

Virus Goes Viral

Infographic



● Abundance

Viruses are the most numerous entities on Earth, and they are found in the majority of ecosystems.



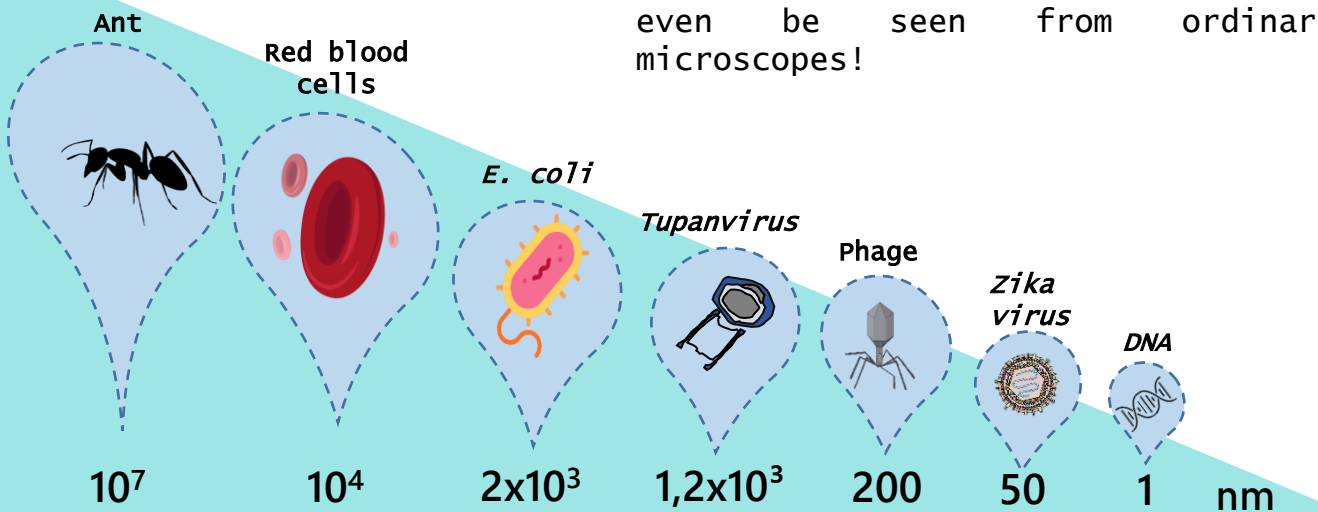
● Pathogenic?

Although viruses are often associated with disease, not all are pathogenic. They represent strong forces of natural selection and population control for all living organisms.



● Minor of minors?

Previously, viruses were considered to be the smallest group of organisms, however recent discoveries have shown the diversity of virus sizes. Some of them can even be seen from ordinary microscopes!



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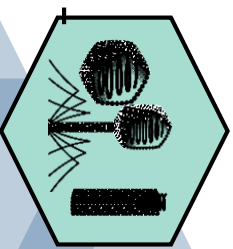
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• Slides provided from the following viruses:

Virus	Family	Genus	Genome Type	Genome size	Particle Size	Major Host	CPE
Cedravirus	Unassigned	Unassigned	dsDNA	~590 kbp	1 µm	Free Living Amoebas	Cell rounding and nucleus loss
Chikungunya virus	Togaviridae	Alphavirus	ssRNA	11.8 kb	70 nm	Nonhuman primates and mosquitoes	Cytoplasmic blebbing, rounding, shrinkage and lysis
Compox virus	Poxviridae	Orthopoxvirus	dsDNA	~222 kbp	350-250 nm	Woodl and rodents, cats, humans	Cell lysis (lysis plaque)
Mayaro virus	Togaviridae	Alphavirus	ssRNA	11.8 kb	70 nm	Nonhuman primates and mosquitoes	Cytoplasmic blebbing, rounding, shrinkage and lysis
Niemeyer virus	Mimiviridae	Mimivirus	dsDNA	~1.3 Mb	~750 nm	Free Living Amoebas	Cell rounding and nucleus loss
Orpheovirus	Unassigned	Unassigned	dsDNA	~1.4 Mb	1.3 µm	Free Living Amoebas	Tapering and increased motility
Pandoravirus	Unassigned	Unassigned	dsDNA	~2.5 Mb	1 µm	Free Living Amoebas	Cell rounding and nucleus loss
Tupanvirus	Mimiviridae	Unassigned	dsDNA	1.44 - 1.51 Mb	> 2 µm	Free Living Amoebas	Formation of bunches
Vaccinia virus	Poxviridae	Orthopoxvirus	dsDNA	~190 kbp	350-250 nm	Cattle, buffaloes, humans	Cell lysis (lysis plaque)
Yellow fever virus	Flaviviridae	Flavivirus	(+)sense RNA	~11 kb	40-50 nm	Non-human primates, humans, mosquitoes (<i>Aedes</i> and <i>Haemagogus</i> species)	Cell lysis (lysis plaque)

