Instructors: Hand out this page near the end of the second PBL session.

Students: The purpose of this summary sheet is to help you to organize your PBL report. You are required to use the following numbered, bolded headings in your report!! Beneath the headings are listed questions that you should make sure to address in each section. You can provide more information than this, but make sure to at least answer these questions. Remember, the maximum page length is 4 pages. Please use 12 point, Times font.

Make sure to address the following issues:

1. Background Information
   What is osteoporosis, what causes it, and how is it treated?
   How is osteoporosis diagnosed? Briefly define terms and tests. Interpret possible results.
   How does osteoporosis affect the spine?
   What are the most common long-term consequences of osteoporosis with respect to the spine? Be specific.
   How does osteoporosis affect trabecular bone, cortical bone, and the associated bone properties? Be careful to distinguish between material and structural behavior in your discussion.

2. Quantitative Analysis
   For your quantitative analysis, consider how you would determine whether any structure, such as a bridge, engine part, etc., would be at risk of failing. What parameters would you need to know? How would you use those parameters to determine whether the bridge or engine part is strong enough? Use an analogous approach to evaluate Grandma’s spine. Consider:
   - Do all levels of the spine experience the same forces?
   - Do all levels of the spine experience the same stresses?
   - Are all levels of the spine equally strong?
   - Are all levels of the spine at equal risk of fracture?
   - Do the answers to the above questions depend on the specific activity?
   - How do force, strength, and the above factors interact to determine your grandmother’s risk of fracture?

3. Advice to Grandmother
   Interpret your quantitative analysis. Provide quantitative advice for your grandmother in language she would understand.
   What are the specific activities that are especially risky for your grandmother?

4. References
   Include at least two journal articles and/or books as references.