



WHAT WE WILL DO FOR THIS SCHOOL COMPETITION



Voting is now closed for Northwood Primary School's yearly competition. Every pupil was able to make their choice for what sort of contest would take place this year. The School Council is busy counting the votes!

| Contest | Number of votes |
|-----------------|-----------------|
| Painting | |
| Running | |
| Building towers | |
| Growing plants | |



Shonae

We need to present the results to the school so we need to choose a graph which clearly shows which contest won the vote. I think we should do a bar chart.

I think we should do a pictogram.

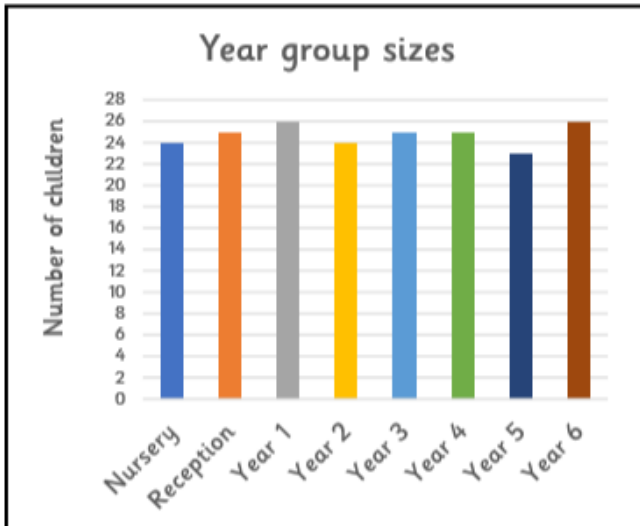


Michael

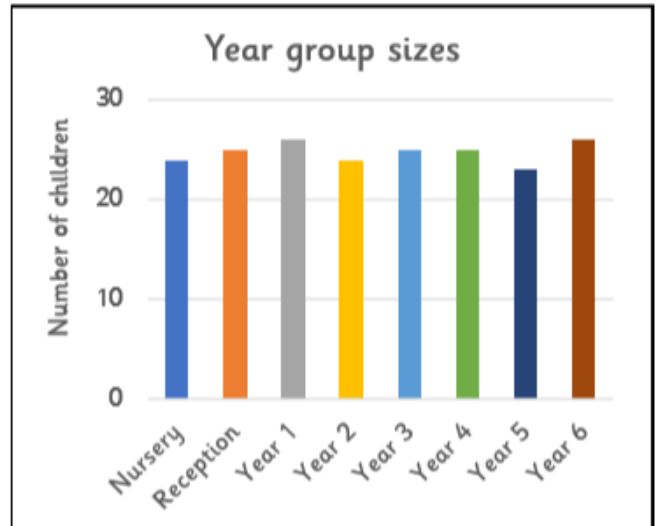
1. What is the most suitable graph for showing the total number of votes for each contest type? Explain your choice.

Once the results are ready to be used in an assembly, the School Council decides to make another graph. They need to decide how to split the school into even teams. Several School Council members make bar charts to show how many children are in each year group in the school.

Carly's graph



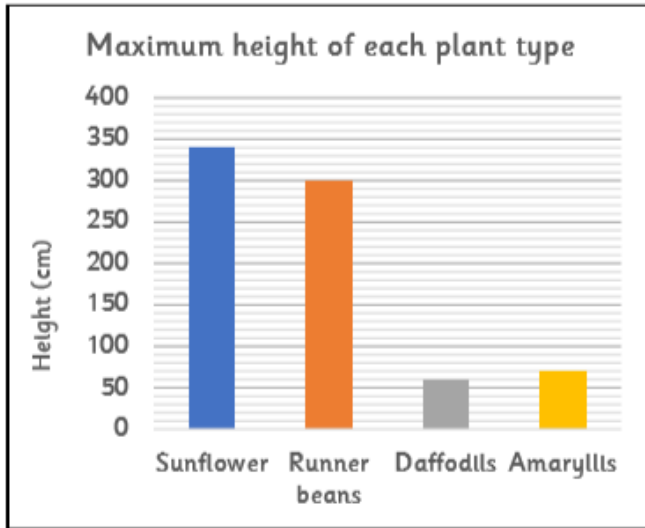
Clement's graph



2. Which child has used the best scale for their graph? Explain your choice.

The School Council work out that if they split the school into infants and juniors, there will be 99 children in each team! Perfect! Now they need to work out what sort of plants the teams should grow. Their teachers give them some information to read.

| | Amount needed for each watering (millilitres) | Amount of times per month the plant needs watering |
|--------------|---|--|
| Sunflowers | 700ml | 5 |
| Runner beans | 500ml | 8 |
| Daffodils | 400ml | 8 |
| Amaryllis | 400ml | 12 |



| Plant type | Number of seeds or bulbs in a bag = 4 seeds or bulbs |
|--------------|---|
| Sunflowers | 7 seeds |
| Runner beans | 6 seeds |
| Daffodils | 3 bulbs |
| Amaryllis | 1 bulb |

