*Biology > Big idea BHD: Health and disease > Topic BHD1: What are health and disease? > Key concept BHD1.2: Disease*

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| **Response activity** |
| **Antibiotics and resistance** |

**Overview**

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| Learning focus: | The good health of organisms can be compromised by infectious and non-infectious diseases, which can be caused by germs, lifestyle, environment, or information in the genome. |
| Observable learning outcome: | Explain that medicines, including antibiotics, can be used to treat the cause or symptoms of some diseases. |
| Activity type: | Challenge to thinking, media |
| Key words: | Health, disease |

This activity can help develop students’ understanding of what kinds of ill health can be treated with antibiotics, and about the importance of using antibiotics responsibly to help reduce the spread of antibiotic resistance. It can be used in response to the following diagnostic question:

* Diagnostic question: Antibiotics

**What does the research say?**

Antibiotic resistance is currently one of the biggest threats to global health, food security and development (World Health Organization, 2018a), and high levels of resistant bacteria have been found in high- and low-income countries all around the world (World Health Organization, 2018b). Antibiotic-resistant ‘superbugs’ and government plans to tackle them have made news headlines (e.g. BBC News, 2019 - see references).

Understanding how to use medicines appropriately is part of a person’s health literacy. Health literacy at the individual level enables a person to access, understand, appraise and use information to make informed decisions about their health. Extensive empirical research shows that increased health literacy can lead to changes in behaviour and decision-making that improve health outcomes (e.g. Pelikan, Ganahl and Roethlin, 2018), and that efforts to improve the health literacy of school children can have impacts on their behaviour (e.g. Park et al., 2017).

**Ways to use this activity**

This activity uses media from the World Health Organization to challenge students’ thinking about what kinds of ill health can be treated with antibiotics, and about the importance of using antibiotics responsibly to help reduce the spread of antibiotic resistance.

The videos listed on the next page provide an opportunity to explore and extend your students’ understanding. Students could be encouraged to take notes, or perhaps to draw a comic strip communicating the key points, while watching the videos. If students have difficulty following a particular video, it could be helpful to break it into smaller chunks, to read out key text from the video, or to show it more than once.

The videos could be followed up with structured teacher-led discussion. You could challenge different individuals by asking them follow-up questions to check their understanding of the key points from the videos.

*Videos*

The World Health Organization videos on antibiotics and resistance can be accessed together as a collection at <https://www.who.int/campaigns/world-antibiotic-awareness-week/videos/en/>

They are also available individually on YouTube using the following links:

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|  | **Antibiotics -- handle with care**  <https://youtu.be/-ZX97bIbZBQ> |
|  | **Antibiotics don't cure viruses like colds and flu**  <https://youtu.be/0Wj2R6tPSjQ> |
|  | **Only take antibiotics a health professional has prescribed to you**  <https://youtu.be/7j0ghNlgfgk> |
|  | **Never share antibiotics - not even with family**  <https://youtu.be/dQ5B18l4BTg> |
|  | **Wash your hands to prevent infections and avoid the need for antibiotics**  <https://youtu.be/oFpiS2_8L28> |

*Print media*

The World Health Organization has also produced a series of posters and infographics that could help develop students’ understanding of what kinds of ill health can be treated with antibiotics, and about the importance of using antibiotics responsibly to help reduce the spread of antibiotic resistance.

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| **WHO posters**  <https://www.who.int/campaigns/world-antibiotic-awareness-week/2017/posters/en/> | **WHO infographics**  <https://www.who.int/campaigns/world-antibiotic-awareness-week/2017/infographics/en/> |

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Images: World Health Organization

**References**

BBC News. (2019). *Antibiotic resistance plan to fight 'urgent' global threat* [Online]. BBC. Available at: <https://www.bbc.co.uk/news/health-46973641>.

Park, A., et al. (2017). Associations between health literacy and health behaviors among urban high school students. *Journal of School Health,* 87(12)**,** 885-893.

Pelikan, J. M., Ganahl, K. and Roethlin, F. (2018). Health literacy as a determinant, mediator and/or moderator of health: empirical models using the European Health Literacy Survey dataset. *Global Health Promotion,* 25(4)**,** 57-66.

World Health Organization. (2018a). *Antibiotic resistance* [Online]. World Health Organization. Available at: <https://www.who.int/news-room/fact-sheets/detail/antibiotic-resistance>.

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