



# Key Words & Concepts

## Water Cycle

**water cycle** – the continual process of water moving in various forms (liquid, vapor and solid) over and through earth's surface, ground, and atmosphere

**precipitation** – water moving from the air to the ground, such as rain snow hail or sleet

**evaporation** – process of water changing from liquid into vapor by application of heat

**transpiration** – process of water entering the atmosphere from plants

**condensation** – process of water changing from vapor into liquid droplets

**surface water** – water that flows or resides above ground in streams, lakes, rivers, and wetlands

**ground water** – water that flows or resides underground, including in water-rich layers called aquifers

**river** – a large natural stream of moving water that flows to a lake or ocean

**wetland** – area usually covered by shallow water, or containing waterlogged soil

**glacier** – water in the form of a large mass of slowly moving ice

**ocean** – very large body of salt water

**watershed** – land area from which water drains to a particular water body

## Geology

**geology** - the study of the origin and history of the earth; the study of rocks

**fossil** - any remnant or evidence of life form from a past geological age, embedded in rocks

**strata** - layers of rock

**erosion** - breakdown or weathering of rocks, sediment or soil by wind, water, etc.

**sedimentary** - a classification of rocks created by deposits of sediment (particles of silt, sand, clay, etc.)

**Ice Age** - common name for the time during which glaciers were abundant

**glacier** - a large mass of slowly moving ice

**geological era** - a basic division of geological time, composed of one or more periods

**geological period** - a portion of a geological era

**geological epoch** - a portion of a geological period

## **Aquatic Invertebrates**

**aquatic** – water-related; living all or nearly all of the life cycle in water

**macroinvertebrate** – an animal that lacks an internal skeleton and is big enough to be seen with the naked eye (examples: insects, worms)

**tolerant** – able to live in poor quality water; not sensitive

**sensitive** – not able to survive in poor quality water

**high water quality** – usually defined by cool water temperature, little suspended sediment, high level of oxygen, lack of pollutants, and presence of sensitive macroinvertebrate species

**herbivore** – an animal that feeds primarily on plants

**nymph** – immature phase of development in insects, often somewhat similar in appearance to the adult form, but with no developed wings and smaller in size (example: mayfly nymph→mayfly)

**larvae** – immature phase of development in insects, usually very different in appearance from the adult form (example: caterpillar→butterfly)

**filter feeder** – an animal that catches food drifting in the water

**decomposers** – organisms that break down dead organic material and make the nutrients available again to the ecosystem

## **Birds**

**adaptation** – a modification in behavior, physical feature, or other characteristic that helps a living thing survive in its environment

**migrate** – to travel from one region to another, usually seasonally

**flyway** – broad geographical route commonly used by birds in migration

**habitat** - the surroundings where a plant or animal lives and finds the resources it needs for life, including food, water, shelter, and space

**fresh water marsh** – a wetland where fresh (non-salty) water normally exists all year

**pond** - a still body of water smaller than a lake, often shallow enough for rooted plants to grow throughout

**forest** – an ecosystem in which trees are the most dominant member

**prairie** – a grassland community; ecosystem in which grasses are dominant

**wetland** – a wet land with specialized soil and plants, regularly or always flooded, found on edges of rivers, creeks, ponds, lakes, depressions, bays or oceans

**raptor** – a bird with sharp talons and hooked beak that catches other birds and animals to eat, and often carries them off

**fledgling** – a young bird that has gotten its feathers for flying

## **Ecosystems**

**ecosystem** – a group of plants and animals that interact and adapt to a physical environment, including climate, water, air, and soil

**predator** - an animal that eats other animals

**prey** - an animal that is eaten by another animal

**niche** - the role or function a plant or animal has in a community

**population** - all of one kind of plants or animals in a specified area

**food chain** - a series of plants and animals within an environment of which each kind serves as a source of nourishment (food) for the next in the series

**food web** - a complex, interlocking series of individual food chains

**native species** - a species originally living in and adapted to a given place

**exotic species** - a plant or animal introduced from a different area that competes with the native species

**endangered species** - a species in danger of extinction (dying out)

## **Boats & buoyancy**

**vessel** – a craft designed to navigate on water; a boat, especially a large boat

**hull** – the framework or body of a boat

**bow** – the front of a boat

**stern** – the rear of a boat

**canoe** – a slender boat with pointed ends, propelled by paddles

**paddleboat** – vessel for carrying passengers and cargo, propelled by a paddlewheel

**barge** – a large, unpowered, flat-bottomed boat for transporting freight

**tow** – a group of barges tied together, usually with heavy steel cables

**towboat** – a powerful vessel used to push a tow of barges

**buoyancy** – capacity to remain afloat in liquid; upward force of a fluid on an object less dense than itself

**displacement** – the weight or volume of fluid displaced (pushed out of place) by a vessel (boat or barge)

**grain elevator** – storage silos or tall bins equipped with devices for hoisting and discharging grain into barges, trucks or train cars

**terminal** – end point of a transportation system; loading station on a transportation line

## **Urban watersheds & stewardship**

**watershed** – the area of land from which water flows to a given stream, river or lake

**stewardship** – the act of caring for our environment

**water pollution** – any substance that contaminates water making it unfit or unhealthy for use

**point source pollution** – water pollution that comes from a single point such as a pipe

**non-point source pollution** – water pollution that comes from a large general area such as a farm field, construction site, yard, streets or parking lots (also known as “*runoff pollution*”)

**sediment** – particles of soil and solid material that can be carried by water or wind

**erosion** – process by which soil, sediment or other materials are worn away and moved by water or wind

**nutrient** – element or substance (such as fertilizer or decayed leaves and grass) that supplies food for plant growth, but which in large concentrations can cause pollution

**runoff** – water from snowmelt or rain that flows over land to a river or other water body

**storm drain** – opening in streets and parking lots through which runoff flows into underground pipes that lead to rivers, ponds or lakes (storm drains do *not* lead to a water treatment plant)

**storm drain outfall** – the end of a pipe leading into a river or other water body from a storm drain

**impervious surface** – land covering, such as concrete or asphalt, that does not allow water to pass through it into the ground

**best management practices (BMPs)** – preferred actions to prevent pollution