**Chapter 1**

**1.1**

Observing Living Things

P. 11-21 BC Science 8

**Vocabulary & Concepts**

unicellular multicellular compound microscope magnification power resolving power

Examining Very Small Living Things

**Brainstorm:** Why are we interested in seeing very small things? What do we need to see very small things?

The is used by scientists to observe small unicellular and multicellular things.

 There are many different types:

o Magnifying glass

o Compound light microscope

o Transmission electron microscope (TEM)

o Scanning electron microscope (SEM)

 Early microscopes were built in the late 1600s and early 1700s

 was one of the first people to build a microscope

o Could magnify up to and used it to observe microscopic living things

The compound light microscope has sets of lenses that magnify an image. The image you observe is ,

 , and .

Each objective lens has a different **magnification power:**

Total magnification power =

|  |  |  |  |
| --- | --- | --- | --- |
| Power | Objective LensMagnification | Eyepiece LensMagnification | Total Magnification Power |
| Low |  |  |  |
| Medium |  |  |  |
| High |  |  |  |

Most people can see only dots separated by 0.1 mm or more in the diagram below. This means that most people can see the individual dots in diagrams A, B and C, but do not have the resolving power to see the dots in diagram D.

**Resolving power**:

 The microscope extends human vision by enabling us to view objects that are

 and together.

 The compound light microscope has a resolving power of .

A micron or micrometre is .