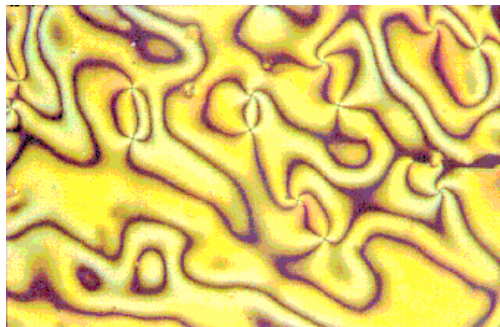


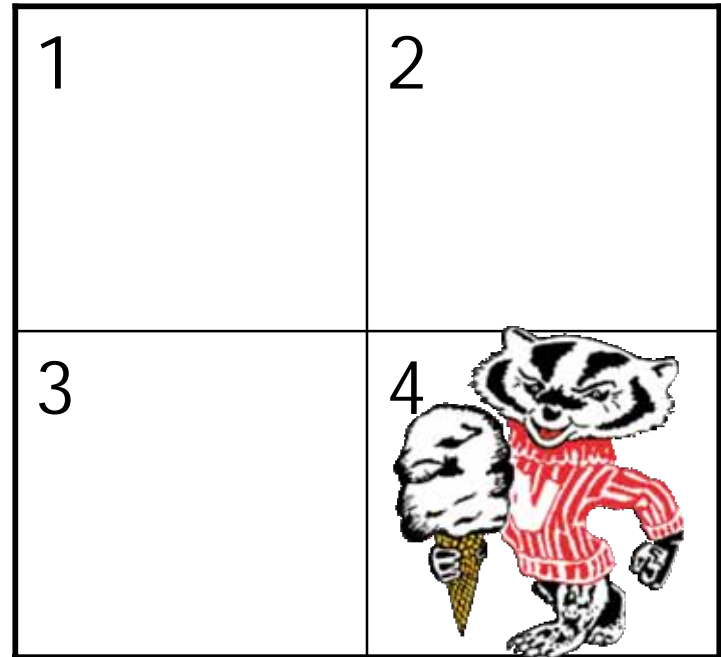
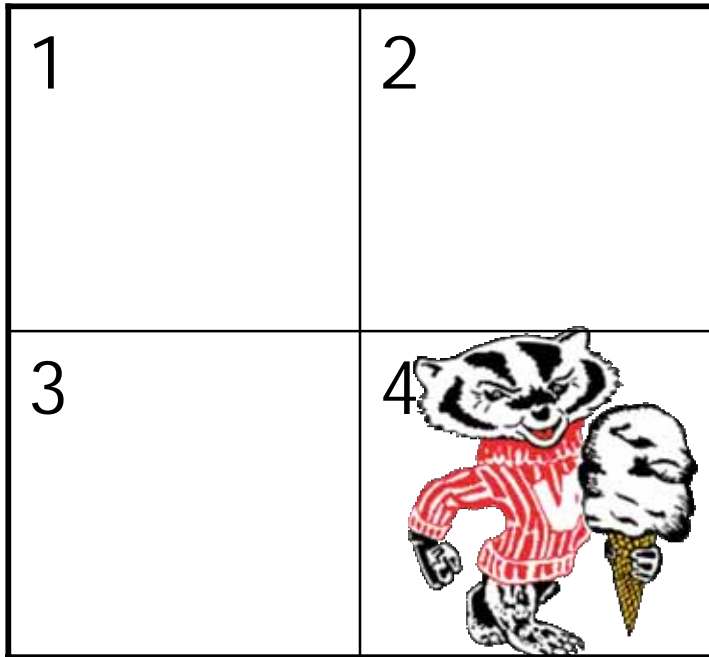
Introduction to Liquid Crystals



