WEEK 1: Problem Set

1. What makes a good model organism? Describe the advantages and disadvantages of using the following model organisms:
    a. Bacteria such as *E. coli*:

    b. Yeast such as *S. cerevisiae*:

    c. Nematodes such as C. elegans:

    d. Zebrafish:

    e. Mice:


2. Describe the advantages and disadvantages of the various visualization techniques used in biology as discussed in lecture, including:
    a. Bright field microscopy
    b. Electron microscopy
    c. Confocal microscopy
    d. Fluorescence microscopy combined with genetic approaches
    e. X-ray crystallography