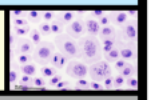
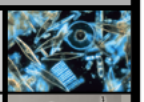
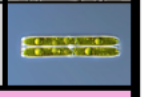
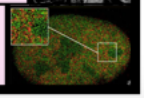
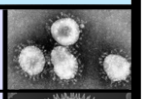
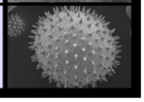
CONCEPT: REVIEWING THE DIFFERENT TYPES OF MICROSCOPES

- Now let's review the different types of light & electron microscopes.

Light Microscopes

Type of Microscope	Description	
_____- Field Microscope	Observe stained or unstained specimens on a bright background.	
Light Microscopes that Increase Contrast		
_____- Field Microscope	Observe bright specimens against a dark background.	
Phase - _____ Microscope	Cells & their dense structures appear darker than the gray background.	
Differential Interference Contrast (_____) Microscope	Very detailed, highly contrasting, 3D-images of live specimens.	
Light Microscopes that Detect Fluorescence		
Confocal Scanning _____ (_____) Microscope	High-contrast, 3D-image showing several planes of focus in the specimen.	
Two - _____ Microscope	High-contrast, 3D-images of deep structures. Time-lapse images.	
_____ Resolution Microscope	Light microscope with extremely high resolution (~0.01 µm).	

Electron Microscopes

Type of Microscope	Description	
_____ Electron Microscope (TEM)	2D-image from a beam of electrons passing through a specimen.	
_____ Electron Microscope (SEM)	3D-image from beam of electrons *scattering off* a specimen's surface.	

CONCEPT: REVIEWING THE DIFFERENT TYPES OF MICROSCOPES

PRACTICE: Match the microscope with its function.

Types of Microscopes:

A. Confocal Scanning Laser (CSL) Microscope.
B. Bright-Field Microscope.
C. Phase-Contrast Microscope.
D. Transmission Electron Microscope (TEM).
E. Dark-Field Microscope.
F. Two-Photon Microscope.
G. Super Resolution Microscope.
H. Scanning Electron Microscope (SEM).
I. Differential Interference Contrast (DIC) Microscope.

1. _____ Creates high contrast, 3D images of deep structures and time lapse images.
2. _____ Creates 2D images from a beam of electrons passing through a specimen.
3. _____ Creates images where the specimen's dense structures appear darker than the gray background.
4. _____ Allows the scientist to view stained or unstained specimens on a bright background.
5. _____ A light microscope with extremely high resolution.
6. _____ Creates 3D images from a beam of electrons scattering off a specimen's surface.
7. _____ Creates very detailed, high contrast, 3D images of live specimens.
8. _____ Allows the scientist to view specimens against a dark background.
9. _____ Creates high contrast, 3D images that show several planes of focus in the specimen.