# AMR Flashcard Game (5-10 mins)

This activity is suitable for school and community groups and can be found in the [KS3 lesson plan](http://www.e-bug.eu/en-gb/ks3-antimicrobial-resistance) “Antibiotics”. This activity will help participants understand the growing global public health threat of antimicrobial resistance (AMR) through an interactive bacteria flash card game.

## Use the introduction in the KS3 lesson plan to discuss:

1. Start the lesson by asking students if they’ve ever had an antibiotic and if they know what antibiotics are used for. Then explain what an antibiotic is – that it is a type of medicine that kills or stops bacteria increasing in number.

2. Tell students the story of how antibiotics were discovered by Alexander Fleming. In 1928 Alexander Fleming went on holiday and left some laboratory agar plates from an unrelated experiment out on his desk. When he came back from holiday he discovered that the bacteria growing in his agar plates couldn’t grow near the mould that was also growing on the plate, he concluded that the mould had produced a chemical to protect itself from the bacteria using an antibacterial agent. Scientists used this new chemical to develop antibiotics.

3. Explain that before the development of antibiotics, such as during World War 2, people

with injuries died from bacterial infections. Once antibiotics were being produced many

deaths and diseases were prevented, and surgeons were able to perform much more difficult operations, like hip replacements.

4. Explain how antibiotics kill our body’s useful bacteria (commensals) leaving our body open to harmful microbes (pathogens). One or two bacteria may change (mutate) so the antibiotic cannot kill them – these are antibiotic resistant bacteria.

5. Explain that overuse and misuse of antibiotics has led to bacteria developing resistance to antibiotics through natural selection (survival of the fittest).

6. Emphasise that everyone can help prevent antibiotic resistance getting worse by:

* Only using antibiotics when prescribed by a health care professional (HCP)
* finishing your course of antibiotics as recommended by your HCP
* not using left over antibiotics (if for any reason you don’t finish your course of antibiotics, any left-over should be given to your local pharmacy to dispose of)
* not using antibiotics for most earaches, sore throats or any colds or flu which are usually caused by viruses.

## Before you begin you will need:

* Lesson plan for KS3 Antibiotics, available on the website link [here](http://www.e-bug.eu/en-gb/ks3-antimicrobial-resistance)
* You will need to cut out the action, resistant bacteria, and normal bacteria cards in advance

## Use the following steps as a guide to implement this activity:

Provide each group (3-4 people) with a set of cards from SH1, SH2, SH3 and SH4. Explain to the group that this activity will demonstrate how bacteria can be spread and how bacteria can develop antibiotic resistance.

* The aim of the game is to keep as many ‘normal bacteria’ as possible and to avoid the ‘resistant bacteria’.
* ‘Normal bacteria’ haven’t developed resistance and can still be treated with antibiotics.
* ‘Resistant bacteria’ are bacteria that have been exposed to too many antibiotics and have developed resistance – antibiotics won’t work on these bacteria now.
* The player at the end of the game with only a hand of ‘resistant bacteria’ loses and ends the game.
* If the instruction is to ‘pass a card’ the player must pass the relevant bacteria card to their opponent or the person on their left and place the ‘action card’ to the bottom of the deck.
* If the instruction is to ‘return a card’ the player must return the relevant bacteria card to the corresponding deck and place the ‘action card’ to the bottom of the deck.
* If the player isn’t holding the relevant bacteria card, they must return the ‘action card’ to the bottom of the ‘action card’ deck and miss a go.

1. Place the ‘resistant bacteria’ deck facing upwards on the table within reach of each player.
2. Place the ‘action cards’ face down on the table within reach of each player.
3. Each player starts the game with four ‘bacteria’ cards in their hand, the rest should be placed in a separate deck on the table facing upwards.
4. The first player to start picks up an ‘action card’ and reads the instruction aloud to their group.
5. The game ends when a player has only ‘resistant bacteria’ cards in their hand. In groups of 2 the winner is the one still with ‘bacteria’. If three or more people are playing, the winner is the person with the most ‘bacteria’ cards in their hand at the end.

**Use the plenary or discussion questions to check participant’s understanding after the activity is completed.**