's race **positions** compare?

~~its both~~ they both had the same amont of not placed but Ali was 2nd more were as chris came 3rd more so they are equal runners.

Explain how Ali's and Chris's race **times** change over the ten weeks.

over the 10 weeks they both improved there race times for the 100m sprint.

What do the mean and range tell you about each runner's performance?

The mean tells you that they are the same speed on average. The range tells you chris is a more consistant runner.

Which runner do you think is better? Why?

I think they are equal runners because they have similar Race positions and they have the same mean. however chris was a more consistant runner Than Ali.

Year 9

Handling data

LESSON 2: *Runners up! (again)*

Runners up!

Which three runners will you choose to represent the club in the championship - and why?

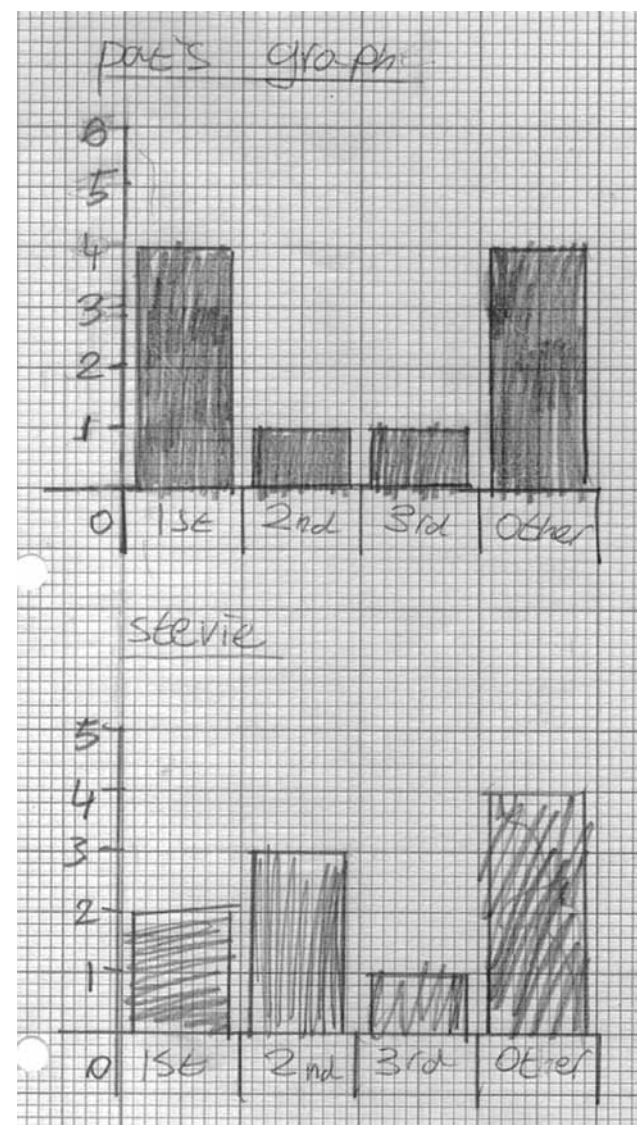| RUNNER	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wk 9	Wk 10	MEAN	RANGE
Pat	12.53 1st	12.64 2nd	12.45 1st	12.65 3rd	14.02	12.47 1st	13.36	14.00	13.71	12.43 1st	13.03	1.59
Stevie	12.72 2nd	12.63 1st	12.83 2nd	13.48	12.78 2nd	13.79	13.00	12.61 1st	12.66 3rd	13.25	12.98	1.18
Ali	13.45	12.99 3rd	12.95	12.60 2nd	12.85	13.03	13.13	12.78 3rd	12.76	12.69 2nd	12.92	0.85
Chris	13.04	13.02	12.87 3rd	13.00	13.01	12.95 3rd	13.04	12.92	12.62 2nd	12.77 3rd	12.92	0.42
Danny	12.76 3rd	13.54	13.41	12.54 1st	12.84 3rd	13.09	12.87 3rd	12.81	13.28	13.54	13.07	1.00
Jay	13.57	13.13	12.89	13.03	12.98	12.84 2nd	12.84 2nd	12.85	12.88	12.86	12.99	0.73
Lee	12.80	13.01	12.91	13.01	12.88	12.97	12.89	12.83	12.67	12.78	12.88	0.34
Mel	13.46	13.13	13.66	13.57	12.59 1st	12.99	12.69 1st	12.62 2nd	12.58 1st	12.79	13.01	1.08

Runners up!
Level 4

1- Pat - Because she came 1st 4 times
and 2nd 1 time only - she only came
3rd once in week 4.
So I think she will win the
Race in the Finals.

