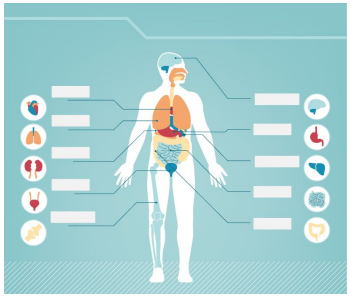
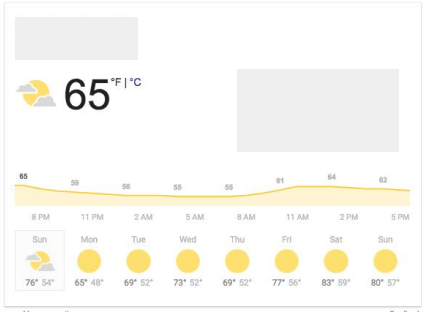
Communicate the results – How do I show what I found out?

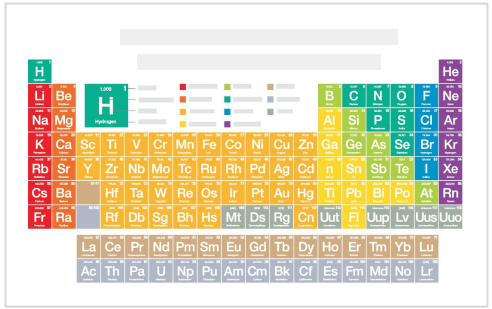
Google SCIENCE FAIR



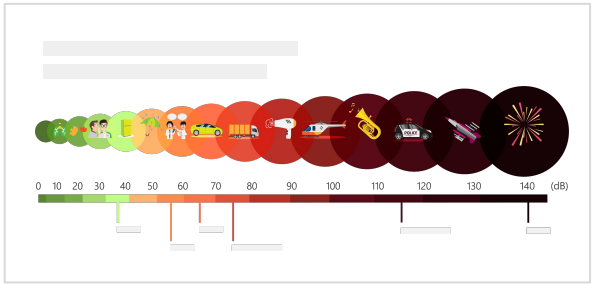
Presenting your results

You’ve designed and tested a solution to your problem and now have results, but how are you going to communicate them?









Checklist

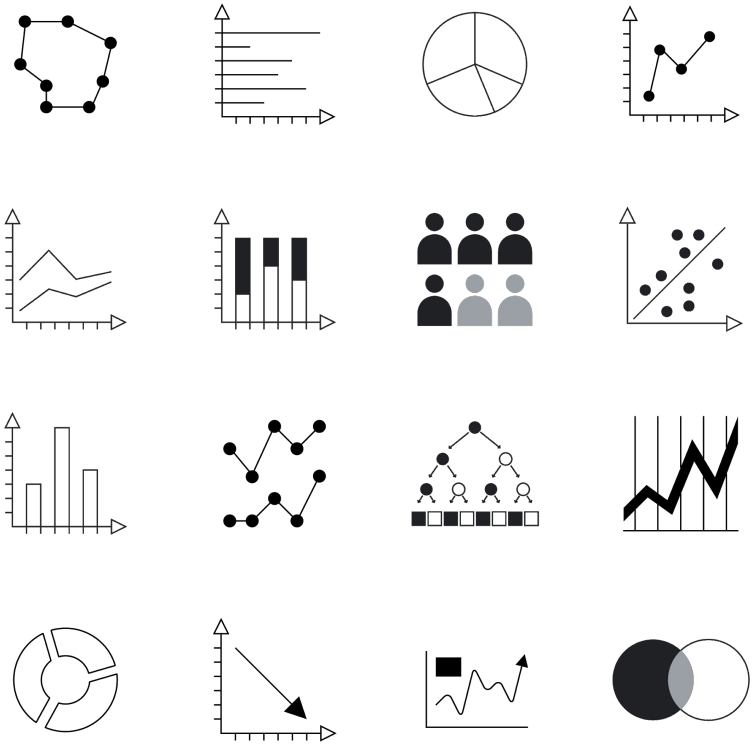
- [ ] Is your data accurate?
- [ ] Do you have units of measurement for all your data?
- [ ] Have you verified that calculations (if any) are correct?
- [ ] Can you summarize and explain your results clearly?
- [ ] Do they support your original prediction? If not, can you explain why?

