

The risks of using websites or social media for STEM activities

Be aware of the risks of using websites or social media for ideas for STEM activities. The internet is not always your friend when planning STEM activities for your learners.

We have often been asked about Elephant Toothpaste – in this activity, hydrogen peroxide is decomposed into oxygen and water using a catalyst. Adding food colouring and washing-up liquid creates a coloured foam.

Many learners have seen Elephant Toothpaste online and via social media. Videos of large-scale versions of Elephant Toothpaste have gone viral, as YouTubers vie for the world record for the volume of foam produced.



Many websites provide a simple recipe which is sometimes labelled as “Try this at home” or “Safe for children”. Although certain websites claim this activity to be safe, hydrogen peroxide of any concentration is classified as a dangerous chemical in the UK for Early Years and Primary settings (the Association for Science Education’s “Be Safe! Fourth Edition”). The chemical reaction is exothermic and gives out heat, which can also pose a risk. For these reasons, **we do not view Elephant Toothpaste as a safe activity to be carried out in Early Years or Primary**, either by learners or as a demonstration.

Minimise the risks – achieve the same learning

It is always worth considering how a safer activity could provide high-quality learning opportunities.

A similar but safer effect can be obtained by reacting vinegar and bicarbonate of soda. It is possible to obtain a coloured foam, as in the Elephant Toothpaste activity, by adding food colouring and washing up liquid, but this could introduce misconceptions. As always, we would recommend focusing on the learning and links to the curriculum.

When considering STEM activities for use with 3-12-year-olds, please consult the Association for Science Education’s “Be Safe! Fourth Edition”. This is the Health and Safety Handbook for Science and Technology in Early Years and Primary.

If in doubt, give SSERC a shout!

Contact us at primary@sserc.scot for STEM Health and Safety advice. <<