2- Mel - Because she came 1st 3
times and she has neither came
last in the Race.
She only came 2nd once in the
Race.
So I think she will win in the
Finals.

3- Stevie - Because He only came
1st 2 times.
I think that is Really good - and
He has only came 2nd only 3
times.
And He has only came 3rd 1
time time and I think he is
Realy fast - So I think he will
do Realy well in the Finals and
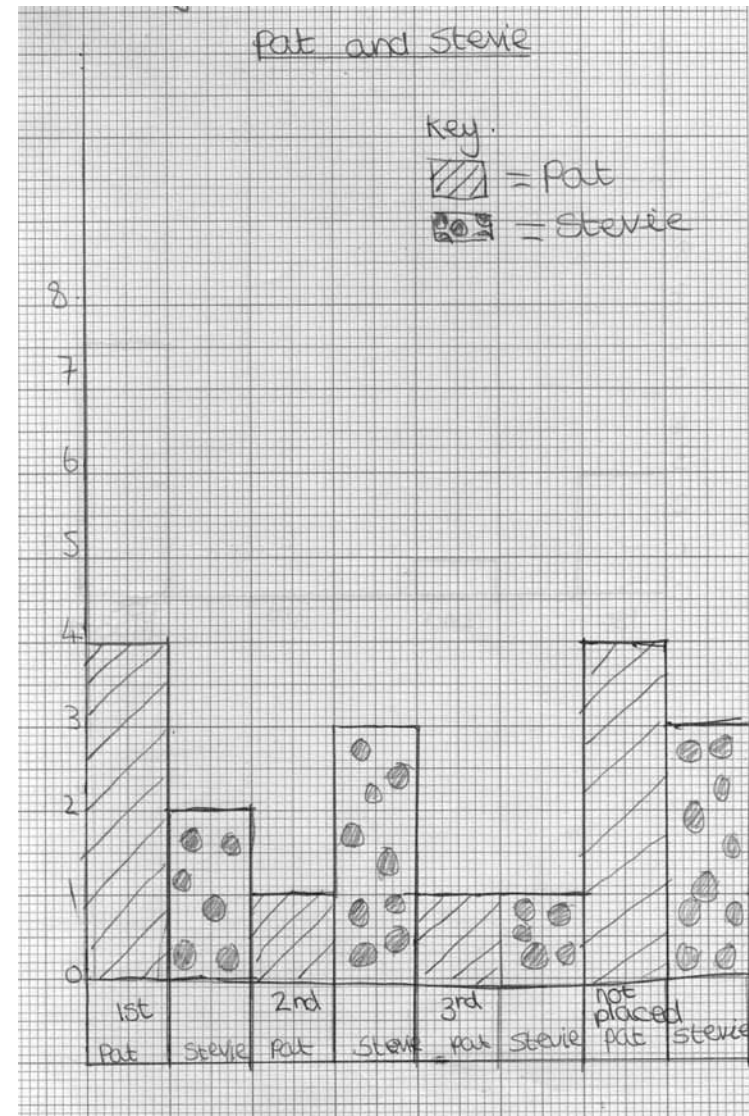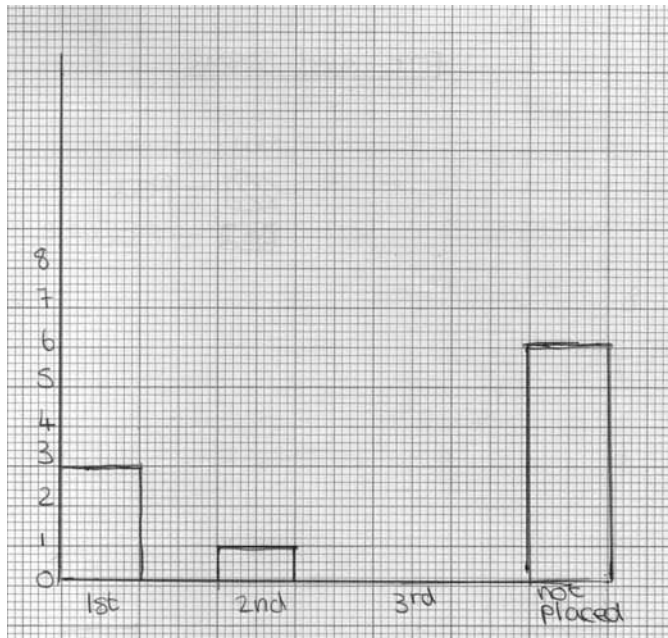I think He will win the Race.

