Respiratory System Notes 

STEPS TO BREATHING

1. **Inhalation** 🡪 oxygen-rich air is sucked into the body
	1. **Diaphragm** contracts and separates the chest cavity from **abdomen** (stomach) and the chest cavity becomes larger.
	2. Air through the mouth & nose 🡪 through **trachea** (tube that enters chest cavity and branches off into two smaller tubes called **bronchi**)
		1. **Left** **bronchial** leads to left lung, **right** **bronchial** to right lung
		2. **Bronchi** branch into thousands of smaller tubes called **bronchioles**.
		3. **Alveoli** (tiny ballon-like sacs that expand with air) are at the end of each **bronchiole**.
2. **Exhalation** 🡪 As lungs deflate, carbon dioxide (CO2) and waste exit the lungs back through the trachea and out of the mouth and nose.
	1. The entire body is given oxygen, fuel, and energy to function.

BREATHING PROBLEMS

* **Asthma** – a condition that affects a person’s bronchial tubes (lead from the trachea/windpipe into the lungs)
	+ In an **asthma flare-up** (AKA asthma attack or episode), a person’s airways get swollen and narrow so it becomes more difficult to inhale and exhale. Sometimes the swollen bronchial tubes produce extra mucus which is sticky and makes it even harder to breathe.
		- A flare-up can get progressively worse if the person doesn’t get medicine.
		- The bronchial tubes almost always recover to where they were before the flare-up, but sometimes it can take several days.

Vocabulary from Glossary

1. **Air sac** – air-filled spaces in the body.
2. **Alveoli** – very small air sacs; where air that is breathed in goes.
3. **Bronchial tubes** – two tubes at the end of the trachea; brings in air from the trachea and helps clean lungs; one tube goes to the right lung, one to the left.
4. **Diaphragm** – sheet-like muscle separating the chest from the abdominal cavity; creates suction to draw in air and expand the lungs.
5. **Exhale** – to breathe out.
6. **Inhale** – to breath in.
7. **Larynx** – voice box/vocal chords.
8. **Lungs** – two respiratory organs.
9. **Nasal passages (nasal cavity)** – helps with the inhaling and exhaling of air through the nose.
10. **Pharynx** – throat; collects incoming air from the nose and passes air to the trachea.
11. **Respiration** – breathing (inhaling and exhaling).
12. **Ribs** – bones that protect and support the chest.
13. **Sinuses** – hollow spaces in the bones of the head; help regulate the temperature of air breathed in.
14. **Trachea** – windpipe; passage from the pharynx to lungs.

Resources

* <http://www.nhlbi.nih.gov/health/health-topics/topics/hlw/whathappens.html>
* <http://www.livestrong.com/article/95911-steps-breathing/>
* KidsHealth.org/kid/asthma\_basics/what/asthma.html