Advance Preparation

The following preparation is for 1 group of 5 students
For a visual of workbench set up visit www.e-bug.eu

Materials Required

- ☐ Petri dishes
- ☐ Hydrochloric acid
- ☐ Wax Crayon/marker
- ☐ Base Agar
- ☐ 20 Test tubes
- ☐ Disposable droppers
- ☐ Hot plate
- ☐ 5 Test tube racks
- ☐ Cork borer
- ☐ Phenol Red

Agar Plate Preparation

1. Make up 100ml of base agar following the manufacturer's instructions.
2. When cooled slightly, but not solid, pour 1 agar plate (to demonstrate no growth). When complete add enough (~10 drops) 2 – 4% Phenol Red to turn the agar a deep red/dark orange and mix well.
3. Pour approx 20ml into each petri dish and leave to cool.
4. When solidified, make 5 evenly spaced bore holes in each agar plate.
5. Label each Petri dish with Patient A, B, C and D

Antibiotic (test-tube) Preparation

1. Set up a test tube rack of 5 test tubes for each patient. Label each test tube with one of the following labels

   a. Penicillin b. Meticillin c. Oxacillin d. Vancomycin e. Amoxicillin

2. Transfer 5ml of the following solutions into the appropriately labelled test tube

Patient	Penicillin	Meticillin	Erythromycin	Vancomycin	Amoxicillin
A	Water	Water	Water	Water	Water
B	10% HCl	5% HCl	1% HCl	0.05% HCl	5% HCl
C	Water	Water	1% HCl	0.05% HCl	Water
D	Water	0.05% HCl	0.05% HCl	0.05% HCl	Water

NB: It is extremely important to have the correct concentrations of HCl (antibiotics) for each patient.

3. Set up a work bench for the group as follows:
   a. Place the appropriate patient's agar plate next to each corresponding rack of test tubes at 4 stations across the bench
   b. A dropper for each test tube
   c. A ruler with mm markings
   d. It may be easier for students if they place each patient's agar plate on a piece of white paper and label the paper next to each bore hole with the antibiotic name.