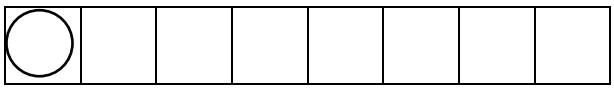
A breath of fresh Science

1. You're examining sputum samples from a patient with a chronic cough and weight loss. The smear is stained and viewed under a microscope. It's clear — the sample contains microorganisms, single-celled and rod-shaped. They multiply on their own, have a protective cell wall, and trigger an immune response.

   These organisms are the first piece of the puzzle.

   Unscramble the letters to identify it:

   T A I R B C E A

2. You can't work with these organisms in a regular lab. The risk of airborne infection is too high. So, you move into a secure, high-containment facility on campus. It has sealed rooms, pressure controls, and trained staff. Every movement is recorded. Every step follows protocol.

   Only facilities like this can safely handle pathogens of this level.

   E F A Y B I O S T

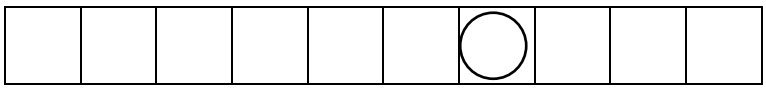
   L A B

3. The next step isn't just seeing the pathogens, it's understanding what they're doing. You collect samples and send them to another facility, where proteins are isolated, analysed, and identified. These proteins are the working parts of the pathogen, revealing how it survives, resists drugs, and affects the host.

   This facility on your campus specializes in large-scale protein analysis.

   What facility can be used for this?

   R C T O E P M S I O

4. You've progressed step-by-step:

   a. First, you confirmed the infectious agent in the patient's sputum.
   b. Next, you moved your work into a high-containment laboratory designed for airborne pathogens.
   c. Finally, you explored the pathogen's active protein machinery in a dedicated core facility.

   Taken together, these investigations point to a slow-growing lung pathogen that evades immunity, requires months of treatment, and is commonly referred to by a three-letter abbreviation.