Pat's graph

Stevie

Runners up!
Level 4

I think that it is Pat, Stevie, Mel
because Pat has came 1st 4 times and
Stevie has came 1st 2 times and
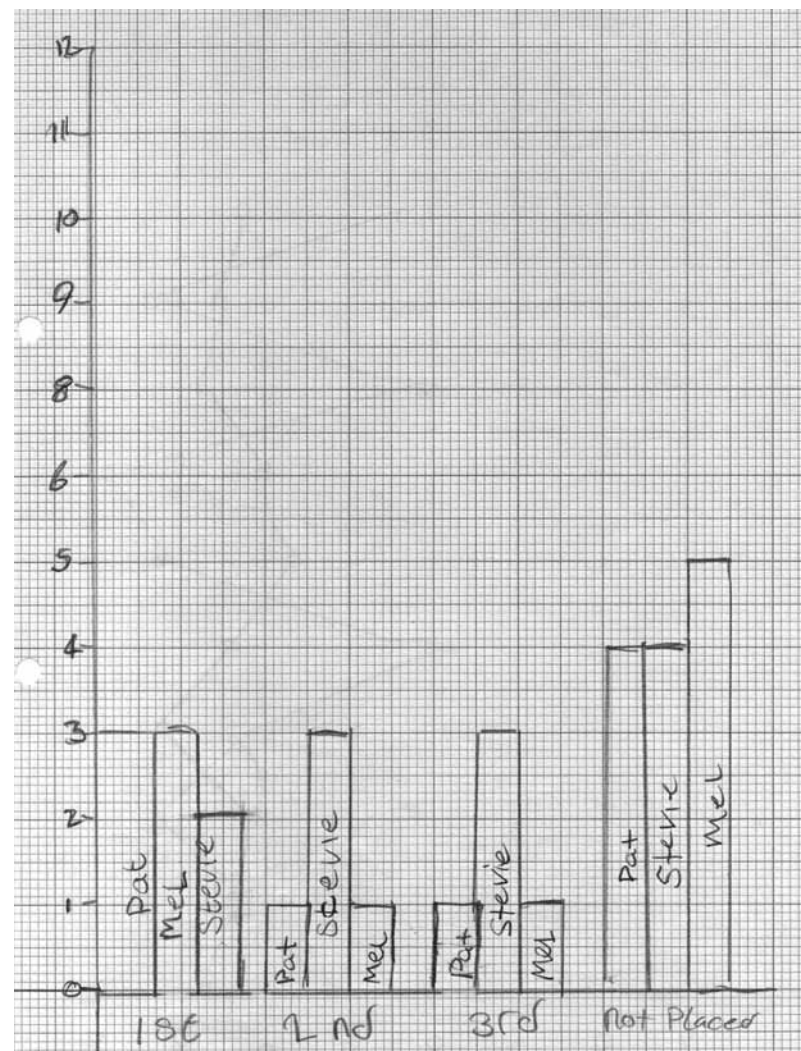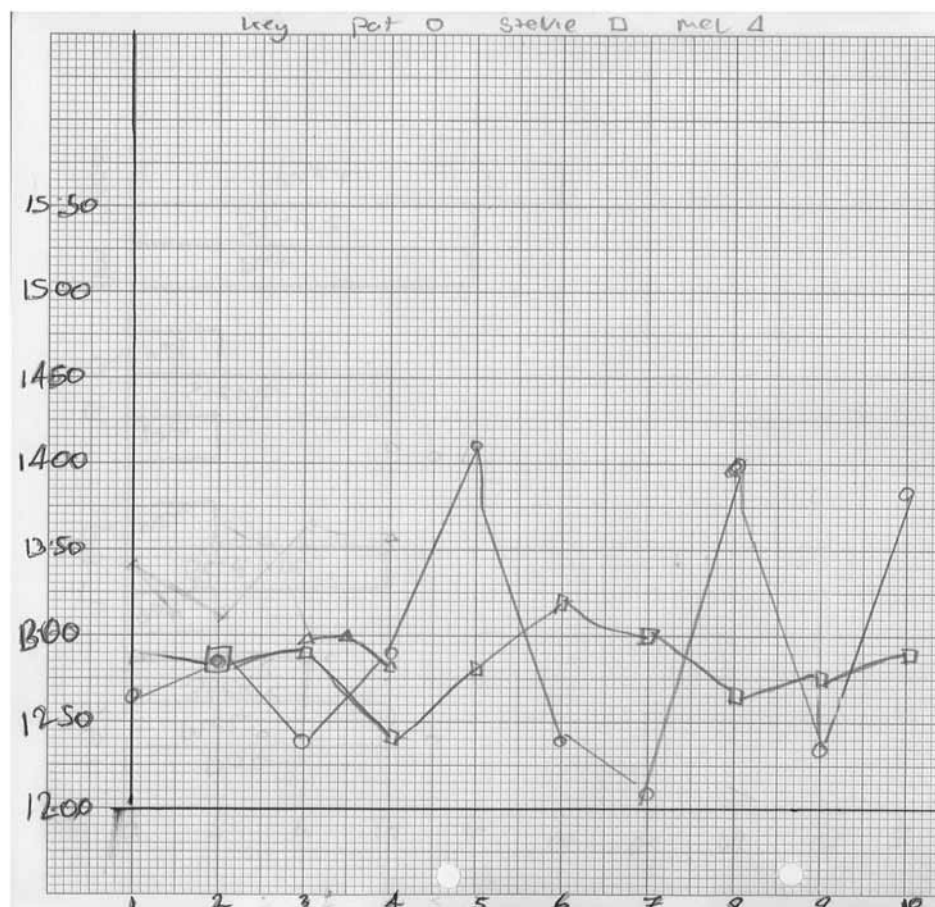me because she has came 1st 3 times.

