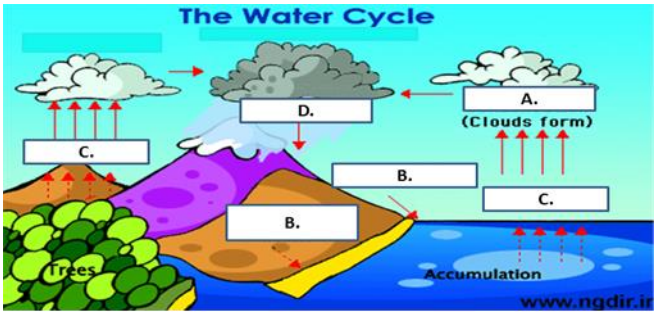
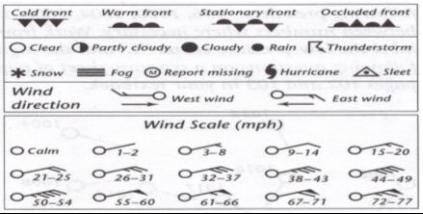
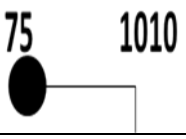
1st Semester Midterm Study Guide: Midterm: January 10th, 2017

Questions:	Answers:
Describe the gas composition of the atmosphere.	78% Nitrogen, 21% Oxygen, and 1% Other gases.
Arrange the main layers of the atmosphere from Earth to space.	Troposphere, Stratosphere, Mesosphere, Thermosphere, and Exosphere.
In which layer of the atmosphere is air pressure greatest near the surface of the Earth?	Troposphere.
 **Identify the following on the image pictured above: precipitation, surface-water flow, evaporation, groundwater flow, transpiration, and condensation.**	A. condensation B. surface-water flow and groundwater flow C. evaporation and transpiration D. precipitation
Draw and describe the shape of a cumulus cloud.	Puffy with flat bottoms.
What are low, layered clouds that produce light precipitation called?	Stratus clouds.
Cumulus clouds signal what type of weather conditions?	Fair weather when white.
Describe the type of weather cumulonimbus clouds bring.	Heavy rain with thunder and lightning.
Describe a stationary front.	A front that stays in one place for a long period of time, moving very little.
Describe a cold front.	A front that occurs when cold air moves under warm air.
An _____ front consist of two cool air masses merging, and forcing the warm air mass up.	occluded front
A _____ front forms when warm air moves over cold air.	warm front
Identify what each weather instrument measures: **A. Barometer** **B. Thermometer** **C. Anemometer** **D. Rain Gauge** **E. Sling Psychrometer** **F. Wind Vane**	**A.** air pressure **B.** air temperature **C.** wind speed **D.** precipitation amount **E.** relative humidity **F.** wind direction
Be able to describe the cloud cover, barometric pressure, and wind speed, given a station model and a map key.  	Cloud Cover = Cloudy Barometric Pressure = 1010 mb Wind Speed = 9-14 mph
Define isobars.	Weather patterns indicating high or low pressure systems.

Describe the images used for seeing cloud patterns and movement.	Satellite.
Define solar energy.	The driving energy source for heating the Earth and its circulation in Earth's atmosphere.
What process takes place when solar energy is absorbed by Earth's land and water surfaces?	Greenhouse Effect
What is the cause of global winds?	Convection currents.
Explain the reason climate zones occur.	Unequal heating of Earth.
Which winds blow from east to west in the tropical region moving warm tropical air in that climate zone?	Trade winds.
Which winds blow from west to east in the temperate region?	Westerly winds.
What is a fast-moving ribbon of air that moves around the globe of Earth dipping and bending and constantly changes positions.	Jet stream.
Explain the energy flowing in an electric circuit.	Electrical energy.
Identify mechanical energy that is related to the position of an object.	Potential energy.
Identify mechanical energy an object has due to its motion.	Kinetic energy.
Explain the Law of Conservation of Energy.	Energy cannot be created or destroyed.
What forms when a wire in an electric circuit is wrapped around an iron core producing a magnetic field?	Electromagnet.
How do power plants produce electric energy for our homes?	Generator.
Which poles of a magnet attract?	Unlike poles.
Identify the four ways electrical energy can be transformed in electrical circuits.	Light, sound, heat, and mechanical motion.
Draw and label the three components of an electric circuit.	A **source** of electrical energy, A **conductor** connected to the energy source, and A **device** that uses and transforms the electrical energy.
Draw an example of convection.	The transfer of energy as heat by movement of the heated substance itself, as currents in fluids (liquids and gasses).
Draw an example of conduction.	The transfer of energy as heat occurs between particles as they collide within a substance or between two objects in contact.
Draw an example of radiation.	The transfer of energy through space without particles of matter colliding or moving to transfer the energy.
Explain a property that enables something to do work.	Energy.
Explain the meaning of work.	Apply a force to an object over a distance, and the object moves in response to the force.
Be able to identify examples of evidence of energy (work being done).	**1)** Apply a force to an object over a distance, and **2)** The object moves in response to the force
Look around the classroom and make two quantitative and two qualitative observations as well as two inferences.	**Quantitative –** use of numbers. **Qualitative –** use of five senses to refer to specific properties. **Inference –** a logical conclusion made from factual knowledge or evidence.
Be able to identify correct and incorrect lab safety procedures in an image provided.	