

## MERICA

with Henry Louis Gates Jr.

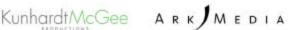


## JOURNEY INTO DNA **Answer Key**

## Function Structure Red blood cells have no nucleus or Different cells have different functions. Muscle cells contract, neurons (brain nuclear DNA cells) send and receive electronic DNA has 4 bases, A, C, G, T impulses, intestinal cells filter The cells change to different forms nutrients out of food during embryonic development Differentiation or specialization of cells The nucleus is s sphere-like structure DNA can turn sections of information surrounded by a membrane and the on and off genome is contained inside Nucleus is the control center of the cell, The genome contains 2 sets of 23 it regulates cell growth, metabolism, chromosomes and reproduction Estimated 70,000 functional genes 97% of DNA consists of non-coding or The chromosome is most visible during non-functional sequences mitosis Genes determine eye color, height, etc. Dark bands indicate areas where the they also determine how your cells structure is dense. Each chromosome grow and interact with each other has a unique banding patters, pairs Histones have a positive charge, and have identical banding DNA has a negative charge, allowing Genes can range in length from 100 them to stick together bases to several million bases. There are 6 feet of DNA in the nucleus. DNA bends and loops around chromatin coils and resembles a spring. Chromatin=proteins that help organize the DNA molecule DNA is wrapped around protein











structures called histones.
Nucleosome=segment of DNA wrapped
around histones
Double helix structure
Rungs of the double helix formed by 4
bases – Adenine, Cytosine, Guanine,
Thymine. A <b>always</b> pairs with T, C
<b>always</b> pairs with C.
the sides of the double helix consist of
sugar and phosphate molecules.
Nucleotide=sugar + phosphate + base
• 30+ atoms in 1 nucleotide