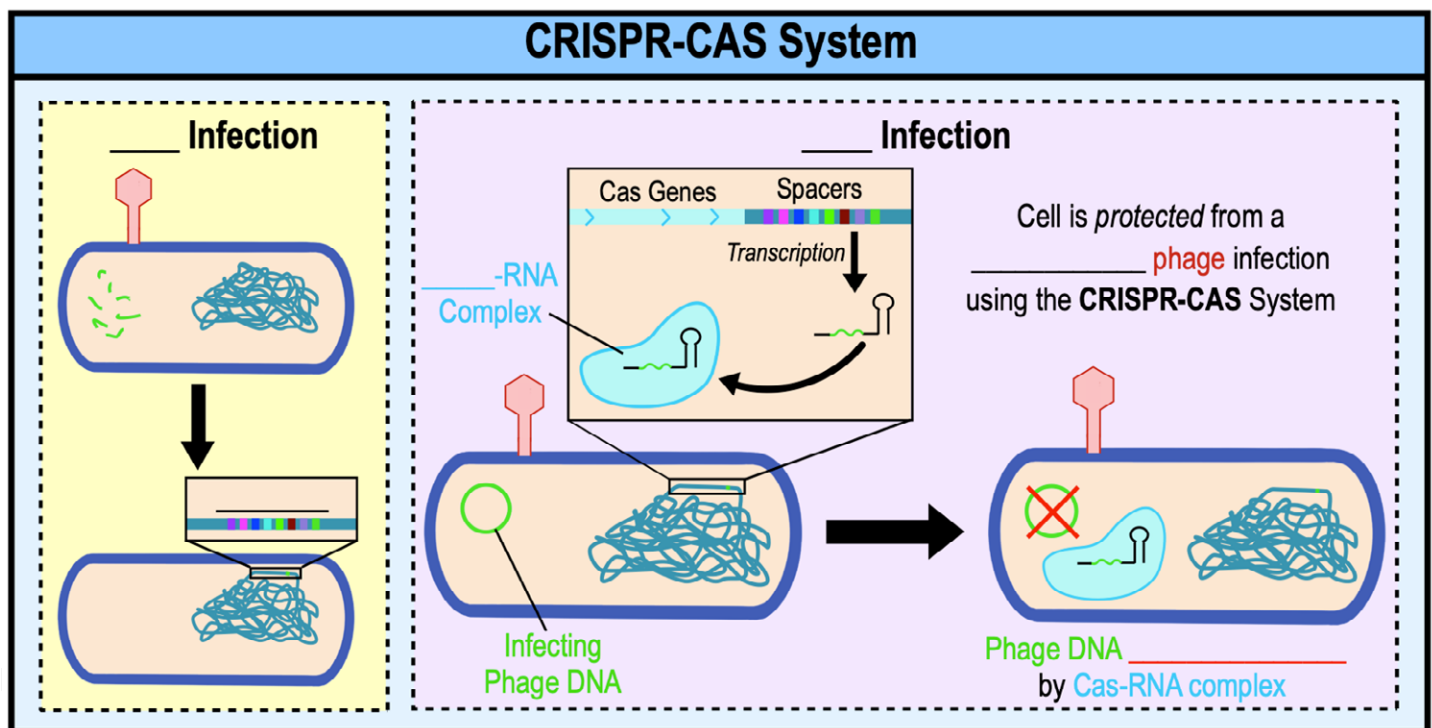


CONCEPT: CRISPR CAS

- **CAS System**: bacterial cell defense mechanism against various **phage** infections.
 - CRISPR stands for: clusters of regularly interspersed short palindromic repeats.
- Protects cell from infections it once encountered by storing pieces of DNA in the chromosome called **spacers**.
 - Protein complex in the cell **phage DNA** into fragments.
 - **Phage DNA** fragments in the chromosome act as a record of *previous* **phage** infections.
- During a **phage** infection, the cell the fragments of various **phage DNA**.
 - Transcribed RNA forms a complex with an enzyme (**Cas**).
 - **Cas-RNA complex** targets infecting **phage DNA** & cuts it to **phage**.



PRACTICE: What is CRISPR?

- Sequences of bacterial DNA derived from viral DNA fragments.
- A gene editing tool.
- A bacterial defense mechanism against viral infections.
- All of the above.