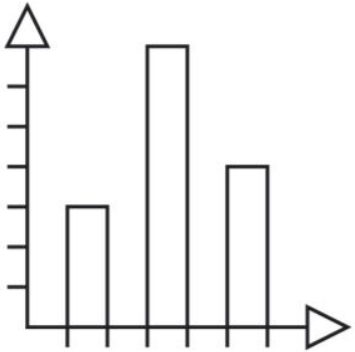


Things to think about:

What is your key supporting data?

What method will be clearest for your results?





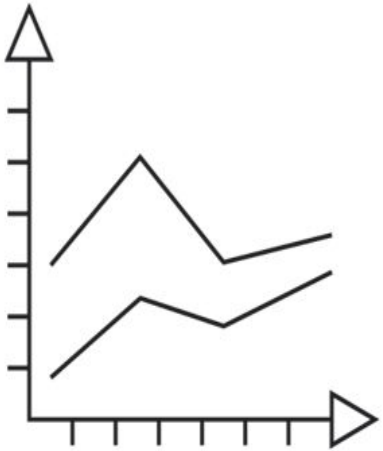
Bar chart

- Great for comparing categories
- The length of each bar is proportionate to the value it represents
- One axis features the categories being compared
- The other axis represents the values of each bar



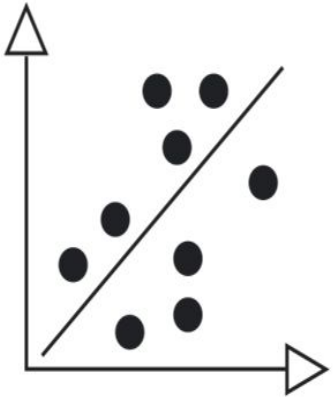
Pie Chart

- Visual tool for comparing parts of a whole
- The area of each segment is proportional to the value it represents
- Audiences can quickly gauge general figures without having to look in fine detail



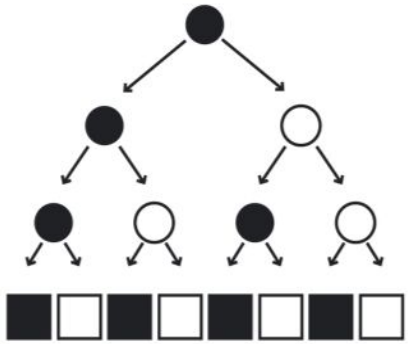
Line graph

- Great for comparing trends over time or highlighting a pattern between two data sets
- The x-axis has the variable you are changing
- The y-axis has the variable you are measuring
- One graph can be used to show multiple trends by plotting lines in various colors



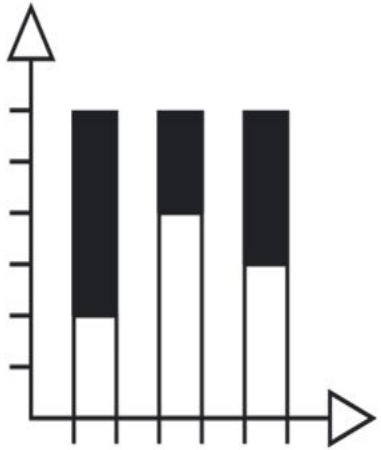
Scatter graph

- Great for when you have a large sample size and are looking for trends
- Each dot represents one data point – or one piece of information in your sample
- Each sample is plotted based on two variables
- Once lots of samples have been plotted, you can see if a trend emerges



