

Session 4 - Virology

Text: Chapter 13
Anticipated time: 2-3 class periods
Basic Objectives: You should be able to define the biological characteristics of viruses, including their obligate intracellular lifestyle. You should be able to discuss the structure and replication cycle of viruses. You should understand the diverse effects that viruses have on the cells they infect.
Slides to copy: 1, 2, 11, 16, 17, 18, 22, 23, 24, 29, 32, 33, 34, 39, 42

Chapter 13 – Viruses, Viroids and Prions

- Introduction *Read.*
- 13.1 General Characteristics of Viruses
Introduction *Read.*
Viral Architecture *Read.* Define: Virion. Understand viral morphology (Figs 13.1, 13.2 & 13.3).
Viral Taxonomy *Read,* including Tabs 13.1 & 13.2.
- Perspective 13.1 *Skip.*
- 13.2 Bacteriophages
Introduction *Read.* Define: lytic and lysogenic.
Lytic Phage Infections *Read carefully,* including Fig 13.5.
Temperate Phages *Read,* including Fig 13.6 and Tab 13.3.
Consequences *Read,* including Tab 13.3.
Filamentous Phages *Skip.*
Lytic Infection by... *Skip.*
- 13.3 The Role of Bacteriophages in Horizontal Gene Transfer
Introduction *Read.*
Generalized *Read carefully* including Fig 8.20.
Specialized *Read carefully,* including Fig 13.9.
- 13.4 Bacterial Defenses Against Phages
Skip.
- 13.5 Methods Used to Study Bacteriophages
Skip.
- 13.6 Animal Virus Replication
Introduction *Read.* Develop an understanding of 'information flow' in viruses.
Attachment *Read,* including Fig 13.13.
Penetration *Read,* including Fig 13.13.
Synthesis *Read,* and try to Understand Fig 13.14. We'll do this in class.
Assembly *Read.*
Release *Read,* including Fig 13.15.
- 13.7 Categories of Animal Virus Infections
Introduction *Read,* including Fig 13.16.
Acute Infections *Read very carefully.*
Persistent Infections *Read very carefully,* and differentiate the various types of infections.
Read Fig 13.17. Review Tab 13.4.
- 13.8 Viruses and Human Tumors
Read very carefully. Read Tab 13.5. Define: Oncogenes.
Understand Fig 13.18.

13.9 Cultivating and Quantitating Animal Viruses

Introduction

Read.

Cultivating

Review. including Figs 13.19 & 13.20.

Define: Cell/tissue culture and Cytopathic effect

Quantitating

Skip.

13.10 Plant Viruses

Skip.

13.11 Other Infectious Agents

Introduction

Read.

Viroids

Skip.

Prions

Read carefully. Read Figs 13.26 & 13.27, and Tab 13.6.

Future Challenges 13.1

Review.