Learning Goals and Outcomes for REACH-DL Physiology Exercises

BREATHING

General Goals and Outcomes per HAPS (http://www.hapsweb.org)

1. Define pulmonary ventilation, inspiration, and expiration.
2. Define anatomical dead space and explain the effect of anatomical dead space on alveolar ventilation and on the composition of alveolar and expired air.
3. Define hyperventilation, hypoventilation, panting, eupnea, hyperpnea and apnea.

Breathing – Exercise and O2 Saturation

Learning Goals:

1. Students will be able to successfully record breathing cycles and blood O2 saturation levels.
2. Students should be able to measure breathing depth and rate, and O2 saturation at rest and during recovery from exercise.
3. Students will be able to determine the difference in depth and rate of breathing, and O2 saturation levels at rest, immediately after exercise, and up to a few minutes after exercise.
4. Students will continue to be successful at using the LabScribe software to move cursors, analyze data, record data to the Journal, and add functions to the Analysis window.

Outcomes: Students who have successfully completed this exercise will:

1. have recorded a recognizable breathing cycles and O2 saturation at rest.
2. have recorded recognizable breathing cycles and O2 saturation levels immediately after exercise and a few minutes after exercise.
3. be able to determine the depth and rate of breathing the recorded data and understand the effects of exercise on breathing and blood O2 levels.
4. determine a subject's overall fitness and lung health after examining breathing rate recovery from exercise.
5. feel comfortable transferring data to the Journal and interpreting that data to answer questions about their recordings.
6. have used the functions available in the Analysis window to determine values necessary for this exercise.