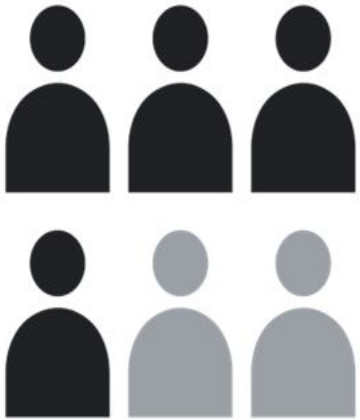
Binary decision diagram

- Shows the pathway from one decision to another when you have two choices at each stage
- Used lots in computer science to show actions within a process flow
- Can be used outside of computer science if the decision is between “yes or no”, “1 or 2” or “true or false” (binary answers)



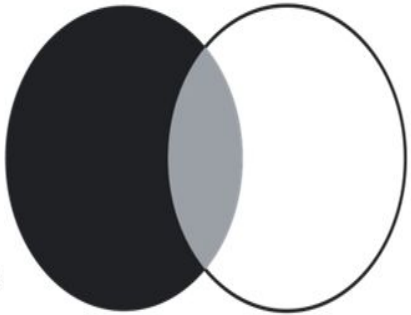
Stacked bar graph

- Useful for comparing categories that have multiple variables within them
- Combines elements of the pie chart and bar graph to communicate totals, trends and proportions in a single illustration



Pictogram

- Images or symbols are used to illustrate data
- Images hold more emotional power than raw data and so can often produce an emotive response
- Each icon represents a specific value



Venn diagrams

- Shows where there are relationships within different categories
- Each circle represents a different category
- Factors are added to each circle accordingly
- Where there is overlap, a factor satisfies both categories

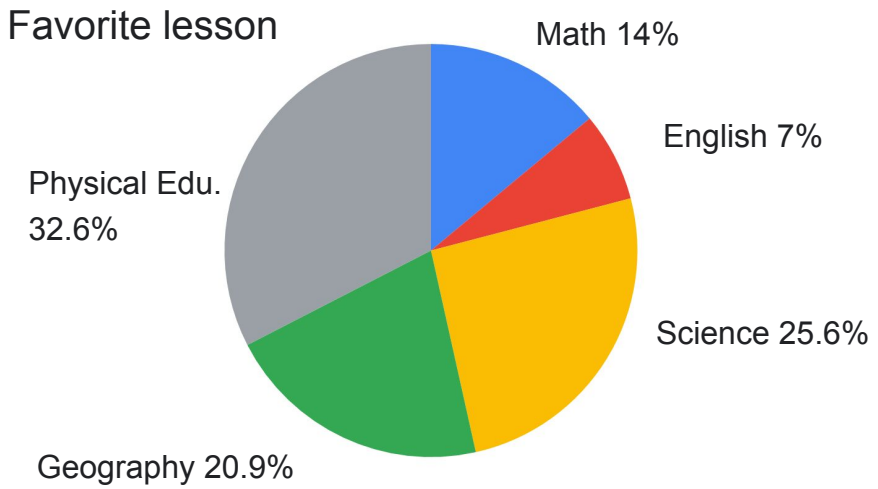
Suggest the best way
to communicate
the following data…

How would you present this data?

Favorite lesson	Frequency
Math	6
English	3
Science	11
Geography	9
Physical Edu.	14

How would you present this data?

