Biology Enrichment (aligned to Edexcel GCSE)

Virology & Global Health	• Explained: The Next Global Pandemic (20 mins) https://www.netflix.com/watch/81062202?trackId=13752289&tctx=0%2C3%2C0d03e68c-6321-41f2-9dfa-11f336ddc8ca-52560540%2C%2C • FutureLearn course on Coronavirus: https://www.futurelearn.com/courses/covid19-novel-coronavirus • The Life Scientific - viruses: https://www.bbc.co.uk/programmes/m0009b2t
Key Biological Concepts	• Short video - *electron microscopy images* https://www.youtube.com/watch?v=yutNM8AIkkk • Podcast - *'In Our Time - Microscopes'* https://www.bbc.co.uk/programmes/b03jdy3p • Podcast - '*In Our Time - Enzymes'* https://www.bbc.co.uk/programmes/b08rp369
Cells and Control	• TEDx - *Animations of unseeable biology* *https://www.ted.com/talks/drew_berry_animations_of_unseeable_biology?language=en* • *TEDx - A look inside the brain in real time* *https://www.ted.com/talks/christopher_decharms_a_look_inside_the_brain_in_real_time#t-179742* • In Our Time - Free Radicals https://www.bbc.co.uk/programmes/m0000xqd • Reading on microbes: https://www.sciencenews.org/topic/microbes • In Our Time - The Brain https://www.bbc.co.uk/programmes/b00b54yx
Genetics	• Article - Virus mutations - https://www.historyofvaccines.org/content/articles/viruses-and-evolution • Movie - Gattaca. IntoFilm have a worksheet of Science questions you can consider while watching the movie - let me know if you'd like me to send it to you • In Our Time: Genetic Mutation https://www.bbc.co.uk/programmes/b008drvm
Natural Selection & Genetic Modification	• Can Science Make Me Perfect? https://www.bbc.co.uk/iplayer/episode/b0b6q3qy/can-science-make-me-perfect-with-alice-roberts

	• Explained: Designer DNA (20 mins) https://www.netflix.com/search?q=science&jbv=80216752&jbp=2&jbr=1 • Unnatural Selection (short series) https://www.netflix.com/watch/80208833?trackId=13752289&tctx=0%2C0%2C8bd41505-055d-4d08-a8c9-e71150318bb2-44683054%2C%2C • In Our Time: Neanderthals https://www.bbc.co.uk/programmes/b00sq1nv • The Life Scientific: evolution of cancer https://www.bbc.co.uk/programmes/m0003ks6
Health & Disease	• CrowdScience: How did humans discover medicine? https://www.bbc.co.uk/sounds/play/w3csz1v9 • CrowdScience: Is vaping bad for your health? https://www.bbc.co.uk/sounds/play/w3cswvx3 • In Our Time: Penicillin https://www.bbc.co.uk/programmes/b07dnnkm • In Our Time: The Origins of Infectious Disease https://www.bbc.co.uk/programmes/b011pldm
Plants	• TEDx - *How can we make crops survive without water?* *https://www.ted.com/talks/jill_farrant_how_we_can_make_crops_survive_without_water#t-16976* • Podcast: Plants, from roots to riches https://www.bbc.co.uk/programmes/b048s3my/episodes/downloads • Plenty of articles to read: https://www.sciencenews.org/topic/plants
Homeostasis & Hormones	• Interviews with researchers working on hormones: https://endocrinepod.com/episodes/ • OpenUniversity course on diabetes: https://www.open.edu/openlearn/science-maths-technology/biology/living-diabetes/content-section-3.1
Exchange & Transport	• Research Lance Armstrong. For a long time his success was attributed to the fact that his heart is a third larger than the average male's… But what else did he make use of? • In Our Time: Discovery of Oxygen https://www.bbc.co.uk/programmes/b0088nql • In Our Time: The Heart https://www.bbc.co.uk/programmes/p003c1bh • The Big Picture - respiration https://www.stem.org.uk/resources/elibrary/resource/460338/cellular-respiration#&gid=undefined&pid=1

Ecosystems	● Read about the work of the World Food Programme https://www.wfp.org/ ● Your teacher can send you the resources to the Encounter Edu programmes on Frozen Oceans, Coral Oceans and Plastic, Plankton & Poo ○ https://encounteredu.com/teacher-resources/frozen-oceans-science-ages-14-16 ○ https://encounteredu.com/teacher-resources/coral-oceans-science-ages-14-16 ○ https://encounteredu.com/teacher-resources/plankton-plastics-and-poo-science-ages-14-16 ● Open University free courses: ○ Water cycle: https://www.open.edu/openlearn/science-maths-technology/science/environmental-science/water-use-and-the-water-cycle/content-section-0?active-tab=description-tab ○ Carbon cycle: https://www.open.edu/openlearn/science-maths-technology/across-the-sciences/ecosystems-the-carbon-cycle ● The Life Scientific: carbon cycle https://www.bbc.co.uk/programmes/m0003cy9 ● For those with Disney+ - check out all of the National Geographic films and share your recommendations! The same for episodes of Blue Planet/Planet Earth etc ● The Wonder of Animals (BBC) https://www.bbc.co.uk/iplayer/episode/b04dq5tb/the-wonder-of-animals-1-penguins ● Articles on ecosystems: https://www.sciencenews.org/topic/ecosystems