

# POLARIZATION ACTIVITY

- **Groups of 2, submit one group report answering following items.**

- **Materials:** one pair Polaroid glasses and one Polaroid film piece per person; one clear plastic spoon and one plastic CD case per group; digital watch or calculator

1. Through a Polaroid filter, view several reflective/glaring surfaces (table, glass, wall posters, TV, etc). Rotate the filter and note what you observe. At what angle relative to the surface is the effect most pronounced?
2. Through a Polaroid filter, view a clear plastic object (CD case, spoon) at various angles while rotating the filter. Note what you observe. (Placing a second Polaroid filter behind the plastic will produce a more-pronounced effect).
3. Through a Polaroid filter, view the LCD (liquid crystal display) of a digital watch or calculator. Rotate the filter and note what you observe. What do LCD's and reflected light have in common?
4. Look through two Polaroid filters and rotate one relative to the other. Note what you observe. Through what angle must you rotate one filter relative to the other to see the maximum change?
5. With your Polaroid glasses on, look at another person also with Polaroid glasses on, tilt your head and/or blink eyes and note what you observe.
6. View cars parked in the parking lot through a Polaroid filter. Note what you observe about reflective surfaces as you rotate the filter. Look at the sky at an angle away from the sun and note what you observe as you rotate the filter (most obvious for clear sky). At what angle relative to the sun is the effect most pronounced?

**Conclusion (on back):** Each person comment on this activity. Did you learn anything new? What common observations can you make about what a Polaroid filter does to certain light sources? How does rotating the filter change what you see? Why? How are Polaroid filters useful?