The School Council members ask a lot of questions about the information.

| | |
|---------|---|
| Anya | “How fast does each type of plant grow?” |
| Shonae | “What is the tallest plant type?” |
| Carly | “If we bought one bag of each type of seed or bulb, how many seeds and bulbs would we have in total?” |
| Onua | “What is the difference in maximum height between runner beans and amaryllis?” |
| Michael | “What is the cost of each daffodil bulb?” |
| Clement | “Which type of plant will need the most water per month?” |

3. Which children have asked questions that cannot be answered using the graphs?

4. Answer the questions which can be answered by looking at the graphs and charts.

Two of the School Council members have interesting thoughts about the information they have been given.



Anya

The shorter a plant can grow, the more water it needs in a month.

The more seeds or bulbs you get in a bag, the taller the plant can grow.

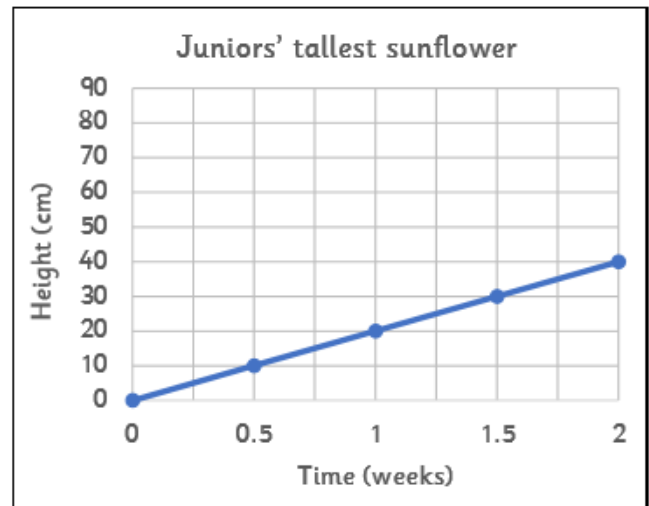
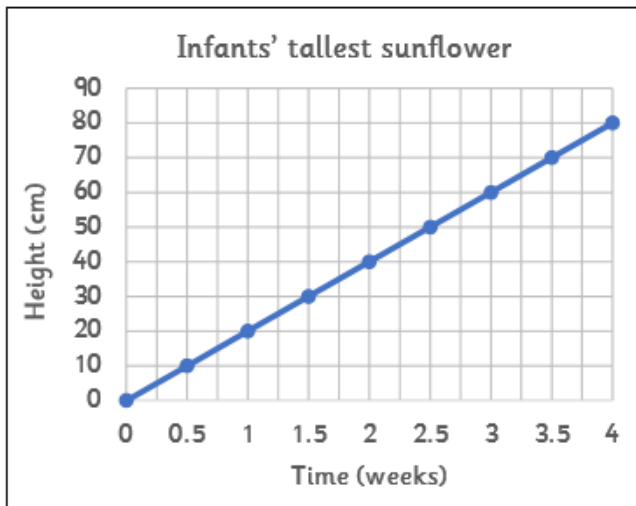


Onua

5. Are these two rules always correct? Explain why.

The School Council decides that the competition should be a sunflower growing contest. They want to see their plants grow very tall! The children in each team will water their flowers and measure how tall they grow.

Soon the children have enough measurements to make some line graphs showing the early growth of their tallest sunflowers.



The School Council are allowed to see the graphs to keep an eye on how the contest is going.

6. Shonae has noticed that the lines on the graphs are at very different angles. What could this mean?



Oh wow! Over the first 2 weeks the infants' tallest sunflower grew higher, faster! You can tell because the line on the infants' graph is much steeper!

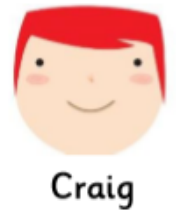
7. Do you agree with Shonae? Why?

After a few more weeks, the juniors' tallest sunflower is stretching high above the infants' tallest sunflower! "Wow!" exclaimed Carly, "How has it grown so tall!?"

