1. What is the main point of your study?

Whole genome Astrovirus from Malagasy fruit bat sheds light on evolutionary history of this diverse group of viruses

1. Determine what the story is.

What did we want to learn? Why did we need to learn this? What did we do? What do we know now?

Part 1: detection of astroviruses in Malagasy bats

?do we see astroviruses, where, in what species, with what frequency

-astroviruses are detected in all three species of bat

-juveniles and adults, no statistical difference

-low level of detection

-no seasonal differences

-one whole genome detected in *Rousettus madagascariensis*

Part 2: evolutionary

1. What did you do?
2. Sampled bats in Madagascar
3. Processed samples with mNGS sequencing
4. Blasted results
5. Characterized full genome astrovirus
   1. Similarity plots
   2. Full genome ML tree
   3. Full genome Bayesian timetree
   4. RdRp SWIO tree
6. Why did you do what you did?
7. To identify the presence of astroviruses among Malagasy fruit bats, we sampled urine, fecal, throat longitudinally from three bat spp.
8. To detect the presence of viruses, we used Illumina mNGS sequencing.
9. To locate astroviruses, we BLASTed the output from Illumina against the NCBI virus database, and annotated all hits.
10. To characterize the evolutionary history of the bat full genome astrovirus, we built several phylogenetic trees.
    1. To characterize the evolutionary history of full-genome bat astroviruses, we built a maximum likelihood full genome tree and a Bayesian time tree.
    2. To understand the transmission dynamics between SWIO bats, we built an ML RdRp tree.
11. What were the results of what you did?
12. Outline introduction according to CARS model
13. Draft a list of findings
14. Draft a list of problem items
15. For each problem item, provide a response
16. Determine the thesis of the closing paragraph
17. Find the paragraphs
18. Blend figures with the narratives
19. Write a topic sentence for each paragraph
20. Write a concluding sentence for each paragraph
21. Write the supporting sentences.