Genetic Mind Reader Card Games

Concept	Answer
1. A chromosome map of a species that shows the specific physical location of its genes and/or markers on each chromosome	**1. Physical map**
2. A chromosome map of a species that shows the position of its known genes and/or markers relative to each other	**2. Genetic map**
3. Number of DNA base pairs in the bacterium *Escherichia coli*	**3. 4.6 million**
4. Number of DNA base pairs in bakers' yeast (*Saccharomyces cerevisiae)*	**4. 12 million**

5. Number of DNA base pairs in the roundworm (*Caenorhabditis elegans)*	**5. 97 million**
6. Number of DNA base pairs in the fruit fly (*Drosophila melanogaster)*	**6. 165 million**
7. Number of DNA base pairs in the mouse (*Mus musculus)*	**7. 3 billion**
8. Number of chromosomes in a normal human cell	**8. 23 pairs of chromosomes**

9. Segments of DNA; most contain information for making a specific protein	**9. Genes**
10. The form in which genes are passed from parent to offspring	**10. A chromosome**
11. A large complex molecule made up of one or more chains of amino acids. This molecule can perform a wide variety of activities in the cell	**11. A protein**
12. The names of the bases that, as part of nucleotides, make up the ladder of DNA	**12. (A) Adenine, (G) Guanine, (C) Cytosine, and (T) Thymine**

13. A blood disorder caused by a single base pair change in one of the genes that code for hemoglobin, the blood protein that carries oxygen	**13. Sickle cell anemia**
14. Number of DNA base pairs in barley (*Hordeum vulgare)*	**14. 4.8 billion**
15. Complex diseases such as diabetes and Alzheimer's	**15. Disorders that arise from mutations in multiple genes**
16. This contains 6 feet of DNA	**16. The nucleus of the human cell**

17. These cells contain single sets of chromosomes	**17. Egg and sperm cells**
18. Knowing the DNA sequence of a gene	**18. Reveals the amino acid sequence of the protein that the gene encodes**
19. Using healthy genes to treat genetic diseases	**19. Gene therapy**
20. Knowing an individual's DNA sequence	**20. Can predict the risk of developing a condition like heart disease, diabetes, or prostate cancer later in life**

21. A person who predicts the likelihood that a couple's hidden mutations will be passed on to future generations	**21. Genetic counselor**
22. A person who uses altered genes to increase the nutritional value of various foods and dairy products	**22. A genetic engineer**
23. Huntington's disease, cystic fibrosis, and sickle cell anemia	**23. Just a few of the 5,000 hereditary diseases that have been identified**
24. Can make a protein malfunction, which may cause disease	**24. Mutations of DNA**

25. The number of genes in human DNA	**25. 25,000**
26. The number of base pairs in human DNA	**26. About 3 billion**
27. One-letter variations in human DNA sequence that contribute to differences among individuals	**27. Single-nucleotide polymorphisms or SNP's**
28. Tailoring a drug to an individual patient, whose response to that drug can be predicted by genetic fingerprinting	**28. One possible future of Pharmacogenomics**

29. Technologies that allow the detection of thousands of genes as they are turned on or off in different types of cells and in response to different stimuli	**29. Microarrays and DNA chips**
30. An organism's entire set of DNA	**30. Genome**