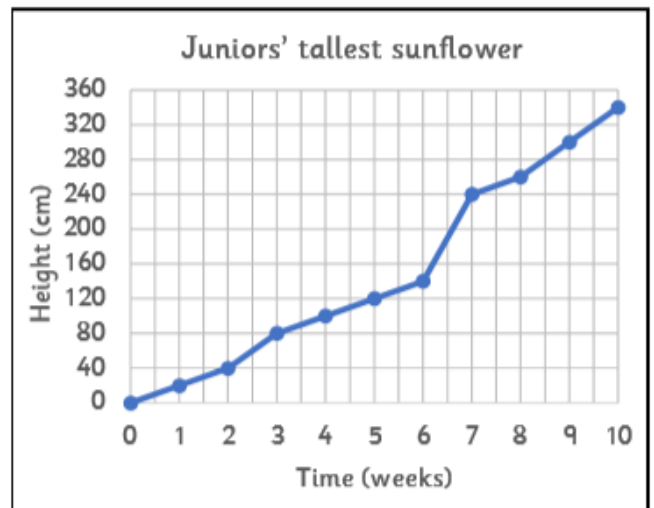
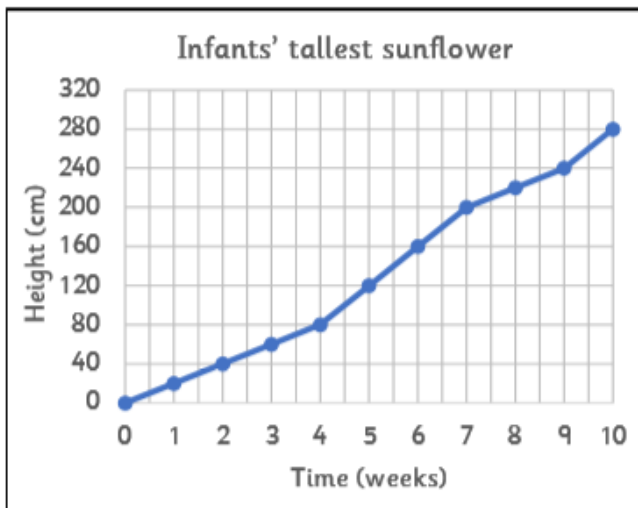


When we went out to water our sunflowers, I saw Craig from Year 4 pouring something that wasn't water onto one of the juniors' sunflowers! It might have been something to make the flower grow faster. That's not allowed!

What? No I didn't! I was just pretending to pour something. I had a 'Super-Duper-Grow' plant feed bottle with me but I never actually poured it! You can't prove anything!



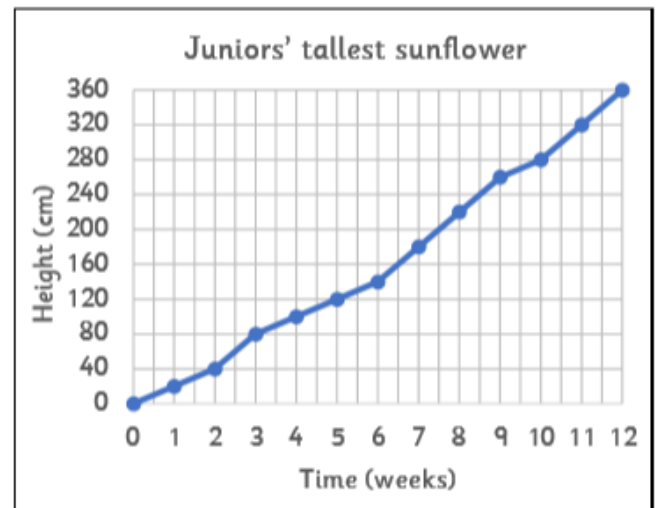
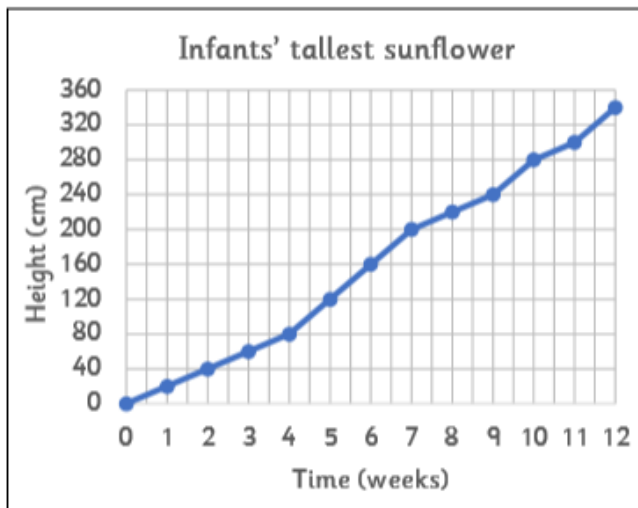
The School Council look at two graphs showing the growth of the sunflowers. It was Craig's turn to water the flowers at the end of the sixth week.



8. Does the graph suggest that Craig is guilty? Explain why.

Thank goodness Craig only poured the plant feed on one of the flowers! At least the School Council can measure the juniors' second tallest flower to make it a fair contest!

A few weeks later, it's the end of the competition! The final graphs can be drawn and the winning team can be found... It's the juniors!



After the result is announced, the infants and juniors debate it in the playground!

9. Decide whether each statement below is 'true' or 'false'. Use the graphs above to find the answers.

| | |
|--|--|
| "The juniors would have won even if the contest finished at 6.5 weeks." | |
| "The juniors' sunflower grew faster than the infants' sunflower in the first 4 weeks." | |
| "If only we stopped at 8 weeks! Then it would have been a draw!" | |
| "The juniors only won by 10cm!" | |