Decoding Starlight: Connecting to School Science
Extending the Concept Map

Connect these pieces to the existing map:

1. Intensity versus wavelength plot of a stellar spectrum
2. Telescope: HET or 2.7m
3. Bohr model of the atom
   - photon emission
   - photon absorption

From your everyday experience, list 5 concepts that you think are related to your exploration of the Decoding Starlight exhibit. Connect them to the concept map.

1. _____
2. _____
3. _____
4. _____
5. _____

Extension for IPC, Physics, Chemistry or Astronomy classes:

Create a concept map "story" behind absorption and/or emission features in a star's spectrum. Make a new concept map with the following pieces:

1. Blackbody distribution of light in an incident beam that interacts with hydrogen.
2. Several hydrogen atoms absorb photons.
3. Hydrogen atoms emit photons out of and in to the incident beam.
4. Beam leaves the Sun/star.
5. Beam enters a telescope.
6. Spectrograph spreads the light according to wavelength and records the image.
7. Astronomer creates an intensity vs. wavelength plot.

Each student's concept map will be unique. Use the rubric and "expert map" as an assessment guide.

For a more detailed activity, expand the story, referring to the exhibit *Adventures of the Photons* in the exhibit hall.

Additional astronomy related concept maps and assessment tools are available from the Field-tested Learning Assessment Guide WWW site: http://www.flaguide.org/