My runner are:
1. Pat 1st = 4 = 2nd = 1 = 3rd = 1 = not places = 4.
2. Stevie 1st = 2 = 2nd = 3 = 3rd = 1 = not places = 4.
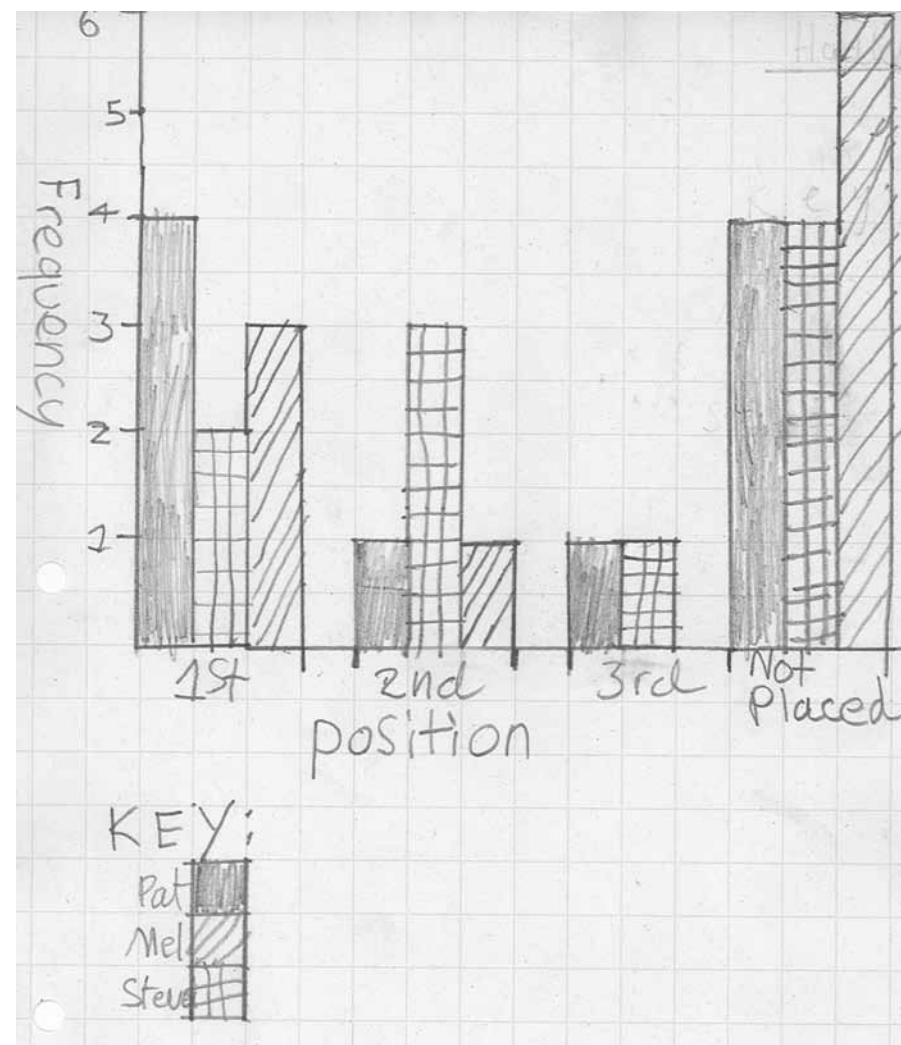3. Mel 1st = 3 = 2nd = 1 = 3rd = 0 = not places = 6.

