Subject Spotlight Lesson Plan

Title of Session	**Subject Spotlight: Biochemistry – Snot a Problem**
Description:	When thinking about mucus, you probably imagine a snotty cold or a slimy snail right? Mucus is everywhere, but what actually is it and why do we have it? This workshop answers this question by introducing you to how biology and chemistry work together in the discovering the unique properties of mucus (including how to make your own artificial mucus!). We'll then look at mucus in your body and how it plays such an important role in normal health and in different diseases

Duration of session:	~40 mins	Target Audience:	Y10/11/12/13

Regional Progression Framework - Learning Outcomes:
LO1 - Awareness of HE and the different opportunities available. Be able to challenge any myths relating to HE.
LO2 - Identify the link between GCSE attainment and progression opportunities and how these can support life or career goals
LO5 - Learner knows how to research different routes into HE and how to make an application
Gatsby Benchmarks:
7. Encounters with Further and Higher Education - All students should understand the full range of learning opportunities that are available to them. This includes both academic and vocational routes and learning in schools, colleges, universities and in the workplace.

Timings:	Activity/Task/Information:	Instructions for teacher:	Resources needed:
0.00 – 2.44	Introduction: • Who am I? • How I got here		
2.44 – 4.57	Mucus: • What is it? • Make your own mucus	Pause video at 4.39 to make your own mucus. Can be done in small groups or as a whole class demonstration. Ask students to think about the properties of the mucus as you add the ingredients and what could each ingredient represent? Play video once mucus has been made.	Make your own mucus ingredients: Per group of 2-4: • 1x cup, 125ml hot (not boiling) water, 2-3 packets gelatin, 1x spoon, 1-2tsps corn syrup, 1-2 drops green food colouring For class demonstration: • large bowl, 500ml hot water, 8-12 packets of gelatin, 1-2 tbsps corn syrup, 4-6 drops food colouring Instructions 1. Add gelatin to hot water and gently stir. 2. Add corn syrup and stir. 3. Add food colouring for extra effect! Link to see how it works (watch until 0.53): https://www.youtube.com/watch?v=pEZHLjXg4XU
4.57 - 11.12	• What's in mucus? • What are mucus properties? • Where is mucus found? • Why is mucus important?		
11.12 – 12.55	When mucus goes wrong: • Match the Mucus Malady	Pause video at 11.43. Students are to match up the diseases with the correct description on their worksheet. Answers provided in the video.	Worksheet (also shown on video)
12.55 – 15.18	• Mucus in health and disease	Pause video at 4.19. Brainstorm ideas about what about mucus relates to Biology and what about mucus relates to	

	• Mucus – Biology meets Chemistry	Chemistry. Think about topics learnt about in school – how does it relate?	
15.18 – 16.00	• More information about Biosciences		
16.00 - end	Mucus Memory Challenge: • Fill in the description and then find the word in the word search	Pause video at 16.13 and give time for students to complete word search. Play video once complete for answers.	Worksheet

Overview of all resources:	
Resources for mucus:	Per group of 2-4: • 1x cup, 125ml hot (not boiling) water, 2-3 packets gelatin, 1x spoon, 1-2tsps corn syrup, 1-2 drops green food colouring For class demonstration: • large bowl, 500ml hot water, 8-12 packets of gelatin, 1-2 tbsps corn syrup, 4-6 drops food colouring Instructions 4. Add gelatin to hot water and gently stir. 5. Add corn syrup and stir. 6. Add food colouring for extra effect! Link to see how it works (watch until 0.53): https://www.youtube.com/watch?v=pEZHLjXg4XU
Worksheet with match up and word search activities	
Resources to share with students:	Study Biosciences at Uni of Manchester: https://www.manchester.ac.uk/study/undergraduate/subjects/biosciences/ Understanding Biochemistry for A Levels: https://biochemistry.org/education/schools-and-fe-colleges/biochemistry-booklets-for-a-level/ How to Become a Biochemist: https://www.ucas.com/ucas/after-gcses/find-career-ideas/explore-jobs/job-profile/biochemist Essentials of Glycobiology: https://pubmed.ncbi.nlm.nih.gov/27010055/