Understanding Optical Magnification

Before we begin our practical work, let's establish our understanding of key concepts. Complete the following questions:

1. Define optical magnification in your own words:

2. List three significant contributions of Anton van Leeuwenhoek to microscopy:

3. Explain how light behaves when it passes through a convex lens:

Key Concept: Optical magnification involves the use of lenses to create an enlarged image of an object by manipulating light paths.

Quick Knowledge Check

Match the following terms with their correct definitions:

Term	Your Answer	Definition
Focal Length		The distance between the center of a lens and the point where light rays converge
Resolution		The ability to distinguish between two closely spaced objects
Magnification		The ratio of image size to object size

Basic Optical Principles

Draw and label ray diagrams for the following scenarios:

1. Convex Lens Ray Diagram

Draw a ray diagram showing how a convex lens forms an image

2. Concave Lens Ray Diagram

Draw a ray diagram showing how a concave lens affects light rays

Calculations Practice

Solve the following magnification problems:

1. If an object is 0.5mm and appears to be 2mm under a microscope, what is the magnification?

2. A microscope has an eyepiece lens of 10X and an objective lens of 40X. What is the total magnification?

Microscope Components Identification

Label the Microscope Diagram

Space for microscope diagram - Label all components

Component	Function	Care Instructions
Objective Lens		
Eyepiece		
Stage		
Condenser		