

Science 9 Exam Review Topics Covered

Cells and Reproduction Unit

Section 5.1 The Microscope and Cell Theory pg 140-141

- Cell Discoveries
 - o Important people (Hooke, Leuwenhoek, Brown)
 - o Cell Theory
- Microscopes
 - o Compound Light vs SEM vs TEM
 - o Label Diagram of Microscope
 - o Match parts of microscope to function

Section 5.2 Cells the Basic Unit of Life pg 142-143

- Plant Cells vs Animal cells
- Structure and Function of the Plant and Animal Cell
 - o Be able to label all structures
 - o Be able to give the functions of each structure
- Movement of the cell
 - o Flagella vs Cilia

Section 5.4 The Importance of Cell Division pg 148- 149

Section 5.5 Cell Division pg 150-153

- What is the cell cycle
- Be able to explain the process of Mitosis including all the phases
- Be able to recognize the diagrams to represent each stage of mitosis

Section 5.8 Reproduction and Cell Division pg 159 -161

- The difference between asexual and sexual reproduction
- The types of asexual reproduction (binary fission, fragmentation etc) know and be able to explain

Section 6.1 DNA: The genetic Material pg 176- 278

- Chromosomes, DNA
 - o Where are they found and What is their function
- Be able to explain and identify a diagram of DNA Replication
- Be able to explain what DNA fingerprinting is

Section 6.2 DNA, Mutations and Cancer pg 180-181

- Mutations: What causes them?
- Cancer
 - What is it?
 - What causes it?
 - How are these cells different than regular cells?
 - How can it be prevented?

Section 6.5 Regeneration pg 186-187

- What is regeneration and how is it different from fragmentation?
- What are humans able and not able to regenerate?
- What organisms are good at regeneration?
- What are stem cells? Where are they found? How are they different than specialized cells?

Section 6.6 Transplants pg 188-189

- Explain the process
- What organs can/cannot be used
- What is the controversy surrounding using pig's organs in humans

Section 6.9 Cloning pg 194-195

- What is it?
- How can it be done in plants? In animals
- Why is dolly unique?
- Be able to explain briefly how cloning occurs in plants and animals
- Are you for or against cloning (be able to support your choice)

Space Unit

13.1 What can we see in the sky? (pages 400-402)

- Constellations
- Planets vs Stars

13.3 Effects of Planetary Motion (pages 404-405)

- Rotation vs Revolution
- Day vs Night
- Time Zones
- Reasons for the Seasons

13.14 A closer look at the planets (pages 424 – 427)

- Know important facts about each planet
- Inner Planets vs Outer Planets
- Be able to put planets in the solar system in order

13.15 Other objects in the solar system (pages 430 – 433)

- Natural Satellites (Moons)
- Asteroids
- Meteors vs Meteoroids vs Meteorites
- Comets

13.12 Probes to The Planets (pages 422)

- Why they are sent?
- Why are they unmanned?
- Examples of those sent

14.11 Galaxies and Star Clusters (pages 461-462)

- What is a galaxy?
- What galaxy do we live in?
- Andromeda Galaxy (our closest neighbor)

14. 7 The Sun an important Star (pages 452-453)

- Facts about the sun
- Why is the sun important?