Runners up!
Level 4

I think that pat, stevie, mel,
Because pat, stevie, mel has won
the most races out of the
table.

Runners up!
Level 4

I think / that pat and mel
becuase pat got a lot of
medals and mel got nice
times and Stevie beeuase he
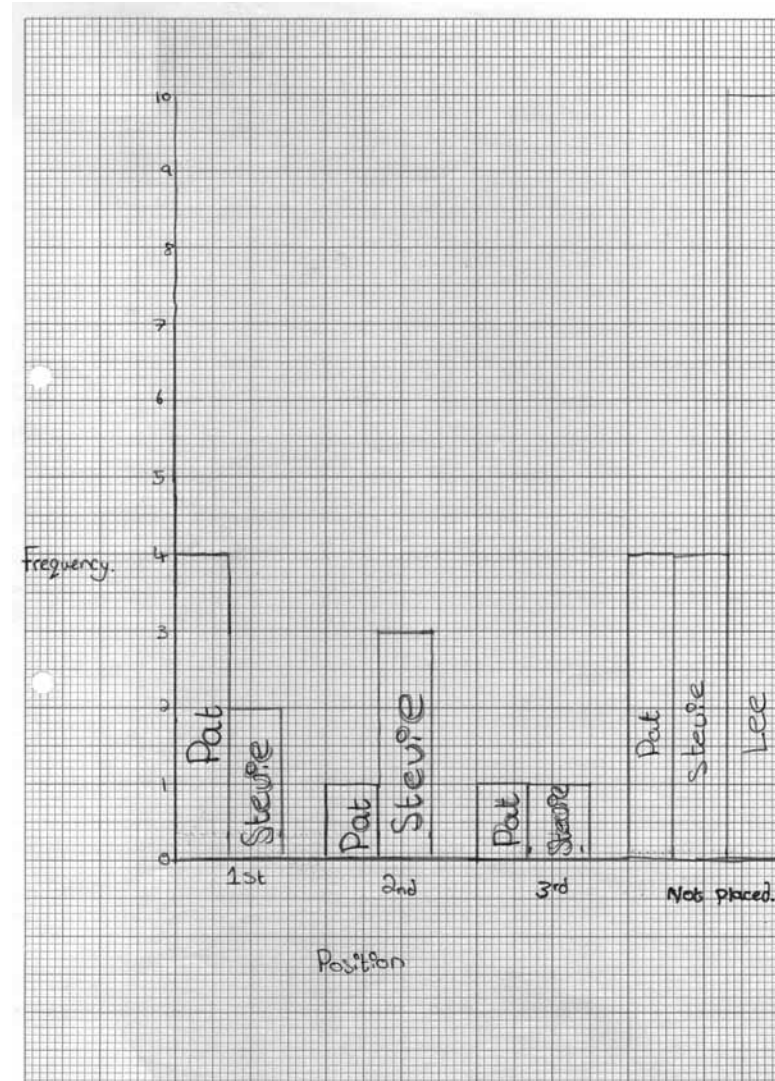got nice times and a lot over
of medals.

