

How does the colour intensity of a drink affect a persons' perception of taste?

Hypothesis

- The colour intensity of a drink affects how sweet the person perceives the drink to be

Prediction

- The deeper the colour of the drink the sweeter the drink is.



Yellow

- Likely to be perceived as a sweet drink because yellow is abundant in nature.
- It is associated with the sun, nectar, pollen, some fruits, happiness and healing.

Blue

- Less likely to be perceived as sweet because blue is so rare in nature as there are no blue pigments.
- Ancestors would have avoided blue foods because plants often use it as a 'warning' that it is poisonous.

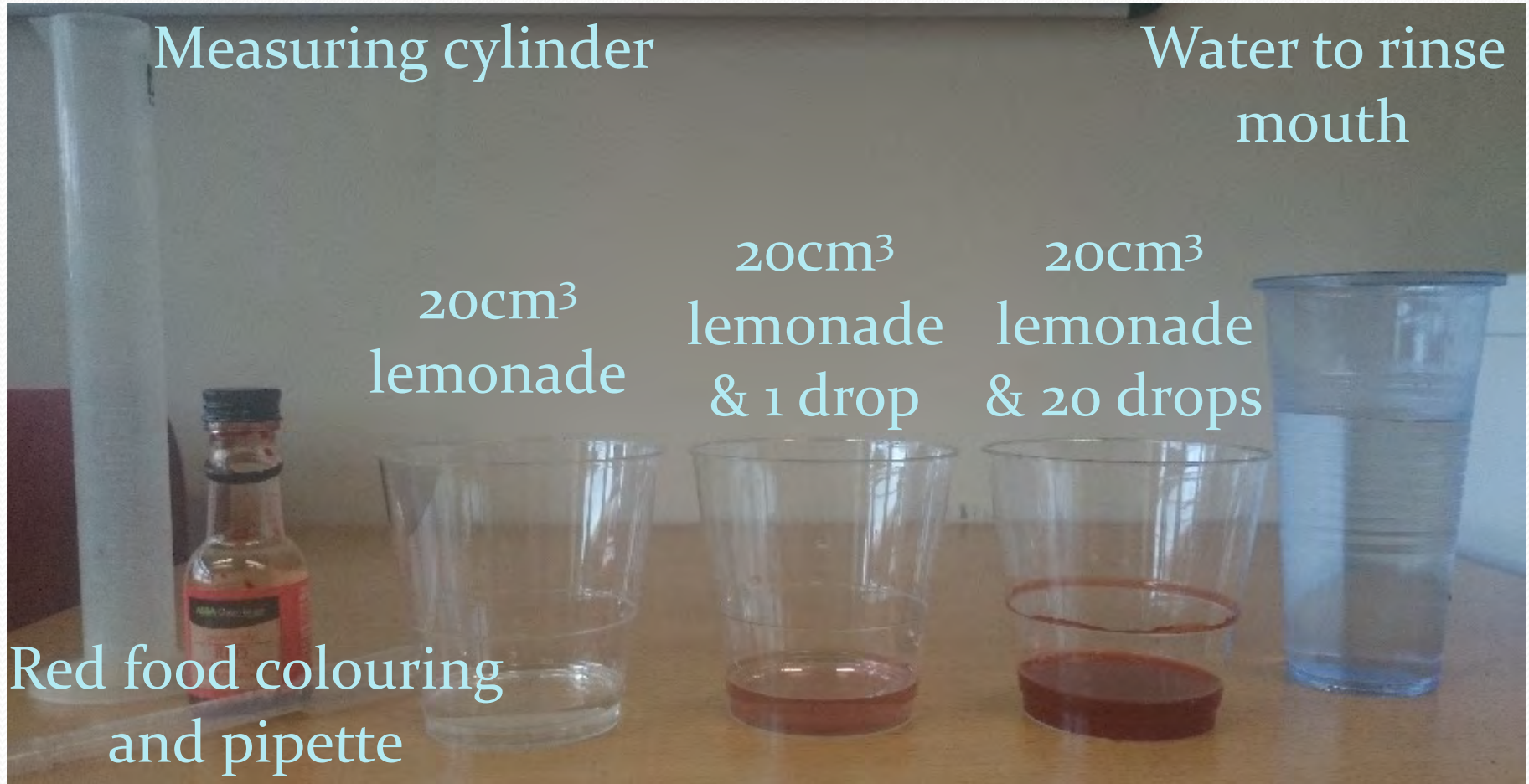
Red

- Most likely to be perceived as sweet because many nourishing fruits are red.
- In addition, red has also been associated with; blood, death , omen, anger, power, danger and lust.
- In recent times, red has been associated with romance and love.

Equipment

- Measuring cylinders
- Pipettes
- Lemonade (20cm^3)
- Food colouring (Red)
- Transparent Plastic Cups
- Water

Method



Variable

- **Independent variable:** Amount of food colouring (0, 1 and 20 drops)
- **Dependent variable:** The cup of lemonade that tastes the sweetest

Control Variable

- Amount of lemonade (20cm^3)
- Same age of person
- Same type and brand of lemonade
- Same transparent cups
- Rinsing the mouth with water
- Same type, colour and brand of food colouring
- Nose peg

Results

Cup	Number of red food colouring drops	Number of people who perceived this to be the sweetest
A	0	4
B	1	5
C	20	4

Conclusion

- No significant difference in the number of people who perceived the deeper coloured drink to be sweeter than the paler coloured drink
- For example, 4 people perceived the palest drink to be sweetest, and 4 people perceived the deepest drink to be sweetest.

Conclusion

- The data proved that our hypothesis is incorrect.
- The colour of intensity does not affect the perception of sweetness
- However, some people did perceive the middle colour intensity drink to be the sweetest, although this was not significant.
- This could be due to our ancestry. Ancestors had an obsession with proportionality and people often chose average looking mates rather than going for either extreme

Evaluation

Weaknesses in our method:

- Data sample was small which prevents us from gaining a pattern that is representative of the population.
- Food colouring had a slight taste to it
- We could use more lemonade to dilute the taste of the food colouring
- Only using a range of three colour intensities- we should've used 0-20 drops in 2 drop intervals (e.g. 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 drops)

Further Investigation

- We could repeat the experiment using different colours e.g. green, pink, blue
- We could find out if the colour of a drink affects the perception of flavour e.g. people assume that orange drinks will be orange flavoured

