

Questions (think of questions that might be on the exam)

**III. Discovering Cells**

**A. An Overview of Cells**

- All living things are \_\_\_\_\_
- Cells are the basic units of \_\_\_\_\_ and \_\_\_\_\_ in living things
  1. Cells and Structure
    - a. **Structure** = what things are \_\_\_\_\_ and how its parts are \_\_\_\_\_
    - b. Cells form the \_\_\_\_\_ of an organism
  2. Cells and Function
    - a. **Function** = process that enables an organism to \_\_\_\_\_
    - b. \_\_\_\_\_ are involved
  3. Many and small
    - a. 1 square centimeter of skin contains more than \_\_\_\_\_
    - b. Cells are \_\_\_\_\_ to see with the \_\_\_\_\_

**B. First \_\_\_\_\_ of Cells**

- Invention of the \_\_\_\_\_ made it possible for people to discover and learn about cells- 1590
- \_\_\_\_\_ = an instrument that makes small objects look larger
  1. Robert Hooke
    - a. English scientist/inventor
    - b. Built own compound \_\_\_\_\_
    - c. In 1663, looked at a \_\_\_\_\_ tree bark
      - Named the empty rectangular spaces in the cork- “ \_\_\_\_\_ ”
  2. Anton van Leeuwenhoek
    - a. Dutch businessman
    - b. Built own simple \_\_\_\_\_ - 1674
    - c. Looked at lake water, \_\_\_\_\_ and rain water
      - Saw many one-celled \_\_\_\_\_
      - Called them “ \_\_\_\_\_ ”-little animals

Q. What are some functions that cells perform in living things?

Q. What type of microscope did Leeuwenhoek make and use?

### C. Development of the Cell Theory

#### 1. What the Cell Theory Says

- a. All living things are composed of \_\_\_\_\_
- b. Cells are the basic units of \_\_\_\_\_ and \_\_\_\_\_ in living things
- c. All cells are produced from \_\_\_\_\_

### D. Light and Electron Microscopes

#### 1. Magnification and Lenses

- a. Magnification = ability to make things look \_\_\_\_\_
- b. Lenses in a \_\_\_\_\_ microscope bends the light to \_\_\_\_\_ objects
  - \_\_\_\_\_ lens- center is \_\_\_\_\_ than the edge

#### 2. Compound Microscope Magnification

- a. Light passes through the object and then through \_\_\_\_\_

#### 3. Resolution

- a. Ability to \_\_\_\_\_ see the individual parts of an object

#### 4. Electron Microscopes

- a. Use a beam of \_\_\_\_\_ instead of \_\_\_\_\_ to produce a magnified image
- b. For object \_\_\_\_\_ to be seen with \_\_\_\_\_ microscope

Q. What do electron microscopes use to produce magnified objects?

Summary (about 5 sentences):