Runners up!
Level 5

I think i will have pat as one of my runners because she has come 1st 4 times 2nd once & 3rd once she has only come after 3rd 4 times & all of her times are very close to each other.

I think i will also have stevie as one of my runners too because he has come 1st ~~towise~~ twice, 2nd 3 times & 3rd once. Most of his times are very good. He has only come after 3rd 4 times.

I think that i will have Lee as my last runner because even though he hasn't won anything his time are very close together, he's got the lowes Mean & range. His time is 12.78 on week 10 this is his lowest time & i think that as he keeps runing he is going to be very good & he might even come 1st a couple of times.
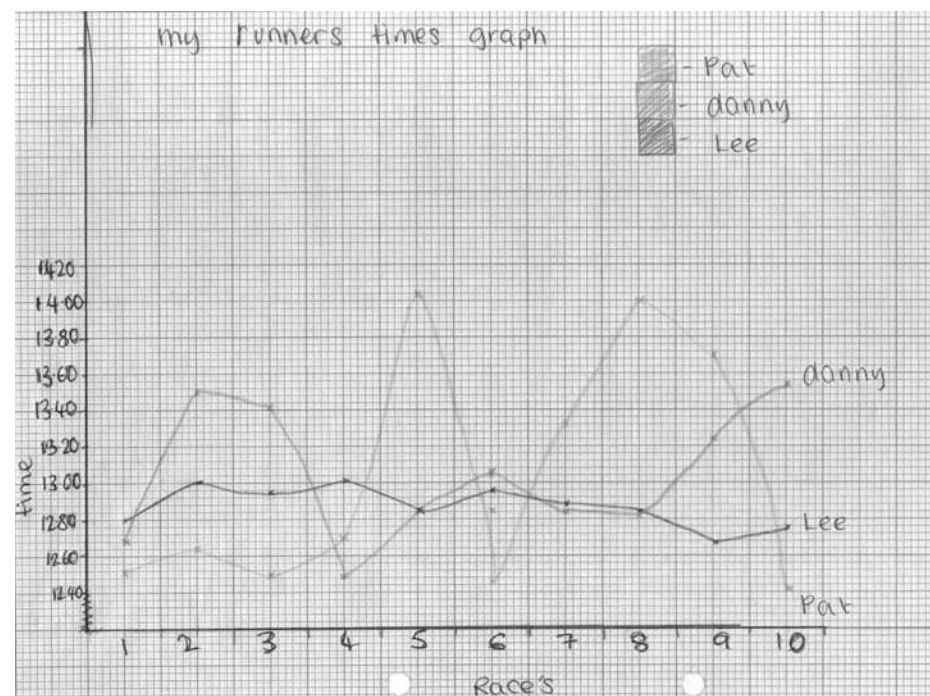
Runners up!
Level 5

For this piece of work im going to chose 3 runners for a major championship, then ill explain why i chose them.

