

Adapted from: NSTA. <https://www.nsta.org/publications/press/extras/files/virus/Virus-Activity6.pdf>

Animal 1	G	G	T	C	A	C	G	C	T	G	G	T	A	A	C	C	A	T	G	G	G	G	A	A	G	A	T	G	A	A	T	T	G	A	A	G	C	C	A	T
Animal 2	G	G	T	C	A	C	G	C	T	G	G	C	A	A	C	C	A	T	G	T	G	G	A	A	G	A	T	G	A	A	T	T	G	A	A	G	A	A	A	T
Animal 3	G	G	T	C	A	C	G	C	T	G	G	C	A	A	C	C	A	T	G	T	G	G	A	A	G	A	T	G	A	A	T	T	G	A	A	G	A	A	A	T
Animal 4	G	G	T	C	A	C	G	C	T	G	G	T	A	A	C	C	A	T	G	G	G	G	A	A	G	A	T	G	G	A	T	T	G	A	A	G	C	C	A	T

Animal 1	C	A	A	T	T	T	C	G	G	A	C	C	T	G	T	G	A	C	A	G	C	C	C	A	A	A	G	C	A	T	A	G	G	G	A	A	T	A	G	T
Animal 2	C	A	C	T	T	T	G	G	G	A	C	C	T	G	T	G	A	C	A	G	T	C	C	A	A	A	G	C	A	A	A	G	G	G	A	A	T	A	G	T
Animal 3	C	A	C	T	T	T	G	G	G	A	C	C	T	G	T	G	A	C	A	G	T	C	C	A	A	A	G	C	A	A	A	G	G	G	A	A	T	A	G	T
Animal 4	C	A	A	T	A	T	C	G	G	A	C	C	T	G	T	G	A	C	A	G	A	C	C	A	A	A	G	C	A	T	A	G	G	G	A	A	T	A	G	T

Animal 1	A	A	A	T	C	A	T	G	A	A	T	T	G	T	T	A	T	A	A	A	A	A	A	A	G	A	G	C	C	C	T	T	A	A	C	C	T	A	T	T	T
Animal 2	A	A	A	A	C	A	T	G	A	A	A	T	G	T	T	A	T	A	A	A	A	A	A	A	G	A	T	C	C	A	T	T	A	A	C	C	T	A	T	T	T
Animal 3	A	A	A	A	C	A	T	G	A	A	A	T	G	A	T	A	T	A	A	A	A	A	A	A	G	A	T	C	C	A	T	T	A	A	C	C	T	A	T	T	T
Animal 4	A	A	A	T	C	A	T	G	A	A	T	T	G	T	T	A	T	A	A	A	A	A	A	A	G	A	G	C	C	C	T	T	A	A	C	C	T	A	T	T	T

Animal 1	A	T	T	T	G	T	A	C	T	A	A	C	T	G	C	C	A	A	C	C	T	T	C	A	T	C	A	A	T	T	C	C	T	A	A	C	T	C	T	T
Animal 2	T	T	T	T	G	T	A	C	T	A	T	C	T	G	C	C	A	A	C	C	C	T	C	A	T	C	A	A	T	T	C	C	T	A	A	C	T	C	T	T
Animal 3	T	T	T	T	G	T	A	C	T	A	T	C	T	G	C	C	A	A	C	C	C	T	C	A	T	C	A	A	T	T	C	C	T	A	A	C	T	C	T	T
Animal 4	A	T	T	C	G	T	A	C	T	A	C	C	T	G	C	C	A	C	C	C	T	T	C	A	T	C	A	A	T	T	C	C	T	A	A	C	T	C	C	T

Animal 1	A	A	T	T	G	C	T	T	C	G	A	T	T	T	C	T	C	C	T	A	G	G	C	T	C	A	C	T	T	A	G	C	A	T	C	T	T	T	C	C
Animal 2	A	A	A	T	G	C	T	T	C	C	A	T	T	T	C	T	C	C	T	A	G	T	C	T	C	A	C	A	T	A	G	C	A	T	C	C	T	C	C	C
Animal 3	A	A	A	T	G	C	T	T	C	C	A	T	T	T	C	T	C	C	T	A	G	T	C	T	C	A	C	A	T	A	G	C	A	T	C	C	T	C	C	C
Animal 4	A	A	C	T	G	C	T	T	C	G	A	T	T	T	C	T	C	C	T	A	G	G	C	T	C	A	C	T	T	A	G	C	A	T	C	T	T	T	C	C

Animal 1	C	C	T	G	T	T	G	C	A	C	C	A	A	C	C	T	G	G	C	A	A	G	G	C	C	C	T	T	T	T	C	C	C	A	G	G	T	T	A	A
Animal 2	C	C	T	G	C	T	G	C	A	C	C	A	G	C	C	T	G	G	C	A	A	G	G	C	C	C	T	A	A	T	C	G	C	A	G	G	T	T	A	A
Animal 3	C	C	T	G	C	T	A	C	A	C	C	A	G	C	C	T	G	G	C	A	A	G	G	C	C	C	T	A	A	T	C	G	C	A	G	G	T	T	A	A
Animal 4	C	C	T	G	T	C	G	C	A	C	C	A	A	C	C	T	G	G	C	A	A	G	G	C	C	C	T	T	C	T	C	C	C	A	G	G	T	T	A	A

Animal 1	C	T	T	C	C	T	A	T	C	C	A	A	A	T	A	T	T	A	T	T	T	C	C	G	C	T	A	C	C	C	T	C	T	T	T	A	A	A	C
Animal 2	C	T	T	A	C	T	A	T	C	C	T	A	A	A	A	T	T	A	T	T	T	C	C	T	C	T	A	C	C	C	T	C	T	T	T	T	T	A	C
Animal 3	C	T	T	A	C	T	A	T	C	C	T	A	A	A	A	T	T	A	T	T	T	C	C	T	C	T	A	C	C	C	T	C	T	T	T	T	T	G	C
Animal 4	C	T	T	C	C	T	T	T	C	C	A	A	A	T	T	T	T	A	T	T	T	C	C	G	C	T	A	C	C	C	T	T	T	T	T	A	A	A	C

Animal 1	C	T	C	C	T	T	T	T	C	C	C	A	T	G	G	T	G	G	G	T	A	A	T	C	T	T	G	T	T	T	A	A	G	C	C	T	T	C	A	G
Animal 2	C	T	C	C	T	A	T	T	C	C	C	A	T	G	G	T	G	G	C	T	A	A	T	C	T	T	G	T	T	T	T	A	G	C	C	C	T	C	A	G
Animal 3	C	T	C	C	T	A	T	T	C	C	C	A	T	G	G	T	G	G	C	T	A	A	T	C	T	T	G	T	T	T	T	A	G	C	C	C	T	C	A	G
Animal 4	C	T	G	G	T	T	T	T	C	C	C	A	T	G	G	T	G	G	G	T	T	A	T	C	T	T	G	G	T	T	A	A	G	C	C	T	T	C	A	G

The chart represents one gene, but from four different organisms. The gene is much longer (over 1500 nucleotides!), so just the first 320 nucleotides of all four were provided. Compare the nucleotide sequences for the four genes of the four different organisms, and use that comparison to answer the following questions.

1. Based on the data, construct a cladogram of the four organisms.
2. Which two organisms are the most similar? What evidence do you have to support that claim?
3. What is the order of diversion? How do you know this?