

5.3

CODES

0:10–1:06 To the microscopic world of the virus...this virus is designed to replicate itself and perpetually infect its host. This virus operates on the same kind of orders. Whether biological or digital, a virus runs on a code with a mission of destruction. Big History connects microbiology... to a new age of warfare.

THE VIRUS

1:06–2:15 Iran, 2007. A self-replicating computer virus called a “worm” infiltrates a nuclear facility. We created this computer warfare against an enemy — warfare in which no one travels overseas, no one fires a single bullet or drops a single bomb.

A NEW KIND
OF WARFARE

The digital worm is a code programmed to disable machines by jumping from computer to computer until it finds its target. Humans create codes that seem to have lives of their own, echoing the secret code within all of life. Big History zooms in...to the code that programs us.

The first creatures that emerged were very small microbes, and those creatures used DNA to store information.

Like binary code, DNA starts simple: just four chemicals. But they combine in millions of complex sequences that govern every cell in every living thing on Earth.

DNA, helixes, all of that is a type of code. It's little bits of information to create a larger bit of information to create a larger bit of information. It's like you take two hydrogen atoms, you take an oxygen atom, you have water. You take a bunch of water and you have a sea. You take a bunch of seas, you have oceans. Everything has a code. You can't just think that a code is something in your computer that makes it run. Code is life.

2:15–0:30

DNA IS THE
CODE OF LIFE