DEV Day 1 Interpretation Questions

1. Interpret your data by answering the following questions:

    a. What volume was saved from each sample for the first and second phenol/chloroform extractions? Did you succeed in saving "equal volumes" from each stage?

    b. You started with 16 embryos for each stage. What is the final concentration of your RNA in terms of embryo equivalents of RNA/microliter?

2. DNA and RNA have similar structures, and are isolated using similar methods in both the RDM and DEV modules.

    a. Name two differences between DNA and RNA that make RNA more unstable/easily degradable.

    b. During the miniprep protocol in RDM, we isolated nucleic acids (both RNA and DNA) from the bacteria. What step did we take to get rid of the RNA during the procedure, and how did that work?

    c. During the RNA extraction procedure on DEV Day 1, we also wanted to separate RNA and DNA. Explain how the steps of the extraction help us to separate the DNA from the RNA.

3. During PBC, we did a Western to detect our Bgal in different "fractions" from our purification. In the DEV module we will perform a Northern blot to look at a specific RNA of interest.

    a. What type of RNA will we **see** most distinctly on our agarose gel prior to transfer, and why?

    b. What are the different "fractions" we'll be testing in our Northern?

    c. What is the gene we will be probing for (our "RNA of interest")?

    d. If we did a Western blot on the same fractions (from which we had purified protein instead of RNA), would we necessarily detect our protein of interest in the same fractions as we saw our RNA of interest? Why or why not?