Favorite lesson	Frequency
Math	6
English	3
Science	11
Geography	9
Physical Edu.	14

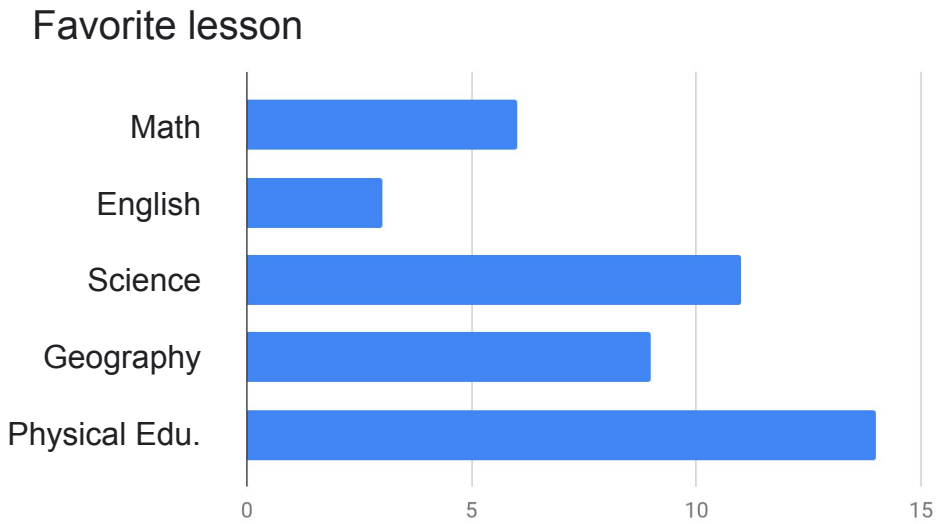


Why couldn’t you use a line graph to represent this?

What other type of graph could you use here?

How would you present this data?

Favorite lesson	Frequency
Math	6
English	3
Science	11
Geography	9
Physical Edu.	14



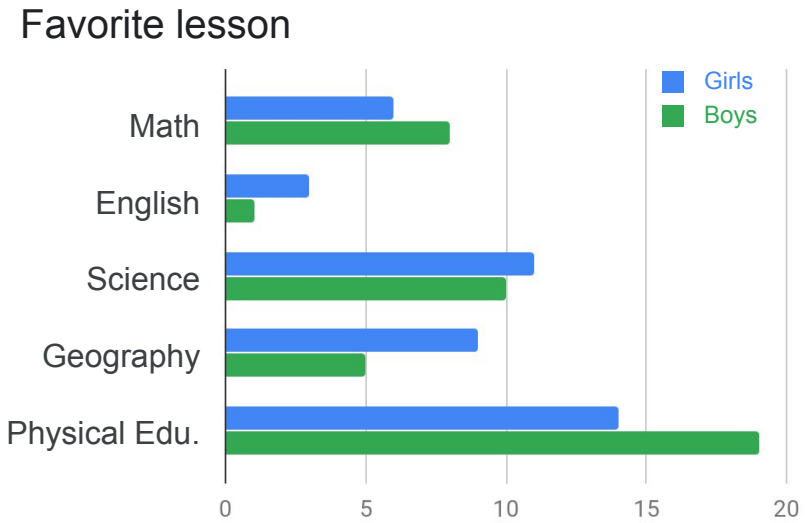
Which works better: Pie chart? Bar graph? Why?

What type of graph would you choose to communicate this data?

Favorite lesson	Frequency (Girls)	Frequency (Boys)
Math	6	8
English	3	1
Science	11	10
Geography	9	5
Physical Edu.	14	19

What type of graph would you choose to communicate this data?

Favorite lesson	Frequency (Girls)	Frequency (Boys)
Math	6	8
English	3	1
Science	11	10
Geography	9	5
Physical Edu.	14	19



