Clean air for better breathing

Resource Kit for
Primary Levels

ACTIVITY SHEETS

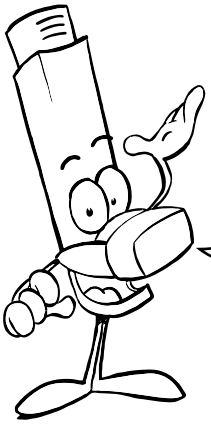
asthma
FOUNDATION OF SA

EPA
South Australia

ACTIVITY SHEET 1

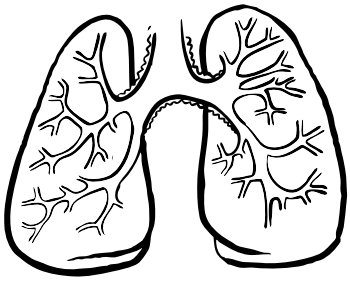
ASTHMA AND OUR RESPIRATORY SYSTEM

Name _____



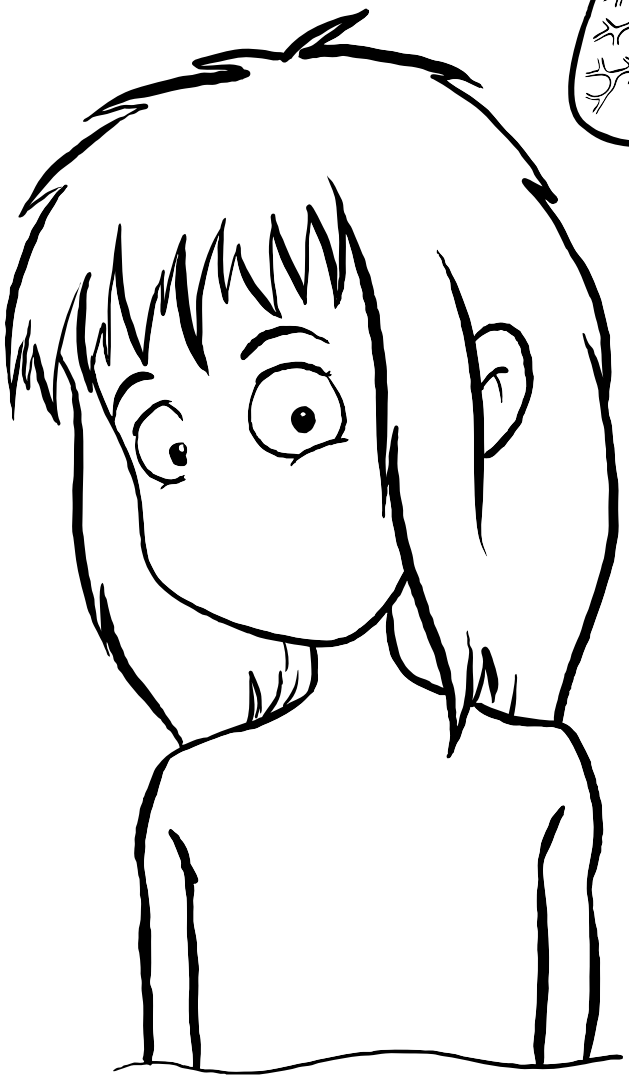
Cut out or draw the parts to connect the respiratory system that helps us to breathe, placing them where they belong.

Label each part on the nearest line.



Lungs

Nose



Trachea
(wind pipe)

Word list:
airways
nose
lungs
trachea
mouth
small

Mouth

Place the words from the Word List into the spaces.

We breathe air into our bodies through our _____and _____.
This air fills up our _____ by going down our _____ and into the _____.

Asthma occurs in the _____ airways.

ACTIVITY SHEET 2

PARTICLES AND HEALTH

In this activity you will learn about particles and the harm these can cause to human health.

Using a reference book, label the parts of the respiratory system in the diagram above.

What does the respiratory system do for us?

_____

What is the important gas which gets into our body via this system?

_____

What gas leaves the body this way?

_____

Draw arrows showing the paths the particle can take to get into your lungs.

What do you have in your nose which stops the larger particles from entering your lungs?

_____

When particles are breathed in, they can cause health problems, especially in the very young, the elderly or people with lung or heart disease. Very small particles make health problems like bronchitis, emphysema and asthma worse.

How many students in your class suffer from asthma?

_____

How many students have someone in their family who has asthma?

_____

These people may be affected by particles in the air in their local area, as a result of, for example, wood smoke, dust storms, vehicle emissions, nearby industry.

A collaborative project between the Environment Protection Authority and the Asthma Foundation of South Australia

Adapted with permission from 'Clean Air – What's In It For Us? – An air pollution program for secondary schools', written and compiled by Jennifer Anderton, Margot Finn and Gabrielle Robertson for the Western Australian Department of Environment and Conservation, 2002.

