

Middle School Level:

Look for an idea at home, or in your neighborhood, or at school.

\* for example: look for a problem to solve.

Examine food or product packaging (choose one you like) for difficulties or dangers related to the design of the packaging.

Find one to use in your project.

Try to figure out another way the product could be packaged to solve the problem. (Try to make a proposal that would either reduce costs and materials as well as avoid the problem entirely through a redesign).

Write or email the manufacturer to ask for information on the product and packaging. Most manufacturers have web sites which you could visit to get information.

Do an Internet search for information which is independent (and sometimes critical) of the manufacturer to find out what others are saying about the products. This would be considered to be part of your research.

If your school has some computers with graphic design software, consider using the programs to generate the diagrams of your design.

Make a 3-D mock up model of your new design or suggestion. Test the design on students who use the product in a market survey. Your solution may be of real value to the manufacturer; communicate with them again when you determined that you have a good design. Be sure to include the information from the Internet and the reply from the manufacturer in your project.

\*for example: do product comparison tests

Survey your peers to find a popular product made by two competing companies, for example: paper towels, facial tissues, blank video or audio tapes, blue jeans, games equipment, make-up, snack food, shoes, etc.

Consider researching on the Internet or the Web for any similar product comparisons that have been done. This will help you learn more about how to do one, and ensure that your project is unique.

Write to (or email) the companies to get background information on the manufacturing process for the product, market share data, and a sample or coupon if possible. (You will need samples to do product testing).

Design a series of product tests to determine which product performs better (consult consumer product testing articles on how to design a product test and what to test - information may be available on the Internet or the Web from the manufacturer itself and the consumer product testing agencies). Test the product using careful scientific process and experimental design; remember to make an hypothesis about which will perform better!

Collect data and compare the results; repeat the testing sufficient times to establish validity.

Compare the results to your hypothesis and make some conclusions.

Consider sharing these with the companies and consider sharing your results with other schools through the Internet!