Land Cover

**Getting to Know Your Satellite Imagery and GLOBE Study Site**
Students use the satellite image of their GLOBE Study Site to become familiar with the different types of land cover in their area.

**Site Seeing**
*Beginning* and *Intermediate* level activities introduce students to the concept of dynamic systems.

**Leaf Classification**
Students make a collection of leaves and then discover how a hierarchical classification system is developed by sorting and organizing their leaves according to a set of labels and rules which they specify.

**Odyssey of the Eyes**
These *beginning*, *intermediate* and *advanced* level activities will introduce students to remote sensing and mapping.

**Bird Beak Accuracy Assessment**
Students learn how to evaluate the accuracy of a classification they perform.

**Discovery Area**
Students use the satellite image of the GLOBE Study Site and their knowledge of remote sensing to decide where a new hospital should be located.

**Using GLOBE Data to Analyze Land Cover**
Students find another GLOBE school that reported the same MUC class and systematically compare the other GLOBE measurements that they each reported.

**Manual Land Cover Mapping**
Students outline and label different areas of land cover as seen on their Landsat image to create a land cover map.
A tutorial to guide the user through developing a Land Cover map of their own local area using a Landsat image as a base.

Computer-aided Land Cover Mapping
Students use MultiSpec to perform unsupervised clustering of their Landsat image and then assign MUC classes to every cluster to create a land cover map.

Accuracy Assessment Tutorial
This tutorial is intended to be used after a land cover type map has been made, through either the Manual or Computer-aided Land Cover Mapping learning activities, to assess the accuracy of the map. This tutorial is meant to be used as a guide. There is also an example Accuracy Assessment Work Sheet for practicing.

Land Cover Change Detection
Using MultiSpec, students compare two images of their GLOBE Study Site; one from the 1990’s and one from the 2000’s, to determine how the land cover has changed in that time span.

Change Detection Tutorial
A tutorial designed to guide the user through making a comparison of two Landsat images using MultiSpec. The user would then follow these steps using their own Landsat images to look for changes over time.

Do You Know Your MUC?
Students produce a land cover map of plant life at a site in order to determine the site’s MUC.

Phenology

Green-Up Cards
students participate in a preparatory activity that will help them identify green-up progression in their local plants and this activity also introduces the idea of spatial scale related to plant observations.

A Sneak Preview to Budburst
Students learn what to look for during budburst by observing variations in timing and appearance of leaves of different local plant species.

First Look at Phenology
Students observe and classify local plants based on their patterns of change other than growth.

A Beginning Look at Photosynthesis
Students learn about plant response to light by setting up simple investigations in the classroom.

Investigating Leaf Pigments
Students learn about plant pigmentation and photosynthesis while conducting simple investigations to demonstrate the presence of pigments other than chlorophyll in leaves.