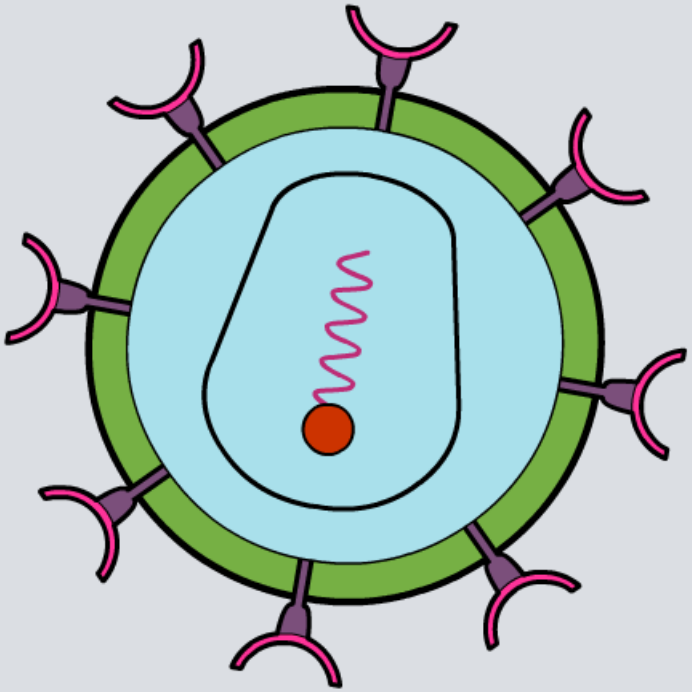
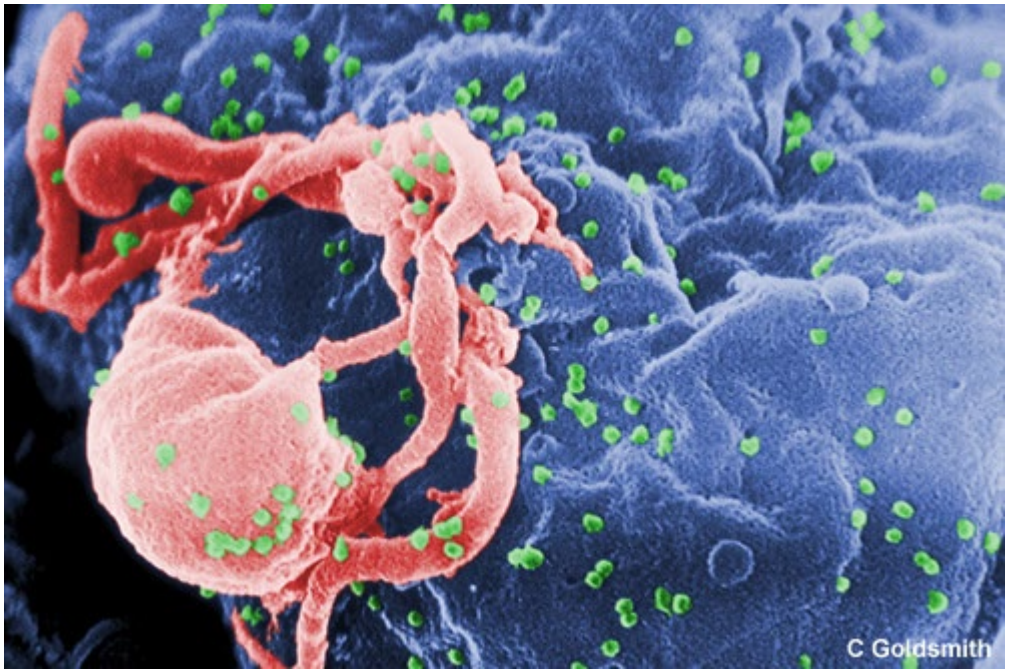
HIV and AIDS



What are HIV and AIDS?

In 2007, 33.2 million people were estimated to be living with the **human immunodeficiency virus** (**HIV**).

HIV is a **retrovirus** that causes **acquired immunodeficiency syndrome** (**AIDS**) – a deterioration of the immune system.



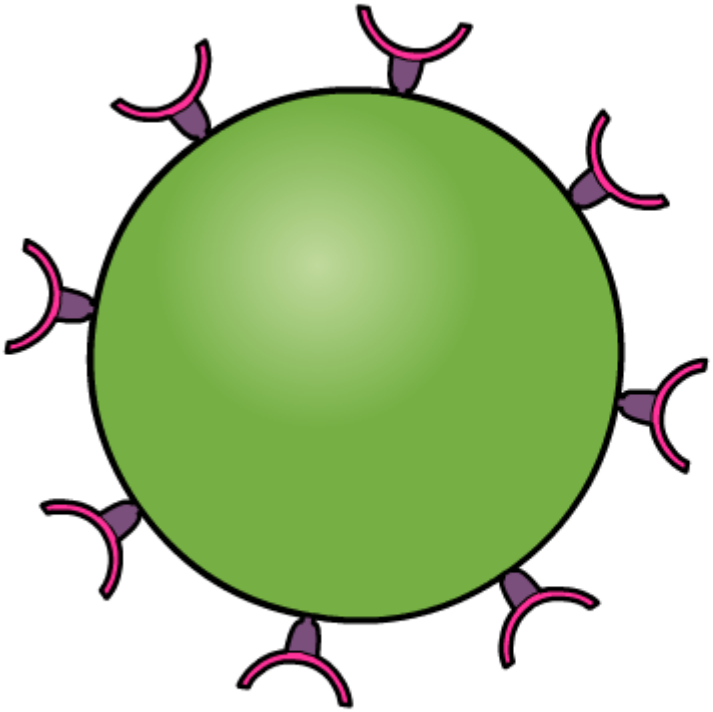
There is currently no cure for infection with HIV; however, **antiretroviral drugs** have been developed to help delay the onset of AIDS.

