

Category 1: Protists

- 20: All protists belong to what domain of life? Eukaryotes
- 40: What do you call a protist that feeds by making its own food? Autotroph
- 60: What major group of protists do diatoms belong to? Algae
- 80: Give an example of a multicellular algae. Seaweed (red, green, or brown algae)
- 100: What is the leading hypothesis for the origin of mitochondria and chloroplasts?
Endosymbiosis, heterotrophic prokaryote swallowing another prokaryote

Category 2: Prokaryotes

- 20: How do prokaryotes reproduce? Asexually, through binary fission
- 40: When did the first prokaryotes appear on Earth? 4 billion years ago
- 60: Why do we put meat in the refrigerator? To slow down reproduction of bacteria
- 80: Give three examples of how bacteria are beneficial: Symbiosis in our gut, bioremediation, nutrient cycling
- 100: What is the name for the direct movement of genes from one prokaryote to another to produce more genetic variation? Horizontal gene transfer.

Category 3: Microbiology

- 20: Where in the cell are most of your chromosomes found? Nucleus
- 40: What are the positively charged particles in an atom's nucleus called? Protons
- 60: What are the products of photosynthesis? Oxygen and glucose
- 80: What kind of organic molecule is glucose? Carb
- 100: What gets oxidized in cell respiration? Glucose

Category 4: Evolution/Genetics

- 20: What is the unifying principle for all of biology? Evolution

40: What is the end product of transcription and translation? Polypeptide or protein

60: Where does meiosis take place? Ovaries and testes

80: If a homozygous dominant male mates with a homozygous recessive female, what percentage of the offspring will be heterozygotes? 100%

100: What is the definition of microevolution? Change in allele frequencies from one generation to the next.

Category 5: Plants

20: What are the 4 major groups of plants? Bryophytes, ferns, gymnosperms, angiosperms

40: What was the first group of plants to evolve vascular tissue? Ferns

60: What is the leading hypothesis for why angiosperms are so diverse? Coevolution with pollinators

80: What is the dominant generation in bryophytes, and is it haploid or diploid? Gametophyte, haploid

100: What is the collective name for the female part of a flower? Carpel

Category 6: Animals

20: What phylum do insects belong to? Arthropods

40: What was the first phylum to evolve body tissues? Cnidarians

60: When did the Cambrian explosion take place? 535-525 mya

80: What is the name of the photosynthetic algae that live within corals that give them their bright colors? Zooxanthellae

100: What is the name of the hollow ball of cells that forms early in embryonic development in all animals through mitosis? Blastula.

Category 7: Chordates

20: What group of chordates do birds belong to? Reptiles

40: What are the 4 features that all chordates have in common? Notochord, dorsal hollow nerve chord, tail, pharyngeal slits.

60: Give an example of convergent evolution: bats and birds, sponges and tunicates, sharks and dolphins, leeches and lampreys

80: What are the 2 key innovations that distinguish bony fish from cartilaginous fish? Operculum, swim bladder.

100: About how many species of lamprey have been documented? 50

Category 8: Humans

20: What is the scientific name for modern humans? *Homo sapiens*

40: Who were the first hominids to leave Africa? *Homo erectus*

60: Who were the first hominids to walk upright? Lucy, or *Australopithecus afarensis*

80: How long ago did the hominid lineage split from chimps? 7 million years

100: What is the name of the condition that some scientists believe explains the tiny skull and brains of the *Homo floresiensis* skulls discovered in Indonesia? Microcephaly

Final Jeopardy: Put these events in order from oldest to most recent: Evolution of a backbone, endosymbiotic origin of eukaryotes, oxygenation of atmosphere through activity of photosynthetic prokaryotes, evolution of a skull, and evolution of body tissues.

Oldest: Oxygenation of atmosphere (2.7 bya), origin of eukaryotes (2.1 bya), evolution of body tissues (early animals, 575 mya), evolution of skull (hagfish), evolution of backbone (lamprey).