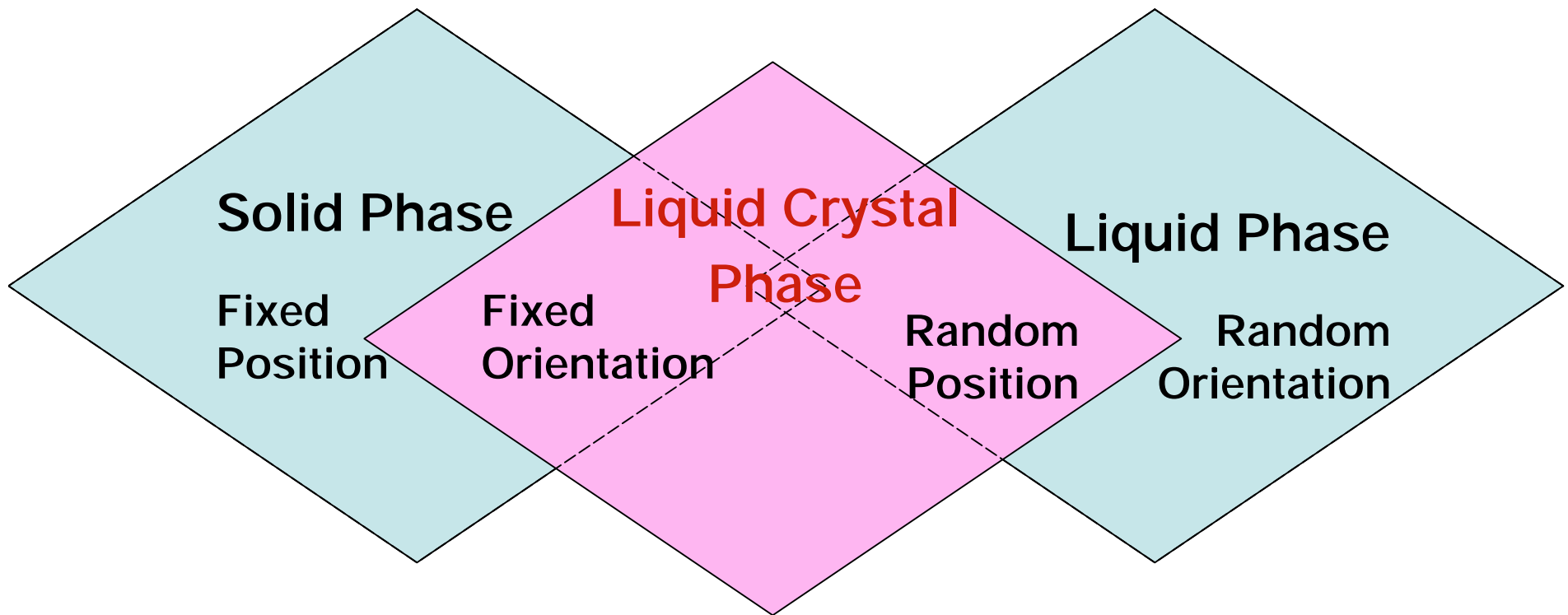
- What do you think is a “liquid crystal?”
 - What is a liquid?
 - What is a crystal?
 - Put them together...



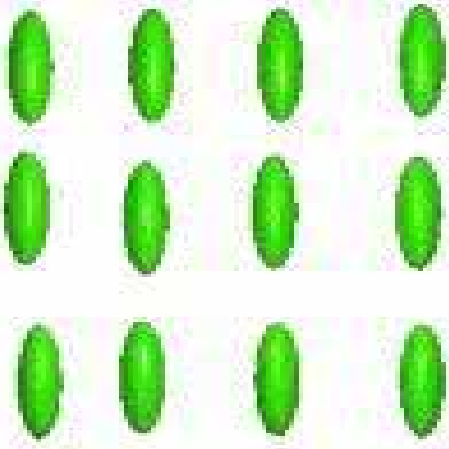
Where is Bucky Badger?



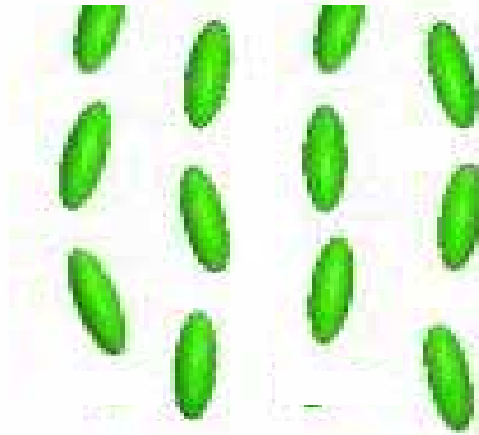
A Liquid Crystal is between a Solid and a Liquid



