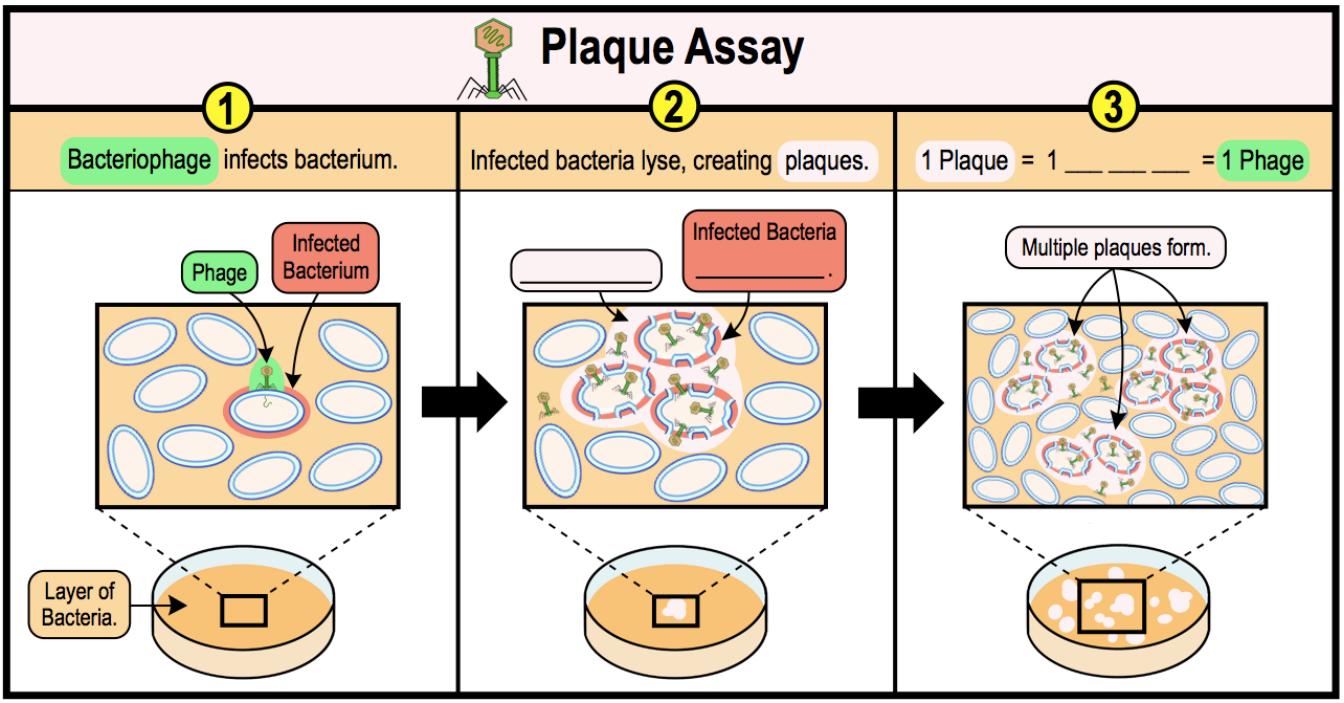
CONCEPT: PLAQUE ASSAYS

●Since phages can't replicate outside of a host cell, cultivation of the appropriate cells is required for studying the phages.

●**Plaque Assay:** method used to determine the concentration of phage particles in a sample by formation of _____.

- □ **Plaques:** clear areas in a layer of cultured cells indicating cell _____ from phage infections.
- □ Each plaque represents a *Plaque-Forming Unit (_____)* caused by a single phage particle.
- □ Dilutions of the phage sample are used to control the number of PFUs on a plate to determine the _____.
- □ **Titer:** the concentration of phage particles in the original (_____-diluted) sample.



PRACTICE: A clear area against a confluent "lawn" of bacteria is called a:

a) Phage. b) Pock. c) Cell growth. d) Plaque. e) Rash.

PRACTICE: The approximate viral concentration of a sample is known as:

a) Quantal assay. b) Endpoint assay. c) The titer. d) The lysate assay.

PRACTICE: Which of the following statements accurately describes viral plaques?

a) Each plaque is presumed to arise form a single lytic virus particle.

b) Plaques are formed only by defective viral particles.

c) All bacteriophages produce plaques that have exactly the same size and appearance.

d) Plaques are only formed by animal viruses.

e) Two or more of the above answers are correct.