

Date

T: plan and carry out an investigation

Copy the headings in bold into your book.

DO NOT copy the questions; they are to help you complete the sections.

Aim

I am trying to find out which toothpaste is best for cleaning teeth.

Prediction

I predict that the ultra whitening toothpaste will be the best for cleaning teeth because it sounds like a lot of effort has been made to find the best ingredients to make it work well.

Method

Fair test

I would keep these things the same:

- The length of time I brush the teeth for
- The force with which I brush the teeth
- The amount of toothpaste I use
- The toothbrush I use
- The amount of staining agent I use
- The same teeth

I will only change the type of toothpaste.

Equipment

- Toothbrush
- Staining agent
- Timer
- Teeth

Instructions

1. Chew **one** tablet of staining agent.
2. Put some toothpaste on the toothbrush.
3. Brush the teeth non-stop for **3 minutes**.
4. Repeat steps 1 to 4 for the other toothpastes, making sure:
 - a. the teeth are completely clean before you start
 - b. The toothbrush is completely clean before you start
 - c. You use the same amount of toothpaste
 - d. You use the same force when you brush
5. Rank the toothpastes between 1 and 5, 1 being the worst and 5 the best.

Risk assessment

Choking on the tablet is a possible hazard the person chewing it would need to be careful not to swallow it whole and be sensible and careful when they put it in their mouth.

Results (table)

| Toothpaste | Regular | Bicarbonate of soda | Stripey | Ultra whitening | Gel |
|--------------------------------------|---------|---------------------|---------|-----------------|-----|
| How clean teeth were – Rank (1 to 5) | 3 | 5 | 3 | 4 | 1 |

Results (graph)



Conclusions

My prediction that the ultra whitening toothpaste would be the best at cleaning the teeth was wrong because it was only the second best.

I found out the bicarbonate of soda was the best at cleaning the teeth and the gel was the worst, although there was not that much difference between them. I think this is because the bicarbonate of soda has the best combination of ingredients for cleaning teeth. However overall there was not that much difference in the effectiveness of the different toothpastes because they all have similar, although not identical ingredients.

I think that if the teeth were stained with something different like chocolate or wine the results might be different because the different ingredients in the different toothpastes might make them better at cleaning some substances than others

I think that if the toothpastes were different brands the results might be different because the toothpastes would probably include different ingredients, and this might change how effective they were at cleaning teeth.

In real life it might be difficult to make this a fair test because:

- It would be hard to brush your teeth with exactly the same force every time you did it
- It would be difficult to squeeze exactly the right amount of toothpaste onto the toothbrush

Other people got the same results as I did which makes me think that my results are reliable.