Answer key

Station 1

1. How long did the flame burn: Small Jar Depends on jar size. Try it and see
   Large Jar Try it and see
2. Why did they burn at different rates? Amount of oxygen
3. What are the Two most common gases in dry air? Nitrogen and Oxygen
4. Why are the gases in the atmosphere usually shown as percentages of dry air? Water vapor varies with humidity.

Station 2

Part I

1. What happened to the air pressure inside the bag when you tried to push the bag into the beaker? Increased
2. Is the pressure higher inside or outside the bag? Inside
3.

Part II

1. What happened to the air pressure inside the bag when you tried to pull the bag out of the beaker? Decreased
2. What happens to air pressure as you travel higher in elevation? Decreases

Station 3

1. What happened to the spiral, and WHY? Spins because of convection.
2. Describe a convection current. Heat rises and cold falls because of differences in density
3. When air is rising what kind of a pressure system does it create (High or Low)? LOW
4. Name two other places you can find convection currents (related to Earth Systems).
5. When you light a fire in a fireplace, warm air rises by convection and goes up the chimney. How, then, does a fireplace heat a room? Why do only the people directly in front of the fireplace feel the warm of the fire? Radiation

Station 4

1. What way did the line curve when traveling from the North pole to the equator? Right
2. What way did the line curve when traveling from the South pole to the equator? Left
3. What is this effect called? Coriolis
4. What is one other sphere that is effected by this affect? Atmosphere

Station 5

1. What happened when the divider was removed? Warm on top, cold on bottom and counter clockwise rotation
2. Sketch:
3. What would happen if a mass of cold air ran into a mass of warm air? Spiraling formation

Station 6

1. What is heat? Molecules in motion
2. How are heat and density related ingases and liquids? Heat increases density decreases
3. How does the unequal heating of Earth's surface cause winds? Differences in density
4. What happens to the temperature as you increase in elevation? Decreases
5. What happens to the pressure as you increase in elevation? Why? Decreases Less air pushing down on you.

Station 7

1. Did the temperature change when the pressurized gas came out of the pump? It should go down.
2. Why? Air molecules are farther apart, fewer collisions.
3. How does this explain what happens to air when it rises? Rising air expands.