



FOOD PACKAGING

Potato chips, soda, candy and frozen pizza. Your students' four food groups or their next science lesson?

Students learn about the many functions of food packaging, besides protecting foods, and how food packaging materials affect the environment. Then they design their own environmentally friendly package for delivering a hot baked potato.

By incorporating everyday materials into science lessons, the Materials World Modules (MWM) program at Northwestern University has found the solution to getting students excited about learning science while helping teachers meet national and state education standards.

The modules are easy to organize and inexpensive to run. They can be incorporated into any science class because of the breadth of subjects covered in the Activity and Design Project sections. Each module is a supplemental science unit that takes 1-3 weeks of class time (approximately 10 hours) to complete.

Module At-a-Glance:

Activities


- Investigating Food Packaging
- Analyzing Food Packaging Materials
- Evaluating the Impact on the Environment
- Researching Materials
- Designing a Protective Package
- Comparing the Insulating Properties

Design Project

- Designing a Hot Potato Package
- Designing New Food Packaging



MWM will give students an opportunity to understand the world around them in a way they have never experienced before. The modules promote an awareness of the roles science and technology play in society and guide students to take increased control of their work.



MWM is designed to

Interdisciplinary
Integrates science & non-science subjects

Flexible
Modify to your teaching style, students' ability and class time

Hands-on
Contains activities that led to inquiry-centered design projects

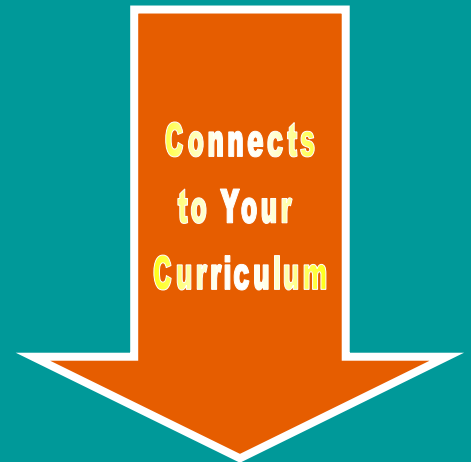
Cutting-edge
Introduces issues on the forefront of technological research

improve STEM education
Science • Technology • Engineering • Math

Materials World Modules

An Inquiry & Design Based STEM Education Program

Northwestern University ■ www.materialsworldmodules.org
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**Connects
to Your
Curriculum**

Chemistry

- Acids and Bases
- Bonding
- Changing States of Matter
- Heat and Temperature
- Kinetic Energy of Molecules
- Polymers
- Properties of Matter

Biology & Life Sciences

- Biodegradation
- Decomposers
- Environmental Issues
- Microorganisms
- Plant Hormones
- Thermoregulatory Adaptations

Mathematics

- Computer Modeling
- Formulas
- Graphing
- Percentages
- Rates
- Ratios
- Volume
- Weights and Measurement

Physics & Physical Sciences

- Acceleration
- Forces
- Gravity
- Heat and Heat Transfer
- Insulation
- Mass
- Microwaves
- Newton's Second Law of Motion
- Potential and Kinetic Energy
- Thermal Energy
- Volume and Capacity

Geology & Earth Science

- Mining

Technical Education

- Insulating Materials
- Microwave Ovens

Social Studies

- History of Food Preservation and Packaging Technology

Language Arts

- Describing a sequence
- Writing a report
- Public speaking