The 3 runners i will chose will be pat because he's very fast and has won the most 1st places, Lee because he's very consistent with his times, even know hes hasn't got and medals (1st 2nd or 3rd place(s)) and Danny because he's quite consisteant with his times plus he's come 1st once and 3rd three times.

If you have a look at the graph that i did you'll see that even know Lee hasn't got the fastest time his times are all close to each other. Which is good because i don't actually know how many races there are, so he will have a good time everytime.

my runners times graph

Runners up!
Level 5

I have been asked to choose 3 out of 8 runners, to take part in a big running championship. I will be showing graphs and explanations of why I chose the 3 runners.

My first runner would be Mel. Although, 60% of her times is under the 13 mark time and 40% is over the 13 mark time. She has quite a good range of 1.08 and a Mean of 13.01. She also has a Median of 12.89.

My second runner I chose is Lee. Although he didn't get marked on any of the races he did. He had the best score. 80% of his scores are under the 13 mark and the other 20% is just over 13 seconds with 13.01 in both times. His Mean is the best with 12.88 and his Range is also the best with 0.34. His Median is 12.885.

My third runner is Pat. I chose pat because she came 1st in most of her races. 50% was 1st, 10% was 2nd, 10% was 3rd and 40% wasn't marked. Her Mean is 13.03 and her Range is 1.59. Her Median is 12.645.

That is why I chose Pat, Mel and Lee to be my best three runners.

Runners up!
Level 5

I have been given a sheet with a table of
Our 8 best runners. They have each done
10 races, and the table shows how long they took,
and if got a medal or not. It also shows what
there average time is and the range.
I am having to choose 3 runners to race in
a big championship consisting of one important
race. Just 1.
As there is only 1 race then I will be
choosing on how many medals they have and
what times there runner up places are. I won't
worry to much about average and range,
basically because there is only 1 race.
The 3 runners I am going to choose are
Pat, Stevie, Mel.
I am choosing these 3 because of statistics
and i will be drawing you a linear graph
to show you my ideas.
I have chosen Pat because although shes
got a rather bad average and range, if shes
in shape for the big race she'll be exeptionally
good. because out of her 10 races she has
6 medals consisting of 4 gold, 1 silver and 1 bronze.

I chose Stevie because she also has
10 medals but consisting 2 gold, 3 silver, 1 bronze.
Not as good as stevie but she still is a very
good runner.

Well when I was choosing the last one it
was quite hard as they are all quite
evenly matched but I ended up choosing

Mel because she has has 3 gold and 1 silver
which is better than the remaining 5 which I
did consider.

If there was more than 1 race then my
3 runners would have changed as I would
of gone more for a good average and range.

I hope I chose correctly and we have
a good result.

Runners up!
Level 6

I am going to chose 3 people to run in the Championship. I am going to base my decision on how many races there are and how there results come out on trails. I would change my choice depending on how many races there are, as if there were lots of races I would 3people who are more consistant. If there was one big race I would chose 3 runners who are the fastest.

On the data sheet I have marked with a ✗ the people I would choose for 1 big race, and marked ✳ the people I would choose for Lots of races. I have made the choice to choose Pat, stevie and mel as they are the 3 fastest runners in the group. (As shown on the graph). I chose the people marked ✳ because if there were Lots of races these 3 runners are the most consistant they have a small range which means they would have a similar time on each race & when it comes to the big race they will not have a problem.

The 3 runners I cho-se for Lots of races are Lee, Jay & chris. Lee has a range of 0.34, Jays range is 0.73 & chris's range is 0.42. (As shown on graph).

I am happy with the choices I made, as I am confident that if I put these people in the race(s) they would do well for me.

	RUNNER
4 S B 4 7 7 ✗	Pat
2 3 1 ✗	Stevie
0 2 2	Ali
0 1 3 ✳	Chris
1 0 3	Danny
0 2 0 ✳	Jay
0 0 0 ✳	Lee
3 1 0 ✗	Mel

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Runners up!
Level 6

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