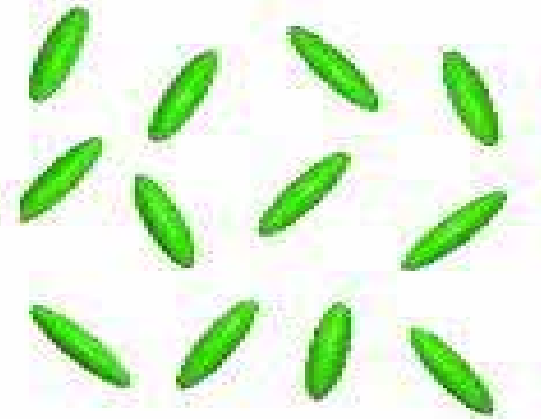
Motion of Molecules in Different Phases



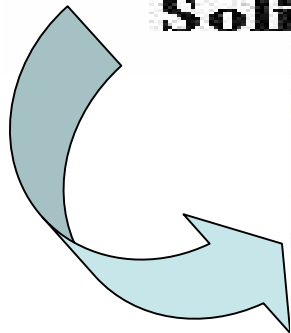
Solid



Liquid Crystal



Liquid



ORDER



DISORDER



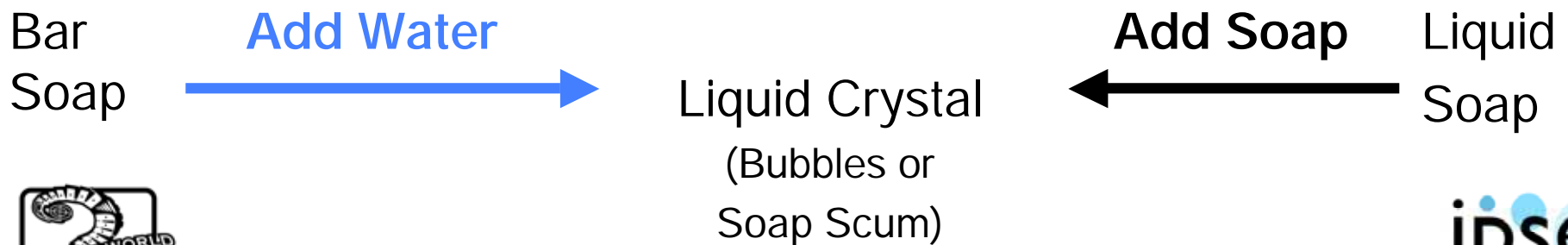
How are liquid crystals formed?

Liquid crystals come about in two ways:

1. Changing the temperature

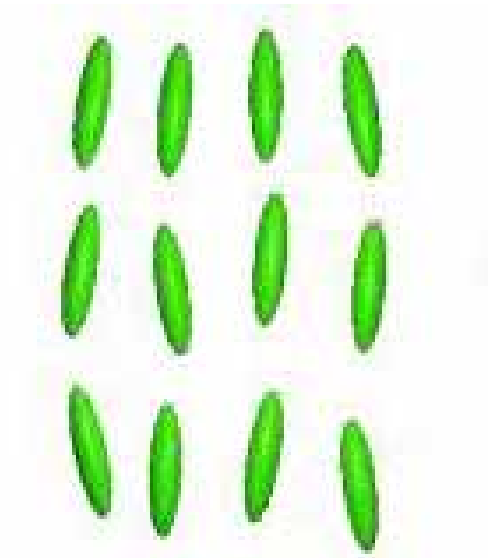


2. Changing the concentration or amount

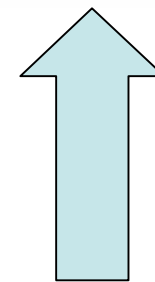


So why are liquid crystals important?

