Science Snippets 5:

The Royal Society Annual Shindig goes online and You're Invited:
Kicking off this week's celebration of science, we have news on the Royal Society's Summer Science Exhibition, which will be running online all of next week. The event includes free talks, family-friendly quizzes and videos on all things science, from early scientific history through to modern cutting-edge findings. To find out how to join in, have a look here: https://royalsociety.org/science-events-and-lectures/2020/summer-science-online/programme/

New Knee Material a Step Closer:
Polymers (molecules made up of repeated chemical units called monomers) have a wide variety of properties and uses, depending on their structure. When polymers with different properties are combined into a composite material, they can be even more versatile and useful. Chemical engineers at Duke University, USA, have just published a paper in the *Advanced Funcitonal Materials* journal on a new 'hydrogel' composite that behaves like real cartilage, the rubbery material that sits between our bones, allowing our joints to work properly. Sometimes cartilage gets damaged, through injury, illness or aging, and current replacements are not as good as the real thing and often wear out after one or two decades. The Duke University scientists have combined a long, flexible polymer with a more branched polymer to give strength, and a cellulose polymer (like the toughening material in plant cell walls) to hold them together. The new material has performed very well in tests of flexibility and durability, and if it passes clinical tests it may be available for medical use within a few years.

From Tiny Beginnings Great Things Grow:
Dinosaurs and the flying reptiles (pterosaurs) that roamed the Earth long ago share a common ancestral group of animals that are rarely found in fossil records. A recent fossil find in Madagascar (https://www.pnas.org/content/early/2020/07/01/1916631117) suggests that some of those ancestors may have been much smaller than their descendents. The Madagascan ancestor was just 10cm tall, that's small enough to stand on your hand, and the size and wear-marks on it's teeth suggest that it ate beetles and other insects. Awww!

Could There Be Life On Pluto?
Ever since it's discovery back in 1930, Pluto has been suprising astronomers. Being so far out from the Sun and only one sixth the size of our moon, it was assumed to be a straightforward ball of rock and ice. Recently the New Horizons probe has had a closer look and made some astonishing discoveries, from hints of a subsurface sea to having an atmosphere that rains organic matter. This month you can learn all about it on BBC iPlayer: https://www.bbc.co.uk/programmes/m000kqm9

New Fish Named After Gollum from Lord of the Rings:
Last year, a new species of fish was discovered in India. It is a stype of fish that can also breathe air and is thought to live underground. It was first discovered when a local farmer put a picture of the strange fish on social media and scientists think it may have been washed out of local caves by recent heavy rains. The new species has been named *Aenigmachanna gollum*, after the character from Tolkein's Lord of the Rings books. You can see a picture of it here: https://www.nhm.ac.uk/discover/news/2019/may/new-species-of-subterranean-fish-named-after-the-lord-of-the-rings-character.html