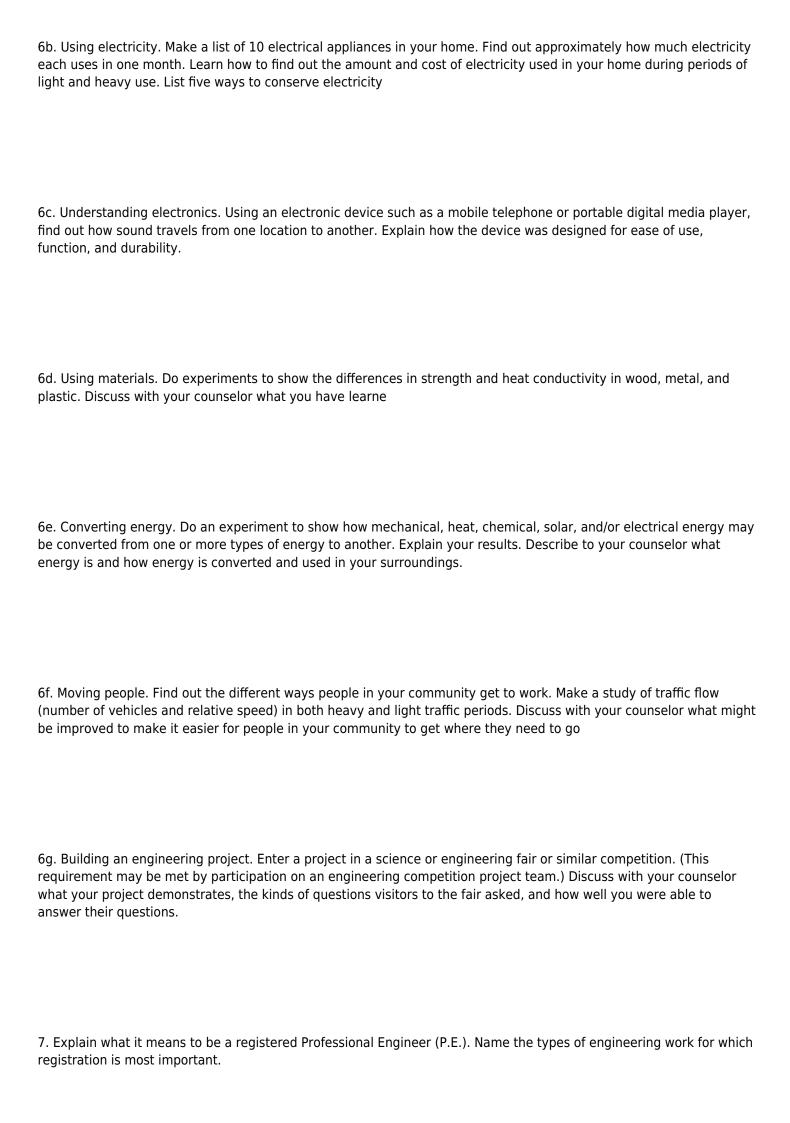
## **ENGINEERING MERIT BADGE REQUIREMENTS**

Additional requirement sheets and helps are available from <u>ScouterMom.com</u>.

1. Select a manufactured item in your home (such as a toy or an appliance) and, under adult supervision and with th approval of your counselor, investigate how and why it works as it does. Find out what sort of engineering activities were needed to create it. Discuss with your counselor what you learned and how you got the information
2. Select an engineering achievement that has had a major impact on society. Using resources such as the Internet (with your parent's permission), books, and magazines, find out about the engineers who made this engineering feat possible, the special obstacles they had to overcome, and how this achievement has influenced the world today. Tell your counselor what you learned.
3. Explain the work of six types of engineers. Pick two of the six and explain how their work is related.
4. Visit with an engineer (who may be your counselor or parent) and do the following:
4a. Discuss the work this engineer does and the tools the engineer uses.
4b. Discuss with the engineer a current project and the engineer's particular role in it.
4c. Find out how the engineer's work is done and how results are achieved.

4d. Ask to see the reports that the engineer writes concerning the project.
4e. Discuss with your counselor what you learned about engineering from this visit.
5. Do ONE of the following:
5a. Use the systems engineering approach to make step-by-step plans for your next campout. List alternative ideas for such items as program schedule, campsites, transportation, and costs. Tell why you made the choices you did and what improvements were made.
5b. Make an original design for a piece of patrol equipment. Use the systems engineering approach to help you decide how it should work and look. Draw plans for it. Show the plans to your counselor, explain why you designed it the way you did, and explain how you would make it.
6. Do TWO of the following:
6a. Transforming motion. Using common materials or a construction set, make a simple model that will demonstrate motion. Explain how the model uses basic mechanical elements like levers and inclined planes to demonstrate motion. Describe an example where this mechanism is used in a real product.



8. Study the Engineer's Code of Ethics. Explain how it is like the Scout Oath and Scout Law
9. Find out about three career opportunities in engineering. Pick one and research the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.