

Name: \_\_\_\_\_

## NOVA – “Ghost in your Genes”

1. IN the 1990’s what was the biggest project taken on by biologists?  
\_\_\_\_\_
2. Scientists at first thought that humans had 100,000 genes – how many do we actually have?  
\_\_\_\_\_
3. Chimpanzees share \_\_\_\_\_ % genes with humans.
4. Angelman’s Syndrome is a deletion from Chromosome \_\_\_\_\_.
5. Prader-Willi Syndrome is a deletion from Chromosome \_\_\_\_\_.
6. How is this possible? (Angelman’s & Prader-Willi) Coming from the same chromosome, what determines the result?
7. The mice are genetically identical (Agouti Mice) – What switched the Agouti Gene off in the thin mouse?  
\_\_\_\_\_
8. \_\_\_\_\_ is the “newest” science describing switching genes off and on.
9. What allowed the obese mouse to give birth to thin, disease free mice?
10. The epigenome determines how the “book of life” is read. What does this mean?
11. Why are there more epigenetic (yellow) areas in the young set of twins Vs the older twins?

12. What is the conclusion of the experiment with the rats where some of the offspring were cared for with lots of licking and others were not cared for much at all.
  
13. The \_\_\_\_\_ actually sculpted the behavior of the young rats.
  
14. The scientists actually changed the personality of the neglected rats by giving them a chemical, which changed them into very well functioning rats. How can this finding be applied to humans?
  
15. What trial did the cancer patients try – that seemed to “silence” the cancer genes?
  
16. Bridget was diagnosed with severe autism. What structure in the brain is much smaller in Bridget’s brain than it is in Jenna’s brain? \_\_\_\_\_
  
17. Sweden: crop failures and famines / very poor nutrition: How can a famine affect generations a century later (grandchildren)?
  
18. A grandson was 4X more likely to die of diabetes – if his grandfather had \_\_\_\_\_.
  
19. A famine could affect a female child when she was \_\_\_\_\_; however a male is most affected \_\_\_\_\_.
  
20. Skinner in Washington State: Rats / pesticide – what were the results of his tests regarding diseases?
  
21. How can you alter the epigenome?