SCIENCE KS3 Organisms





Lesson: Respiratory Health



ACTIVITY OUTLINE



The lesson starts with small group discussion of health and access to health care using the discussion cards. Students can select the card to be discussed by rolling a dice. If they roll the same number twice they can supplement their first answer with further points.

The lesson then shifts to look at the respiratory system and how it's affected by asthma. The structure of the breathing system may be taught with slides included in this presentation or with the help of models and reference to the student's own bodies.

Learning of the structures and the mechanism of gas exchange can be assessed using the worksheets "label the diagram of the respiratory system" and "checking your understanding of gas exchange".

Introduce asthma as a disease which affects breathing, if appropriate you may want to encourage students who have asthma to share a little of what it is like for them to have asthma and the importance of their medication.

During the rest of the lesson, the context of asthma is used to explore some of the global learning ideas including inequalities in health and in exposure to air pollution.

Students find out about article 25 UN declaration on human rights online or with resources provided by the teacher (this can also have been set as a homework task leading into this lesson).

Students are introduced to two examples of universal health coverage for asthma in Rajasthan and the UK as one way of addressing inequality within a country.

Students then work in groups to come up with their ideas for overcoming barriers for improved asthma health care globally. This is not the place for putting a damper on their plans that will undoubtedly fall short of meeting sustainable development goal 3!

If appropriate a fun activity for opening students to thinking creatively and positively is called Yes Lets. Students pair up and take turns at suggesting something they could do...fly to the moon, care for a kitten, play football, climb Everest (a more controlled version is to have slips of paper with suggestions on which students can come and get from the teacher). Their partner says YES LETS and the 2 spend a minute or so miming the activity before the partner takes a turn at making a suggestion. The activity should be fast and spontaneous, the only response possible is Yes Lets! Swap back and forward a few times until the creative energy is high and the students can then turn to making suggestions to overcome barriers to effective asthma treatment. They can record their suggestions on the worksheet "barriers and solutions".

As a class discuss the avoidable risk factors for asthma, make links between risk factors for human health and risk factors for environmental health.

Complete the table comparing these as a class and invite students to make a poster showing "a better way "to live which reduces these avoidable risk factors. Stress that whilst some of these will involve individual action, these problems also require international action to reduce risk and improve health on a global level.

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CURRICULUM OUTCOMES



Students can:

Label the structures of the gas exchange system in humans.

Describe the movement of gases between the alveoli and the blood.

Apply their knowledge of the structure of the gas exchange system to explain the impact of asthma on breathing.

N/C the structure and functions of the gas exchange system in humans, including adaptations to function.

AQA KS3

Students will know that in gas exchange, oxygen and carbon dioxide move between alveoli and the blood.

Explain how exercise, smoking and asthma affect the gas exchange system.



GLOBAL LEARNING OUTCOMES





GOOD HEALTH and well-being



Students can explain that good health is a state of well-being, not just an absence of disease

Students can explain what the UN declaration of human rights article 25 says and whether everyone can access this right

Students can give an example of social inequality in healthcare and how universal health coverage can help address this

SMSC/ British Values: Ability to recognise, and value, the things we share in common across cultural, religious, ethnic and socio-economic communities.

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Action



Asthma UK work to stop asthma attacks and, ultimately, cure asthma by funding world leading research and scientists, campaigning for change and supporting people with asthma to reduce their risk of a potentially life threatening asthma attack.

You could create an infographic poster usng information from their website that will teach everyone in your school about what to do to help someone having an asthma attack:

https://www.asthma.org.uk/