|  |  |
| --- | --- |
| **Chapter 1****1.1** | Observing Living ThingsP. 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:
	+ Magnifying glass
	+ Compound light microscope
	+ Transmission electron microscope (TEM)
	+ 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
	+ Could magnify up to \_\_\_\_\_\_\_\_\_\_\_ and used it to observe microscopic living things



|  |
| --- |
| The Modern Compound Light Microscope |



|  |
| --- |
| How the Compound Microscope Works |



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 Lens Magnification | Eyepiece Lens Magnification | 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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.