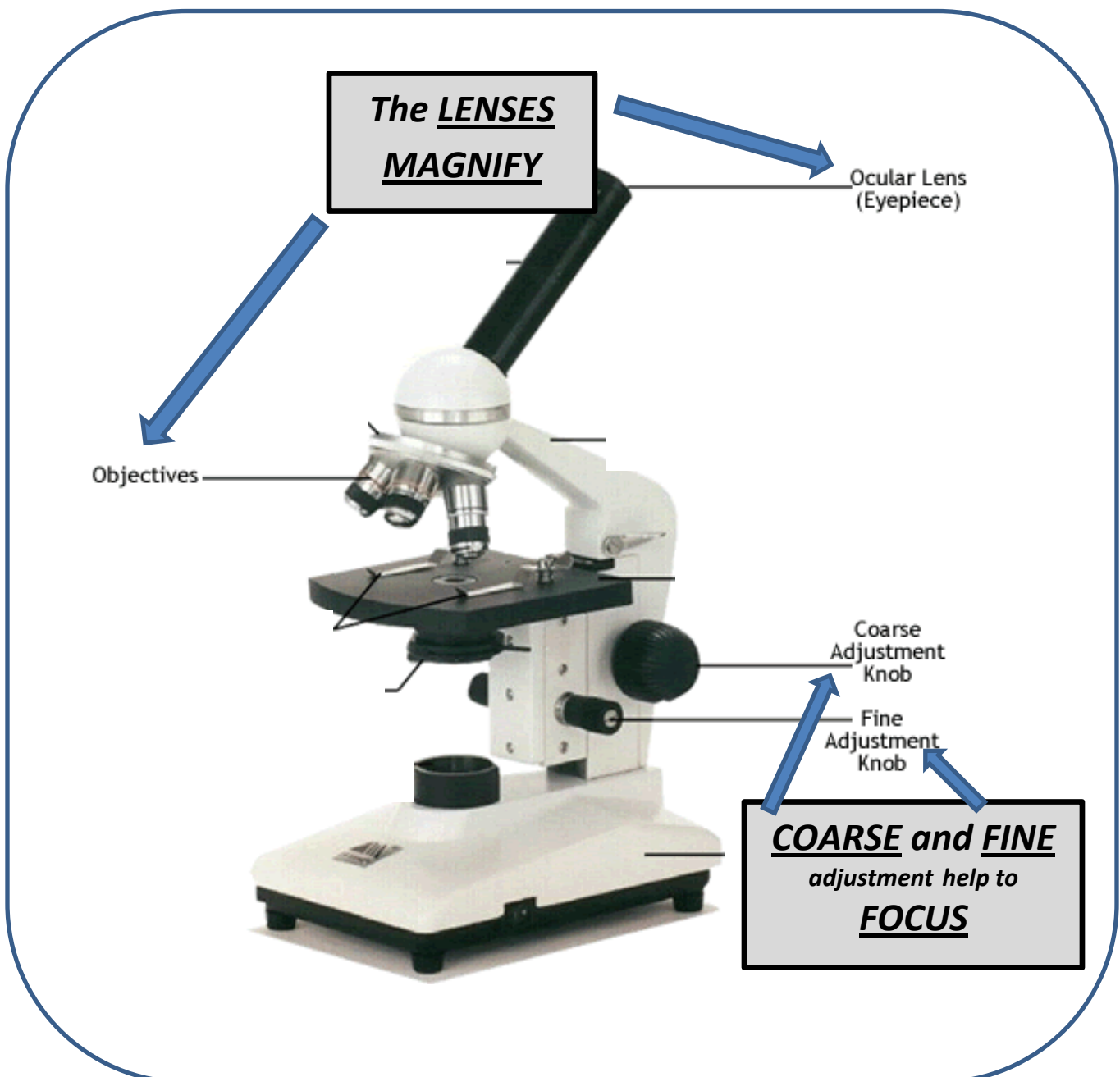


## REVIEW: Tools of the Biologist and Microscope Techniques

### Compound Light Microscope

- ✓ TWO Lenses (Ocular and Objective)
- ✓ Image is REVERSED
- ✓ 1,000x magnification



## When focusing.....

➔ START in LOW POWER and use COARSE adjustment.

➔ Switch to HIGH POWER and use FINE adjustment.

### In LOW POWER

✓ FIELD of VIEW is LARGER

✓ ITEMS appear SMALLER

### In HIGH POWER

✓ FIELD of VIEW is SMALLER

✓ ITEMS appear LARGER

---

SALT is added to a CELL

CYTOPLASM diffuses out of cell

REMEMBER:

**Where there is SALT.....WATER will FOLLOW!**

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## Electron Microscopes

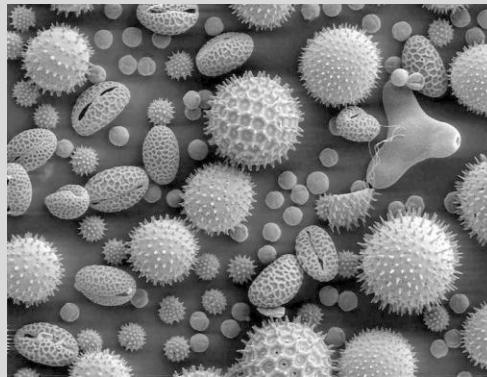
### Transmission Electron Microscope (1930's)

- Beam of electrons shines THROUGH something
- ITEM appears FLAT



### Scanning Electron Microscope (1950's)

- Beam of electrons shines ACROSS SURFACE of something
- 3-D Image

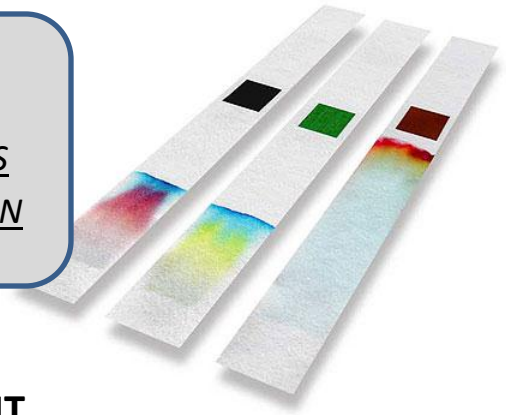


### Ultracentrifuge

- SEPARATES items based on DENSITY
- MORE DENSE = SINK to BOTTOM

## Paper Chromatography

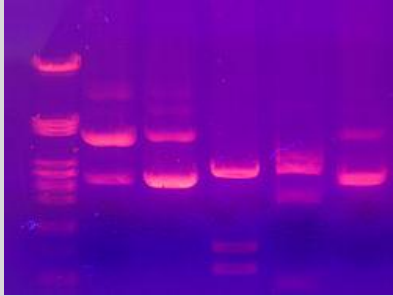
- SEPARATES PIGMENTS
- used to FIND RELATION



**RULE: PIGMENTS must be ABOVE the SOLVENT**

## Gel Electrophoresis

- ELECTRICITY separates DNA
- Used to FIND RELATION



## Indicators

- DETECT specific SUBSTANCES
- Change COLOR or FIZZ

