

# PRE-TEST

1. What are the basic functions of the respiratory system?
2. Describe five symptoms of asthma.
3. How can asthma be controlled?
4. What are some common asthma triggers?

# ESSENTIAL STANDARD

- 6.PCH.1 Understand wellness, disease prevention, and recognition of symptoms.

# CLARIFYING STANDARD

- 6.PCH.1.7 Summarize the triggers and symptoms for asthma and strategies for controlling asthma

# STATEMENT OF OBJECTIVES:

- *Today we are going to learn how asthma affects people and to recognize the symptoms of asthma. By the end of the lesson you will be able to recognize asthma triggers and symptoms.*

# WHAT DO YOU KNOW ABOUT THE RESPIRATORY SYSTEM?

- How your lungs work

# *DID YOU KNOW?*

- *The right lung is slightly larger than the left.*
- *The surface area of the lung is about the size of a tennis court.*
- *A sneeze travels faster than a cough (100 vs. 60 miles per hour)*
- *A person at rest breathes 12 to 15 times per minute. This is at least 17,000 breaths per day and over 6 million breaths per year.*
  
- *The main function of the respiratory system is to provide oxygen to be carried by the circulatory system to all cells of the body and to remove carbon dioxide as waste.*
- *Respiration is defined as the exchange of gases between the body and the environment.*
- *The process of respiration is essential for survival.*

# *THERE ARE TWO PARTS TO RESPIRATION, INTERNAL RESPIRATION AND EXTERNAL RESPIRATION:*

## ■ *Internal respiration:*

- *exchange of gases between blood and body cells.*
- *Oxygen moves from the blood into the cells and carbon dioxide moves from the cells into the blood.*

## ■ *External respiration:*

- *exchange of oxygen and carbon dioxide that takes place between air and blood in the lungs.*
- *Oxygen moves from the lungs into the blood and carbon dioxide moves from the blood into the lungs.*

- *The breathing or respiratory process is made possible by creating a pressure difference between the lungs and the outside of the body.*
- *When you breathe in, the diaphragm and muscles between your ribs contract which expands your chest cavity and lungs.*
- *When you breathe out, there is a pressure difference (the pressure is lower inside your body) so air automatically flows in to equalize the pressure.*



# VIDEO CLIP AND ARTICLE

- [How the Respiratory Works](#)
- [Article on Respiratory System](#)
  - [Lungs Article](#)

# CLASS ACTIVITY

- Healthy Comics just hired you as a new comic strip writer and artist!
- For your first project, you've been assigned to write and illustrate a comic strip about the human respiratory system.
- But first things first – you have to do some research. Check out the articles on KidsHealth to learn all about the parts of the respiratory system (including the trachea, lungs, and diaphragm) and how these body parts work together to help you breathe.
- Once you have the information covered, write and illustrate a comic strip about Captain Oxygen, a courageous and daring oxygen molecule traveling through the respiratory system.
- Your editors at Healthy Comics will be checking for accurate facts about the respiratory system and a clear description of how the body breathes.

# ASTHMA FACTS

6<sup>th</sup>  
Grade

# Worksheet: Asthma IQ

*Answer the questions by writing, "Yes" or "No," in the space to the left of each question.*

- \_\_\_\_\_ 1. Do you think asthma is an illness that many adults and children have in the United States?
- \_\_\_\_\_ 2. Do you think people's thoughts and feelings cause them to have asthma?
- \_\_\_\_\_ 3. Do you think asthma is caused by the way parents raise their children?
- \_\_\_\_\_ 4. Asthma can cause breathing problems. Do you think these problems can be really harmful or dangerous?
- \_\_\_\_\_ 5. Do you think asthma episodes happen quickly without any warning?
- \_\_\_\_\_ 6. Do you think there are many different reasons why people get asthma symptoms?
- \_\_\_\_\_ 7. Asthma cannot be cured, but do you think it can be controlled?
- \_\_\_\_\_ 8. Are there medicines to help control asthma?
- \_\_\_\_\_ 9. Are there ways people with asthma can check on how well their lungs are working?
- \_\_\_\_\_ 10. Do you think both children and adults can have asthma?
- \_\_\_\_\_ 11. Do you think cigarette smoke can make asthma symptoms worse?
- \_\_\_\_\_ 12. Do you think children with asthma can play like the rest of their friends?

# BRAIN POP - ASTHMA

## Answers to Asthma IQ

1. Asthma is a common disease among children and adults in the United States.
  - a. The number of children diagnosed with asthma each year is going up.
  - b. About ten million people have asthma, of whom three million are children

2. Asthma is not an emotional or psychological disease.

- Strong feelings can sometimes make asthma worse.
- People with asthma have sensitive lungs that react to certain things, causing the airways to tighten, swell, and fill with mucus.
- The person then has trouble breathing and may cough and wheeze.