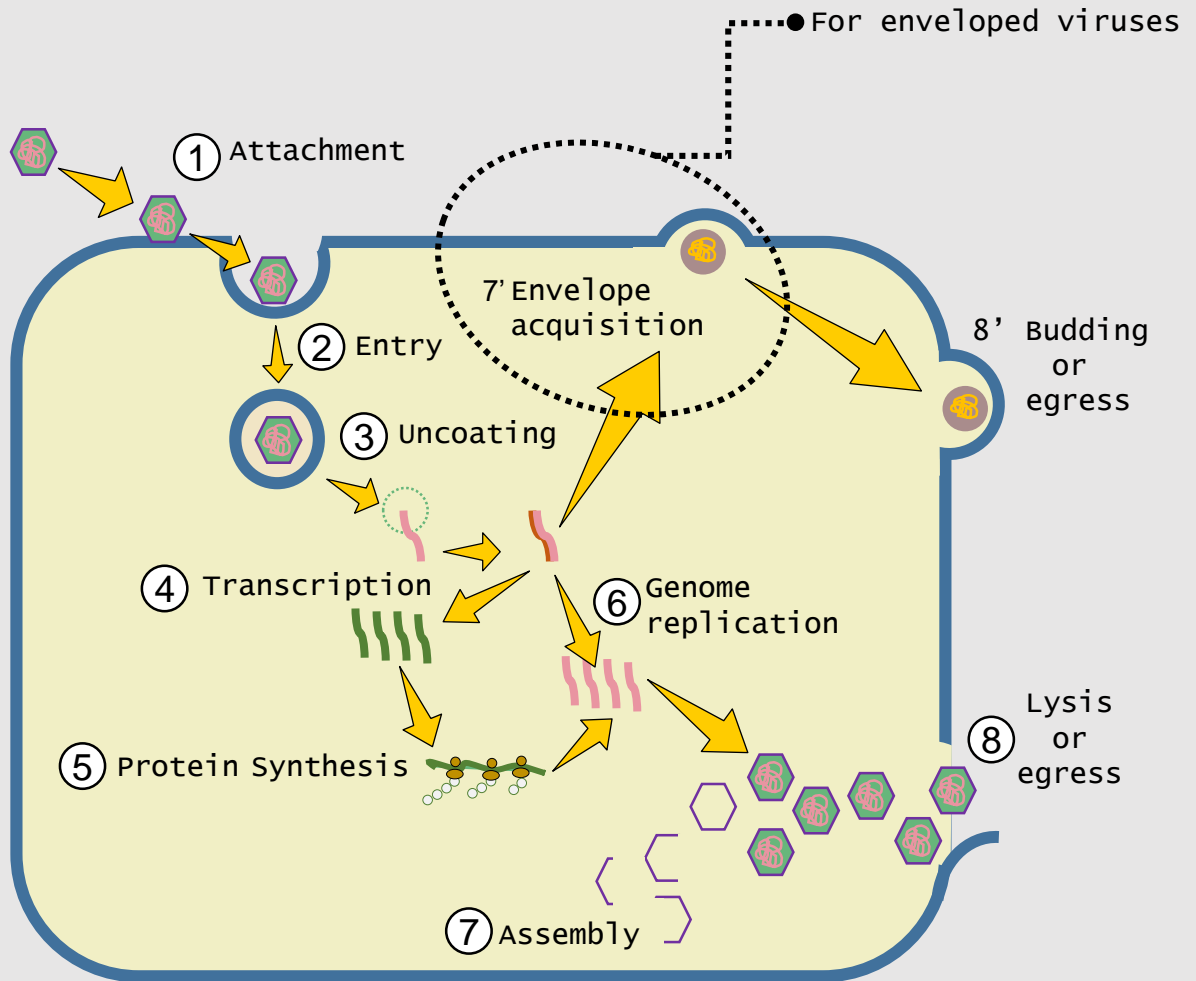
Diversity ●

Viruses are very diverse, come in many shapes, sizes, different genetic materials. Features selected throughout evolution to succeed in infecting their hosts.



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- General cycle of replication



Intracellular parasites •

Viruses are obligate intracellular parasites, so they use the machinery of infected cells to multiply. Although each virus may have its own peculiarities during its replication cycle, it usually goes through the steps described above.



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- virus-cell interaction: lysis plaques

