

UCL iGEM Pipetting Challenge

LAB EMERGENCY!



Someone in the UCL iGEM lab has made a mistake...

A student prepared 7.5 mL of a mock SHELL-ter solution at 24 mg/mL, but the experiment needs the solution to be 15 mg/mL.

Your mission: work out how much water needs to be added to fix the concentration, then race the other teams to pipette the correct amount.

1. Solve the dilution problem

$$C_1V_1 = C_2V_2$$

C_1 = starting concentration
V_1 = starting volume
C_2 = required concentration
V_2 = final total volume

Water to add = $V_2 - V_1$

Show your working:

_____
_____
_____
_____

Answer: _____ mL of water

2. Pipetting Relay

• Place an empty beaker on the balance and tare it to 0.00 g.

• Take the beaker off of the balance and start pipetting water into the beaker.

• Team members must take turns using the pipette. Each person must pipette at least once.

• Remember, 1 mL of water is approximately 1 g.

• When finished, place the beaker on the balance and check the reading.

• The team that correctly solves the problem and is most accurate in their pipetting wins!