Southwest Center for Microsystems Education (SCME)
University of New Mexico

Cells: The Building Blocks of Life Learning Module Map

There are four (4) units in this learning module:
Knowledge Probe
Primary Knowledge
Cells Research Activity
Final Assessment

A learning module map is included that provides a suggested outline for instructors.

This learning module provides a review of "cells", the smallest unit exhibiting the properties of life. It discusses how these cells are being used in bioMEMS as well as other micro and nano-sized devices. A research activity provides the opportunity to further explore how cells can be used in bioMEMS (bio MicroElectroMechanical Systems).

Target audiences: High School, Community College, University

Made possible through grants from the National Science Foundation Department of Undergraduate Education #0830384, 0902411, and 1205138.

Any opinions, findings and conclusions or recommendations expressed in this material are those of the authors and creators, and do not necessarily reflect the views of the National Science Foundation.

Website: www.scme-nm.org

Learning Module Map for Cells: The Building Blocks of Life

This learning module provides a review of "cells", the smallest unit exhibiting the properties of life. It discusses how these cells are being used in bioMEMS as well as other micro and nano-sized devices. A research activity provides the opportunity to further explore how cells can be used in bioMEMS (bio MicroElectroMechanical Systems).

Learning Module units (4):

- Knowledge Probe (pre-quiz)
- Cells: The Building Blocks of Life PK
- Cells Research Activity
- Final Assessment

Following is a suggested map on the implementation of this learning module. This map is strictly a suggestion. You may use any unit in this learning module as a stand-alone unit or activity OR in any sequence that best fits your classroom.

IMPORTANT STEPS	KEY POINTS	REASONS
Knowledge Probe (KP)	This is a pre-assessment that the participants should take prior to starting this learning module.	This KP will determine the participants' current knowledge of cells, types of cells, cell structure and ways to identity, analyze and cultivate cells. This KP could be compared with the Final Assessment to determine a level of learning.
Assign the primary knowledge (PK) unit as a reading assignment. Review the *Cells: The Building Blocks of Life PK* and address any questions.	A PowerPoint presentation can be downloaded by the instructor from scme-nm.org and presented to all participants.	This introduction will help participants better understand the activities.
Complete the activity "Cells Research Activity"	Participants further explore cells and the ties of cell structure, function and growth to bioMEMS devices.	This research activity allows participants to explore the current ties between cells and microtechnology, current research and applications.

Final Assessment	Give the participants the final assessment.	Participants are evaluated on what they have learned cells, their structure, function and ties to microtechnology.

Support for this work was provided by the National Science Foundation's Advanced Technological Education (ATE) Program through Grants. For more learning modules related to microtechnology, visit the SCME website (http://scme-nm.org).