GRID STAINING: URANYL ACETATE & LEAD CITRATE

Materials Needed:

- Uranyl acetate (1 % in D-H20) and Lead citrate (see your instructor for recipe). These stains are kept in a refrigerator when not in use. (Use care with stains – they are toxic!)
- 2 Petri dishes w/ covers: one with wax (UA), one w/o wax (LC)
- Blue rubber well mold or plastic well container (for LC)
- 3 plastic beakers
- D-H20
- Plastic transfer pipettes
- NaOH pellets (do NOT leave these open – they are deliquescent)
- Boiled D-H20 (to remove CO2)
- Squirt bottle containing D-H20
- Jeweler’s forceps (put back in their holder when finished)
- Ripped pieces of filter paper
- Paper towels
- Liquid waste container

PROTOCOL:

1. Place your grids section side down on the drop of uranyl acetate solution for ~ 5 min but no more than 30 min!

2. Wash each grid 3X in D-H2O. Dip in each beaker multiple times.

3. GENTLY dry the grids by swiping a piece of the filter paper along the edge of the forceps as you grip the grid. DO NOT TOUCH THE SURFACE of the GRID WITH THE FILTER PAPER!

4. Place grid section side down in the Lead Citrate solution for ~45 sec but <2 min. Do not leave in LC too long!

5. Wash grids 1X with CO2 free H2O, followed by a thorough rinse with a fine stream of water using the squirt bottle with D-H2O. Dry with filter paper as above. Place in grid holder.

6. Clean up. Rinse the stains in appropriate waste container and rinse NaOH pellets down sink. Put pipettes in waste container. Wrap uranyl acetate & lead citrate solutions with Parafilm and return to the refrigerator.

Notes: If your stains look cloudy, do not use them but obtain new ones. In the summer, always do your staining in a dry, air conditioned room.