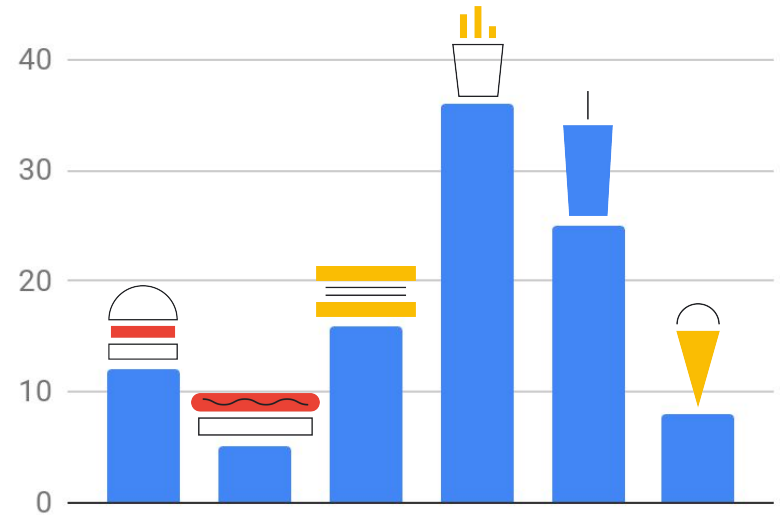
Why does a pie chart not work so well now?

Item	# bought in one hour
Burger	12
Hot dog	5
Sandwich	16
Fries	36
Soda	25
Ice cream	8

How could you effectively communicate the best sellers at a fast food restaurant?

Item	# bought in one hour
Burger	12
Hot dog	5
Sandwich	16
Fries	36
Soda	25
Ice cream	8

How could you effectively communicate the best sellers at a fast food restaurant?

