



SUPERSTAR

Colorado Brown Stain

Activity Card

The Diary of Dr Frederick McKay

May 1901 As a dentist in Colorado Springs, I am puzzled by the number of patients whose teeth are stained with brown spots – often as dark as chocolate. I call it 'Colorado Brown Stain'. Nobody knows what is causing the stain. It is worse in patients who have lived here all of their lives. I wonder what it might be?

September 1908 We have begun the first ever investigation of this strange stain. We are visiting every school in Colorado Springs and looking at the teeth of every child. We are making careful notes and asking every parent detailed questions.

December 1909 We have inspected 2,945 children. 90% have some brown stain; and all of these children were born in the Pikes Peak region of Colorado Springs. It's astounding! These children have less tooth decay. I wonder if there is a link between the brown stain and very strong teeth?

January 1931 I now have the results of tests on drinking water from several towns affected by brown stains. They all have high levels of the chemical called fluoride. This is unheard of! As the water from rain or snow trickles down the rocks in these areas, it must be picking up the fluoride naturally. Is this the solution to all my years of research? I wonder what would happen if we added fluoride to the drinking water for everyone? We would have to get the amount of fluoride just right so that we do not cause more of the brown stain!



Your challenge

Should your water company put fluoride in the drinking water?

Discuss

Have you heard of fluoride before?

What do you think about Dr Frederick McKay's idea?



Getting started

To help you to decide, we have found out what 16 people think. Why not sort these into ideas for and against putting fluoride in drinking water? You could cut them out and stick them in two columns.

Cut around the dashed lines on the speech bubbles.



Some people are allergic to fluoride and will have to buy expensive bottled water.

Different people drink different amounts of water. Some will get more fluoride than others.

It costs thousands of pounds to add fluoride to water.

Adding fluoride to water is one of the greatest ways to improve health.

We save thousands of pounds in dental care by adding fluoride to water.

More than 150 million Americans and 6 million people in Great Britain drink water with fluoride in it. We would have known about it if there was a problem. Adding fluoride to water is one of the greatest ways to improve health.

Some studies show that fluoride in water can cause health problems, including lower intelligence levels in children.

A study in America of almost 30,000 school children, born after fluoride was added to their water, showed that tooth decay had dropped more than 60%.

Fluoride is safe, if used correctly. Cough mixture and salt are poisonous in large amounts. No-one is worried about that!

There is fluoride in toothpaste so why put it in water?

Many people in poor areas cannot afford toothpaste but their teeth will still be strong if there is fluoride in their drinking water.

One study showed that elderly people living in areas with fluoride added to water had fewer bone problems.

There's no real proof that fluoride is harmful. Most studies are unreliable and have found no difference between cities with fluoride in the water and those without.

It is impossible to control how much fluoride people get.

Fluoride is used to strengthen and protect teeth – that's why we must add it to drinking water.

Scientists and politicians say that adding fluoride to water is completely safe. It is impossible to add too much fluoride to the water.

Test your ideas

Now you have looked at some evidence, do you think fluoride should be added to the water?

What would you recommend to your water company?

Share your ideas

You could make some notes about your ideas. It would be fun to use what you have found out to write a script for a TV programme where people argue from different points of view about adding fluoride to water. You could act it out for your friends.

Extra things to do

- Find out more about Dr McKay's research after 1931
- Look for information about adding fluoride to toothpaste and water
- Contact a local water board to find out what they do