

Greatest Discoveries with Bill Nye: Genetics

#1- Laws of Inheritance

1. Mendel noticed that when he crossed a round pea and a wrinkled one, the offspring were _____.
2. Mendel's factors are called _____.

#2- Genes are Located on Chromosomes

3. *Drosophila melanogaster* is known as the common _____.
4. Human females have 2 _____ chromosomes, while human males have 1 _____ and 1 _____ chromosome.
5. Morgan was awarded the Nobel Prize for Medicine in the year _____.

#3- Genes Control Biochemical Events

6. Mold is easy to grow and has simple nutritional need: _____, _____, & _____.
7. Beadle and Tatum's breakthrough is known as: "The One _____, One _____ Hypothesis".

#4- Transposons

8. Which woman became one of the most distinguished scientists of the 20th century?
9. A break in the chromosome occurred when a _____ randomly _____ from one chromosome to another.
10. Which basketball hero has a transposon named for him?
11. When did Barbara McClintock finally win a Nobel Prize for Medicine?

#5- DNA Carries Genetic Material

12. Bacteriophage consists of a protein shell and _____.
13. Hershey was awarded the Nobel Prize in _____.

#6- The Double Helix

14. DNA was composed of 4 bases represented by the letters: _____, _____, _____, & _____
15. Watson & Crick used the X-Ray of a DNA molecule taken by _____.
16. What did Rosalyn Franklin die of?

#7- Messenger RNA

17. Scientists found that cells with lots of protein production contained lots of _____.

#8- The Genetic Code

18. How many amino acids are involved in the production of proteins?
19. Every living thing has the same _____.

#9- Restriction Enzymes

20. The breakthroughs that led to these greatest discoveries would not have happened if not for _____.
21. With restriction enzymes, scientists had a pair of molecular _____ to _____ DNA molecules.

#10- RNA Alternative Splicing

22. Some genes are able to code for more than 1 _____.

#11- Minisatellite DNA

23. Alec Jeffries called these repeated sequences _____ DNA.

#12- RNA Interference

24. In 1997, Fire and Mello were injecting RNA into the cells of a _____.

#13- 25,000 Genes

25. The human DNA genome is made up of _____ genes.