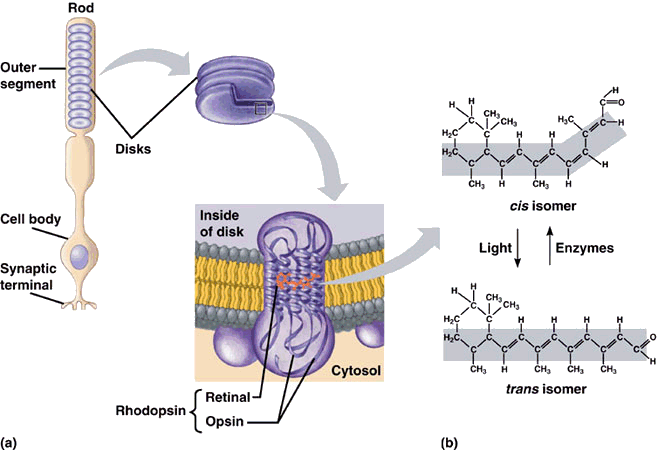
MODELING ISOMERS  
Build the following models, draw them in your BILL. Then answer the ?’s  
  
 1. How are isomers different from isotopes?

GEOMETRIC ISOMERS  
Make a model of a MOLECULE WITH 1 double bond between 2 CARBONS  
Make a model of a GEOMETRIC isomer for this molecule.  
DRAW a picture of your isomers in your BILL. LABEL *cis* and *trans* forms  
 2. What does *cis* and *trans* mean?  
  
  
 3. STRUCTURE-FUNCTION:   
 How does the presence of a cis-double bond affect   
 the SHAPE of the retinal molecule AND its FUNCTION?

MIRROR-IMAGE ISOMERS (ENANTIOMERS)  
Make a model of a 1 carbon molecule that has an ASYMMETRIC CARBON.  
Make a model of an ENANTIOMER isomer for this molecule.  
DRAW a picture of your isomers in your BILL.   
 4. What is an asymmetric carbon?  
 5. Give an example of enantiomers that have different biological properties.