- Liquid crystals reflect different colors of light depending on their direction
- Direction can be changed by changing
 - the temperature
 - the concentration of the liquid crystal material

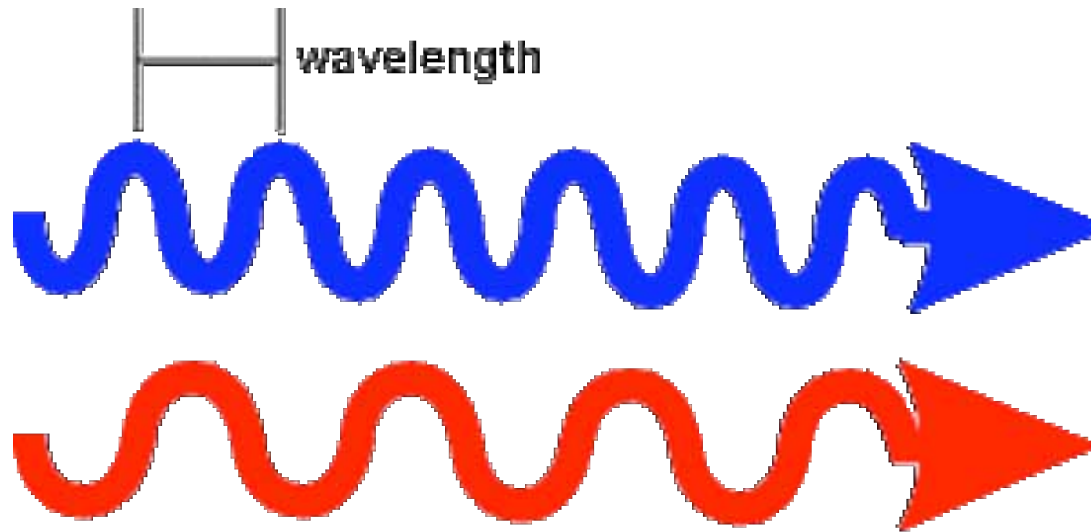


Liquid Crystal



What Is Light?

- Light is a wave



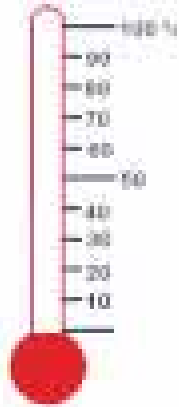
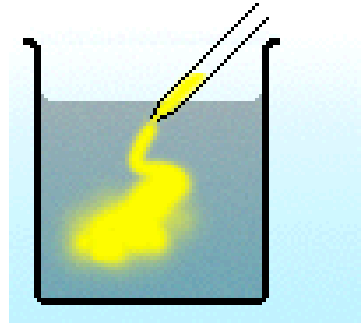
Different colors of light have different wavelengths.

- White light = Mixture of all the colors of light
- Different than a mixture of paints and/or other media

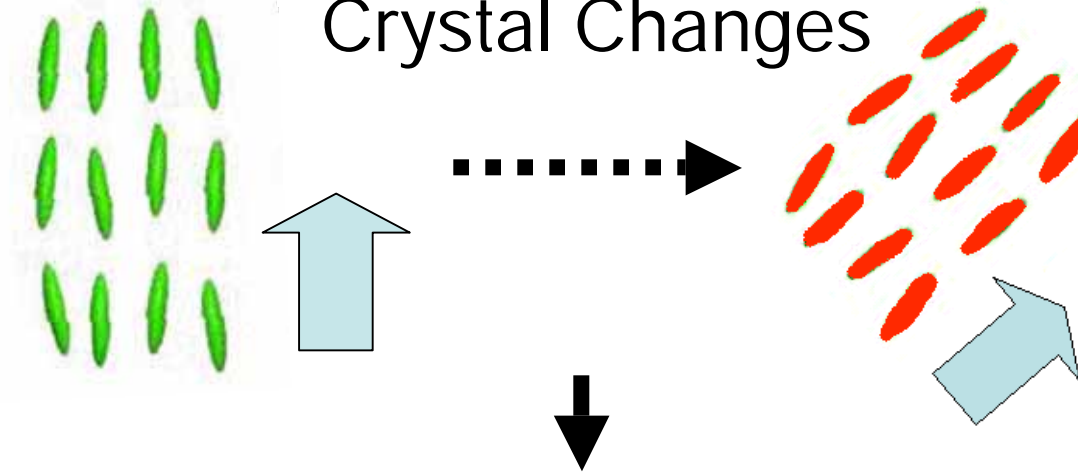


Summary

Temperature Change or
Concentration Change



Direction of Liquid
Crystal Changes



Color (Wavelength) of
Liquid Crystal Changes

