

## Science Snippets for Students:

Welcome to Science Snippets – we thought you might like a quick round-up of science news and trivia, to brighten your day and broaden your horizons. Enjoy!

- Bumbling Gardeners Wake the Early Flowers: Scientists have found that the humble bumble bee is more than just an early riser (they're often the first bees to emerge in the Spring). It seems that hungry bumble bees that can't find enough pollen nearby, can encourage plants to flower earlier than normal by nibbling on their leaves. You can read more about this on the BBC news website here: <https://www.bbc.co.uk/news/science-environment-52759804> How the bees' nibbling causes this is not yet understood but it's thought that the behaviour gives the bees a way of coping with seasonal variations that affect when Spring plants flower.
  - Bonus Bee Trivia: In 2016, it was reported (<https://www.pnas.org/content/113/26/7020>) that bumble bees can detect electrostatic charges, using the hairs on their heads and bodies. It has been suggested that, because bees develop a small positive charge while flying, and flowers and pollen have a small negative charge, a bumble bee can tell whether a flower has recently been visited by another bee (because the charges neutralize), and is therefore not worth visiting, while a flower that still has a negative charge is likely to be worth visiting.
- Martian Mudflows: There is a lot of interest in the surface of Mars these days, especially since it became apparent that there is likely to be more water under the soil surface than previously believed. One of the ways scientists know this is by looking at the surface of Mars for evidence of previous water or mud flows, like dried-up river beds. Some scientists decided to test how mud would move on Mars by pouring mud inside a vacuum chamber to mimic the extremely low temperature and air pressure of the Martian surface. They found that the mud behaves more like lava than mud, so there may be more evidence of mud flows on Mars than previously thought. You can read more about this on the BBC news website here: <https://www.bbc.co.uk/news/science-environment-52713131>
- Green Snow in Antarctica: Did you know that some of the snow in Antarctica turns bright green during the brief Summer there? Most of the green snow can be found near colonies of penguins and other nesting sea-birds. See here [https://www.bbc.co.uk/newsround/52724272?intlink\\_from\\_url=https://www.bbc.co.uk/news/science\\_and\\_environment&link\\_location=live-reporting-story](https://www.bbc.co.uk/newsround/52724272?intlink_from_url=https://www.bbc.co.uk/news/science_and_environment&link_location=live-reporting-story) to find out why.
- A Dinosaur's Tale: The *Spinosaurus* has long been known as one of the biggest predatory dinosaurs, with fossil fragments being found across what is now North Africa. At first, scientists thought this sail-backed hunter walked on its hind legs like *T. rex*, but as more fossils were found they realised that it was more likely to walk on all fours. A recent find in Morocco, however, has added a new piece to the puzzle, suggesting that *Spinosaurus* is the first dinosaur known to be adapted to swimming (marine reptiles like *Ichthyosaurus* are not true dinosaurs). Newly discovered fossils of *Spinosaurus* tail vertebrae show that the tail was flattened vertically, like a newts or a crocodiles, and flexible side-to-side, making it ideal for swimming. Read more on the Natural History Museum page here: <https://www.nhm.ac.uk/discover/news/2020/may/dinosaur-diaries-spinosaurus-sauropod-necks-starry-lizard.html>
- Rediscovering the Blues: Last month, chemists reported (in April 17 edition of *Science Advances*) that they had rediscovered how medieval artists and makers of manuscripts made a unique blue watercolour paint, a colour that was very rare in those days. Some clever chemical detective work tracked the source down to an apparently insignificant 'weed' found in Portugal. This information will help museums to conserve and restore ancient manuscripts and art works more accurately than ever before.