HIV replication

How does HIV replicate?

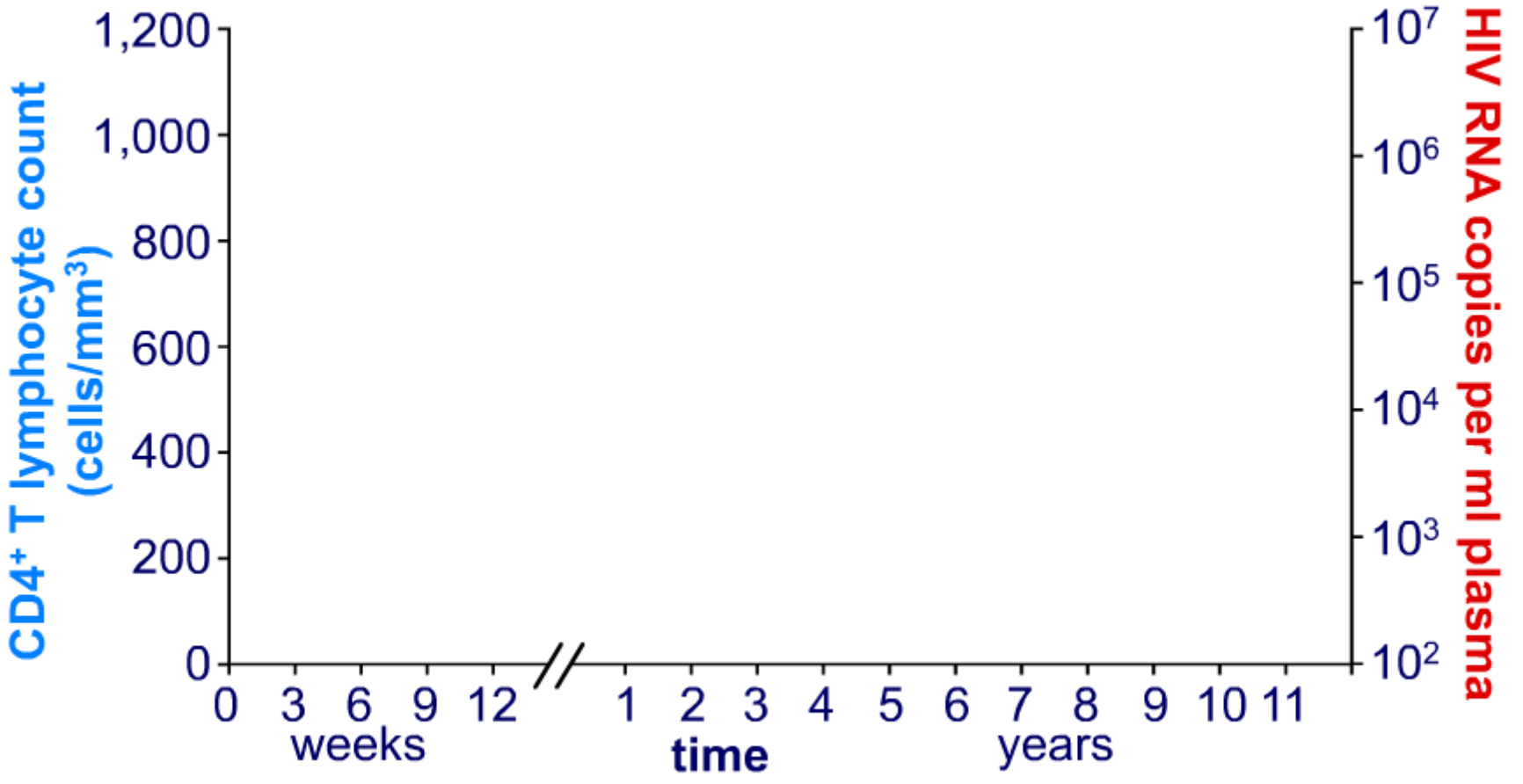
HIV uses the host cells' protein synthesis machinery to replicate its viral components.

Click "**play**" or the HIV virus to find out more.



Effect of HIV on the immune system

How does the presence of HIV affect lymphocyte count?



Stages of HIV infection

What is the order of stages of HIV infection?

1. initial rapid replication of the virus
2. clinical latency
3. primary infection
4. HIV antibodies appear
5. opportunistic infections occur
6. infected cells are destroyed
7. viral load increases again

Antiretroviral drugs

Modern antiretroviral drugs are designed to reduce the production of HIV by targeting different stages of its lifecycle.

- **reverse transcriptase inhibitors** prevent viral RNA being copied into DNA for protein synthesis.
- **protease inhibitors** inhibit proteases used in the synthesis of viral proteins.

HIV can develop resistance to these drugs, so they are often taken in combination.

HIV and AIDS

What are the missing words about HIV infection?

1. HIV causes [A] immunodeficiency syndrome (AIDS) in humans.

2. HIV is a type of [B], which means that it contains the genetic material [C].

3. The virus invades T cells. Its genetic material can be translated into [D] with the use of the enzyme [E]. The T cell will synthesize new viral components, creating more viruses.