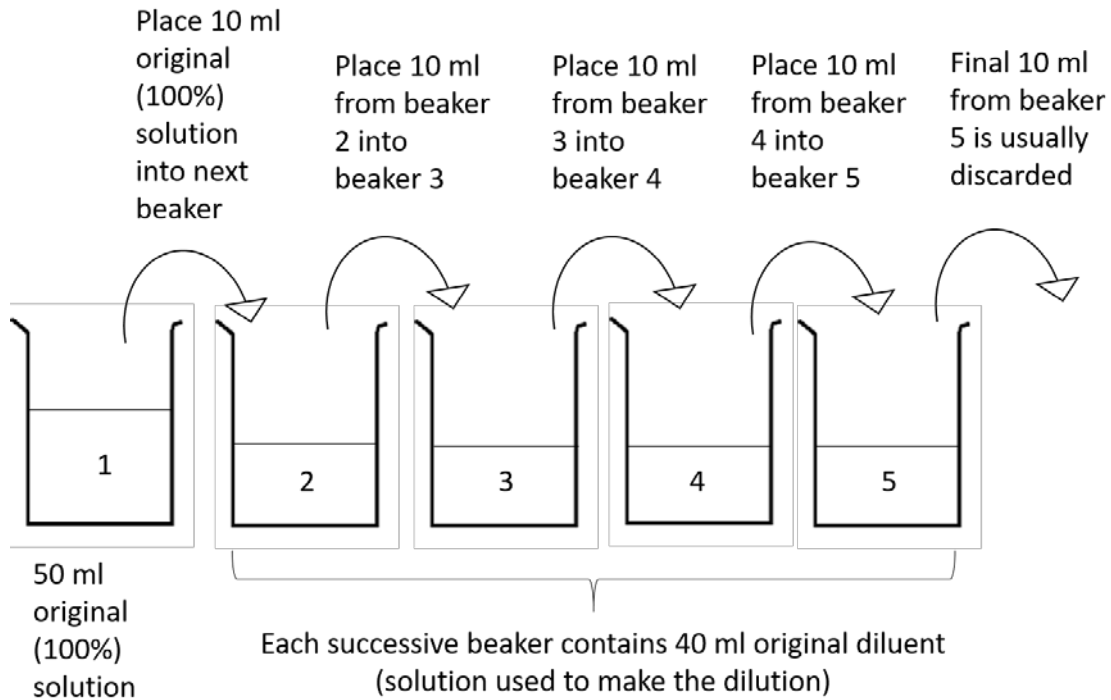


INFORMATION SHEET

Five-fold serial dilution

A five-fold dilution is done by diluting each successive sample by a factor of 5. Each solution will end up being 1/5th of the concentration of the solution before it. Below is an image showing the process.



Snake venom and antivenom

Snake venom is the poisonous liquid stored in the modified salivary glands or sacs of venomous snakes. Fangs are sharp, long, hollow teeth that are connected to the sacs. When a snake bites, venom is released and moves along the groove on the fang. The venom starts to work immediately to paralyse or even kill the prey. Not all snakes are venomous.



Snake **antivenom** (also known as **antiserum**, plural **antisera**) is a medication made up of antibodies used to treat bites from venomous snakes. Antisera can prevent or reverse the effects of the poisonous venom by neutralising it. Currently, there is an urgent need to ensure the availability of safe, effective and affordable antivenoms, particularly in developing countries.

Snake bites kill up to 94 000 people worldwide every year, with the highest number of deaths in South Asia and sub-Saharan Africa. The main obstacle to saving lives is the global scarcity of antivenom. In Africa, the most effective treatment has been a multipurpose antivenom that works against a variety of snakes on the continent. However, the antivenom is costly to produce.

[Adapted: <<https://www.thoughtco.com/how-snake-venom-works-4161270>> and <https://www.who.int/bloodproducts/snake_antivenoms/en/> and <<https://za.pinterest.com/derekatkinson22/snake-fangs/>> and <<https://news.nationalgeographic.com/2016/05/160503-snake-bite-anti-venom-asia-africa-animals/>>]

Figures A to C show the set-up of the Petri dishes for Part 1 (Investigation)

Figure A

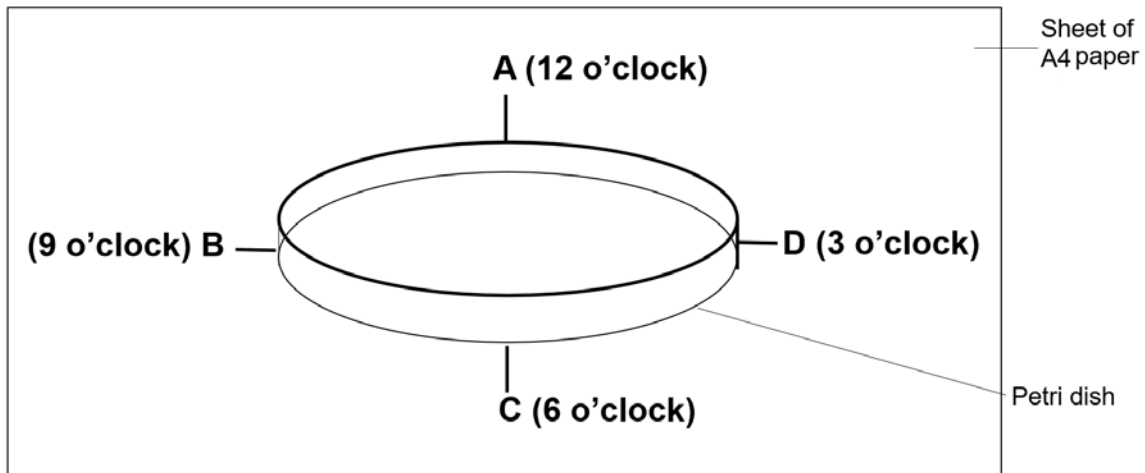


Figure B

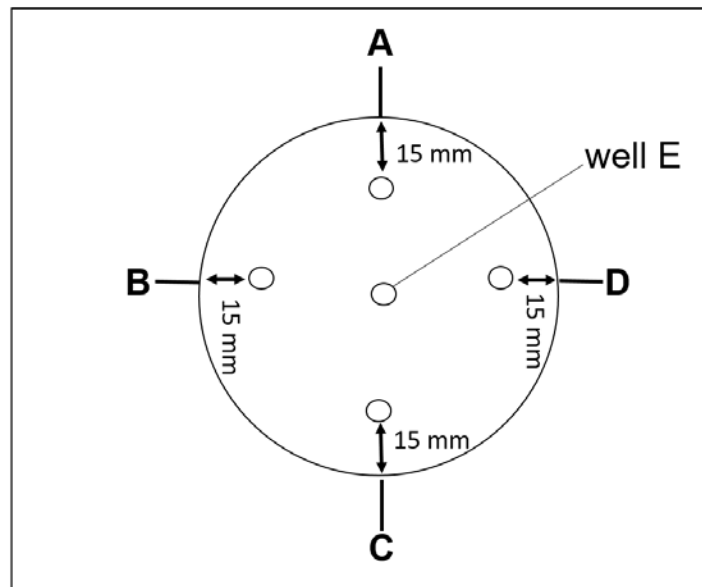


Figure C

