

Name \_\_\_\_\_

### **What Darwin Never Knew – PBS NOVA special 2009**

Charles Darwin was born \_\_\_\_\_ year ago.

1. What did Charles Darwin want to understand?
2. What is called the best idea anyone ever had?
3. Name the molecule shown in the beginning of this program.
4. What was Darwin's job on the ship, the Beagle?
5. List four organisms Darwin observed on the Galapagos Islands.
6. What could the islanders tell about the tortoises on the Galapagos?
7. Back in Britain, what did Darwin learn about the birds he collected? How many different species were there?
8. What did Darwin discover while studying developing embryos (snakes, whales, human)?
9. Darwin thought humans were descended from what animal?
10. What helped Darwin come up with the idea for natural selections?
11. Explain what it means to say survival of the fittest?
12. How did Darwin explain how one species of finch had turned into many? What led to the different shaped beaks?
13. Because species have v\_\_\_\_\_, nature selects which individuals survive and which don't.
14. What is the name of Darwin's book?
15. Describe the two kinds of mice in the desert.
16. What can study today that Darwin couldn't?
17. What is a gene? What do genes turn into?
18. Name one way that DNA can change.
19. Are mutations always bad? Explain.

20. What did the researchers find that explained the different color mice fur?
21. How many genes are in the human genome?
22. Research on the fruit fly showed there are “switches” in DAN. What are switches?
23. How did the late sticklyback fish lose its spikes?
24. Finch beaks are all made by the same gene, so why are there different shped beaks?
25. Define traditional fossil:
26. Why is the tiktalik fossil so important?
27. What do HOX genes do?
28. Humans and chimps share a common a\_\_\_\_\_.
29. The DNA of humans and chimps is \_\_\_\_\_% identical.
30. Why is the human hand so unique?
31. Stedman believes that a mutation in the human jaw muscle allowed for what unique feature of the uman brain?
32. When comparing the gene that controls brain development between humans and chimps, what idd the researchers discover?
33. In Pollards research, she found that most of the DNA differences between human and chimp DAN were in which type of genes?
34. The gene for the development of the brain cortex is different by \_\_\_\_\_ letters between chimps and humans.

35. Complete the table below by defining the function of each type of gene.

Protein Coding Gene	Switch Genes	Hox genes

36. If Darwin were alive today, how do you think he would react to current scientific evidence and support of his theory of evolution?