3. The way parents raise their children does not cause asthma.
4. Asthma episodes can be very harmful.
  - People can get very sick and need to stay in a hospital.
  - Some people have died from asthma episodes.
  - Frequent asthma episodes, even if they are mild, may cause a child not to feel well enough to go to school or play sports.
5. Sometimes an asthma episode may come on quite quickly.
  - Usually there are symptoms such as a cough, a scratchy throat or tightness in the chest before a person has any wheezing or shortness of breath.
  - People can learn to notice these early symptoms and can take medicine to prevent a serious attack.



6. For most people with asthma, an episode can start from many different “triggers.”

- Some of these triggers are pollen from trees or grasses; molds or house dust; weather changes; strong odors; cigarette smoke and certain foods.
- Other triggers include being upset, laughing or crying hard, having a cold or the flu, having cockroaches in the house, or being near furry or feathered animals.
- Each person with asthma has his or her own set of asthma triggers.

7. There is no cure for asthma yet. But asthma patients can get some control of their symptoms by:

- learning to notice early signs of an asthma episode and starting treatment, avoiding things that cause an asthma episode, taking medicine just the way the doctor says, getting advice from a doctor who treats children with asthma, knowing when to get medical help with a severe episode.

8. Several types of medicines are available to control asthma.

- Some people with mild asthma need to take medicine only when they have symptoms.
- But many people need to take medicine every day to prevent symptoms as well as medicine when they have symptoms.
- A doctor needs to decide the best type of medicine for each person and how often it should be taken.
- People with asthma and their doctors should work together to make a good plan to manage the disease.
- When this plan is carried out, most people live pretty normal lives.

9. People with asthma can check how well their lungs are working with a peak flow meter.

- A peak flow meter is a small tool that measures a person's ability to push air out of their lungs.
- This can be used at home or at school.
- The peak flow meter may show the asthma is getting worse before the usual symptoms start

10. Both children and adults can have asthma.

- Sometimes, but not always, symptoms will go away as children get older.
- Many children continue to have asthma symptoms when they are adults.
- Sometimes symptoms of asthma are not recognized until a person is an adult.

11. Smoke from cigarettes, cigars and pipes can bring on an asthma episode.

- Indoor smoky air from fireplaces and outdoor pollution can make asthma worse.
- Smokers should be asked not to smoke near someone with asthma.
- Moving to another room may help, but smoke travels from room to room.
- No smoking is best for everyone!

12. Exercise is good for most people — with or without asthma.

- When asthma is under good control, people with asthma are able to play most sports.
- For people whose asthma is brought on by exercise, medicines can be taken before exercising to help avoid an episode.
- A number of Olympic medalists have asthma

# VIDEO CLIP

- What happens during an asthma attack

# ASTHMA

- Asthma is a chronic lung disease that can be life threatening. The exact cause is unknown. However, once an individual has asthma, his or her lungs will respond differently to triggers than ever before.

# VIDEO CLIP

- Asthma

# ASTHMA TRIGGERS

- What triggers an asthma attack varies from person to person. Some common triggers are:
  - Secondhand smoke
  - Dust mites
  - Pets
  - Mold
  - Pests



# ASTHMA TRIGGERS

- Viral or sinus infections
- Emotional anxiety
- Medication
- Food
- Exercise
- Gasses or fumes
- Changing weather conditions





# ASTHMA TRIGGERS

- When someone who has asthma is exposed to a trigger, an asthma attack can develop rapidly, within minutes or slowly, over a period of a few days.

# DURING AN ASTHMA ATTACK:

- The cells in the air tubes make more mucus than normal. This mucus is very thick and sticky. It tends to clog up the tubes.
- The air tubes tend to swell, just as skin swells if it is cut or scraped.
- The muscles in the air tubes tighten.
- These changes cause the air tubes to narrow making it very difficult to breathe.



# SIGNS OF ASTHMA

- Coughing - can be weak or vigorous
- Wheezing - a whistling or musical sound heard when exhaling
- Night time coughing
- Difficulty in breathing
- Flared nostrils

# SUBTLE SIGNS OF AN ASTHMA ATTACK

- Breathing changes
- Feeling tired or weak
- Funny feeling in the chest
- Headache
- Glassy eyes
- Dark circles under eyes
- Getting excited
- Paleness
- Watery eyes

# SUBTLE SIGNS OF AN ASTHMA ATTACK

- Sweatiness
- Getting out of breath
- Restlessness
- Chin or throat itching
- Becoming unusually quiet



- Heart rate increases
- Coughing
- Sneezing
- Dry mouth
- Stuffy nose

# SIGNS OF A SEVERE ATTACK

- Difficulty finishing a sentence
- Severe coughing/wheezing
- Flared nostrils
- Head bobbing
- Grayish blue tint around fingers and lips
- Wheezing that stops even though other symptoms are still present

# CLOSURE:

- *We have learned a lot about the things that often trigger asthma episodes at home or at school. You should be able to explain some of the ways people can manage their exposure to these triggers. By doing so, they can reduce the frequency or severity of asthma episodes. This is important for those of you who have asthma but also for all students to understand what their classmates deal with on a daily basis.*