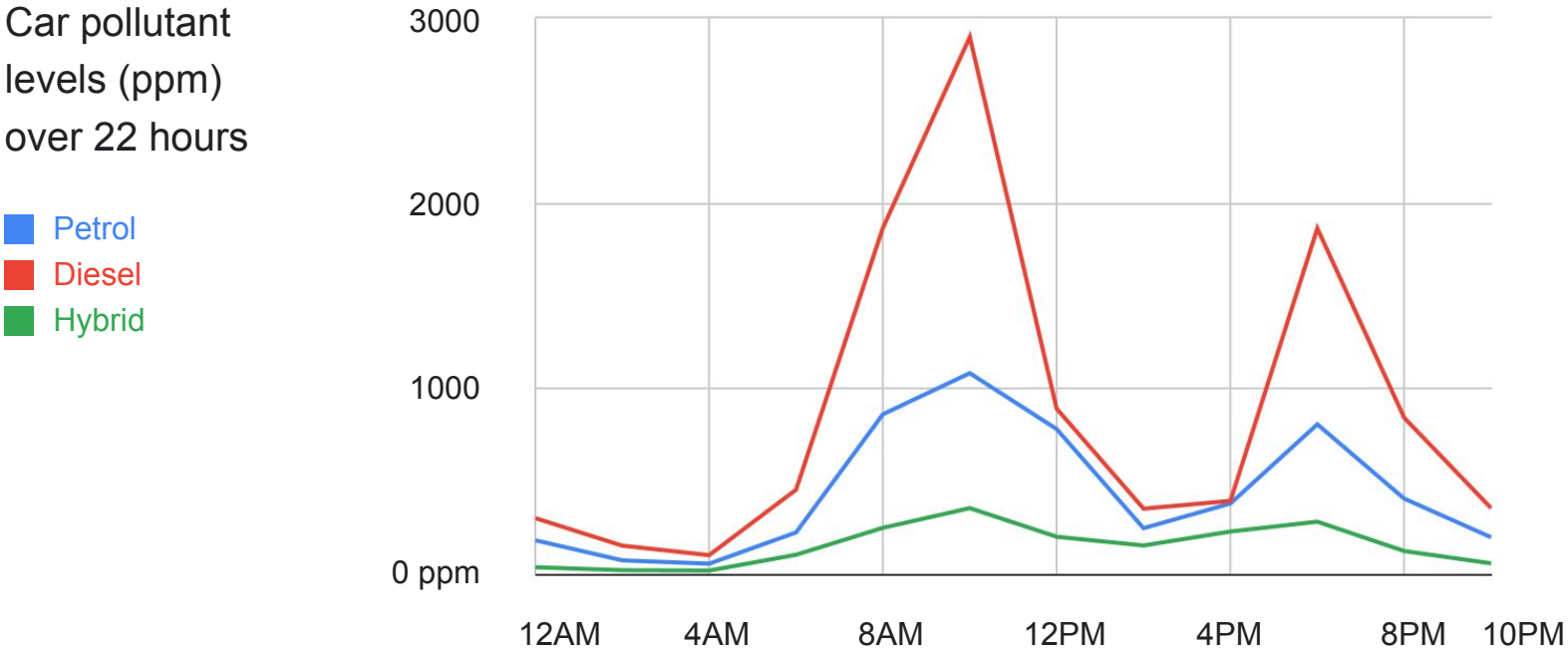


How would you present this data?

Car type	Pollutant levels in ppm											
	12am	2am	4am	6am	8am	10am	12pm	2pm	4pm	6pm	8pm	10pm
Petrol	186	78	60	228	864	1085	784	251	384	810	410	202
Diesel	305	157	106	458	1867	2894	894	356	398	1864	845	359
Hybrid	41	25	23	108	253	359	205	158	233	286	128	62

How would you present this data?

Car pollutant levels (ppm) over 22 hours

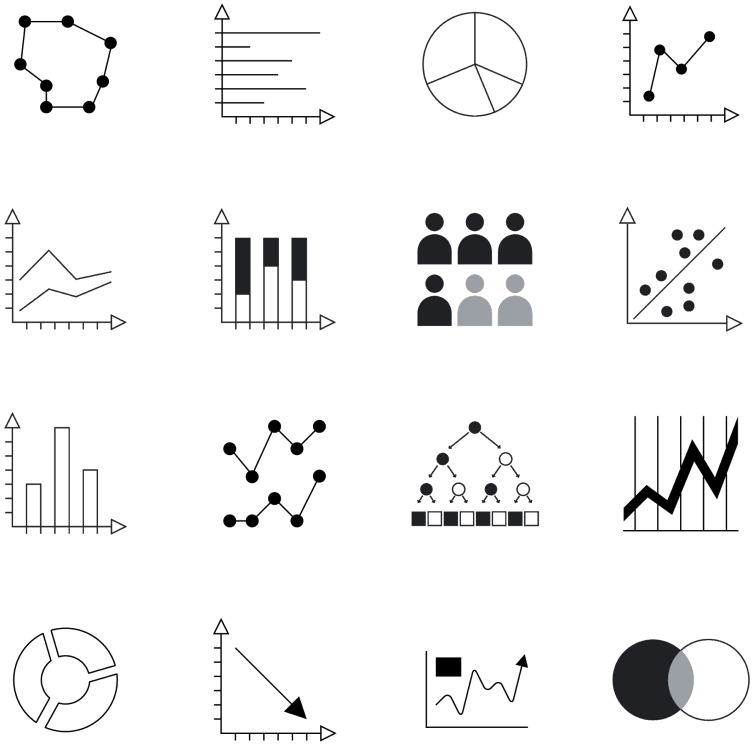




Communicate your findings in 100 words.

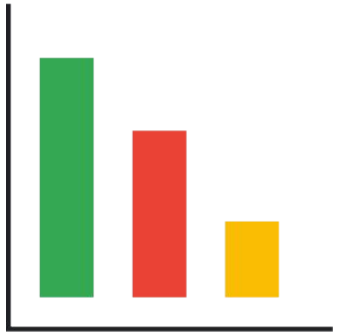
Communicate your data

Use the Communication menu to help if you need.



How well has your data been communicated?

1. Pair up with someone else and swap graphs.
2. Each person should write a short summary on the graph they now have in front of them (max. 100 words).
3. Swap back so you have your graph back.
4. Compare the summary that your partner has written with the one you wrote earlier on.
5. Does the graph succeed at communicating the idea you intended?
6. Refine if necessary!



Now that you have your results,
it’s time to form a conclusion!