ACTIVITY SHEET 3

VISIBLE AND INVISIBLE POLLUTANTS

The visible pollutants we call particles (or particulate matter) are tiny particles of solid or drops of liquid which float in the air. These can be natural like pollen or dust, or man-made from sources such as wood fires, wood heaters, industry, power plants or from cars and trucks.

Invisible pollutants are gases which mix with air and, at times, even react with it to form other gases. Examples of these pollutants, are the invisible gases from car exhausts.

Let's see the difference between visible and invisible pollution.

1) Half fill two clear cups with water.
2) Add one tablespoon of milk to one cup, stir to mix.
3) Add one teaspoon of pepper to the other cup, stir.
4) Observe the differences been the milk and the pepper.

What kind of pollutant(s) did the milk act like in the water?

_____

What kind of pollutant(s) did the pepper act like in the water?

_____

Would it be easier to get the milk or the pepper out of the water?

_____

Would it be easier to remove the gases or particles out of the air?

_____

Suggest how you could get the pepper out of the water.

_____

_____

_____

_____

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ACTIVITY SHEET 4

TYPES OF POLLUTANTS - PART 1

What type of substances cause pollution in our air? This play will help you find out!

Characters:

Christina
Steven
The Gremlins:
Smelly Sulfur Dioxide
Nasty Nitrogen Oxide
Odious Ozone
Pesky Particulate
Cranky Carbon Monoxide
Lumpy Lead

SETTING:
Christina and Steven are sitting in a lounge room with the television, radio, fan, and three or four lights on. They are watching a television show.

Christina: This is my favourite show!

Steven: Yeah I just love Saturday Disney. The song that's playing on the radio right now is pretty cool too. It goes along with the cartoon on the TV.

Christina: *(She gets up and looks outside the window)* Hey, Steven, look at that! *(points to the sky)*

Steven: Wow! I wonder what it is? Let's go outside and get a better look.

Steven and Christina go outside. A large cloud comes closer to them. Underneath or behind the cloud are the Air Pollution Gremlins. The cloud stops right in front of Steven and Christina. Immediately, the Gremlins start jumping around and making faces at the audience and Christina and Steven.

Steven: Who are you?

Smelly Sulfur Dioxide: We are the Air Pollution Gremlins. We've come to take over your town.

Christina: Why would you want to do that? Only nice people live here.

Pesky Particulate: You may be nice people, but nobody seems to care about the air in this town. So, it looks like a good place to live *(sneer)*.

Steven: I notice each of you has a different name. Why is that? Aren't you guys all the same?

Cranky Carbon Monoxide: We have different names because we come from different sources and cause different problems.

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ACTIVITY SHEET 4

TYPES OF POLLUTANTS - PART 1 (cont'd)

Steven and Christina: Oh no!!

Cranky Carbon Monoxide: I'm Cranky Carbon Monoxide. I mostly come from car exhaust. I like to make people dizzy and give them headaches *(twist hands menacingly)*.

Smelly Sulfur Dioxide: I'm Smelly Sulfur Dioxide. I come from smokestacks or power plants and industries. I can hurt your eyes, noses and lungs. I can even eat away iron and steel. I like to make the air look hazy *(lunges at audience)*.

Nasty Nitrogen Dioxide: I'm Nasty Nitrogen Dioxide. I have a yellow-brown colour and I come from cars, electric power plants, and other large industries. I can make the air brown and hazy. I like to hurt lungs, plants and metals *(makes an evil laugh)*.

Lumpy Lead: I'm Lumpy Lead. I can contaminate the air, food and water. Also, I am found in some old paints. I'm very harmful to children and fish *(does a little dance)*.

Odious Ozone: I'm Odious Ozone. I'm invisible by myself, but when I get together with my friends, I can help form smog. I can make it hard to breathe *(lunges at audience)*.

Pesky Particulate: I'm Pesky Particulate. I live in the air and like to travel on the wind. I make things dirty and I can carry harmful chemicals into your lungs as well *(makes a very loud and evil laugh)*.

Christina: All of you sound so terrible! We don't want you to live here.

Odious Ozone: You make it easy for us by wasting electricity and asking your parents to drive you everywhere you want to go!

Lumpy Lead: And by using your wood heaters incorrectly all winter.

Steven: You mean that just because we waste electricity, use wood heaters and ride around a lot in the car, you guys are here to stay?

Nasty Nitrogen Dioxide: Bingo! Thank you for the invitation to live in your town!

Christina: Well from now on, you're not invited to our town. I'm not wasting electricity anymore and I'm going to walk or ride my bike if I want to go somewhere nearby.

Steven: Yeah! *(firmly)*, and I'm going to find out how to use our wood heater properly! We're starting right now!

Steven and Christina rush inside and turn off all the lights and appliances they had left on.

Gremlins: OH NO! We can't live in this town if no one is wasting energy! This doesn't seem like a very good place to live after all.

Lumpy Lead: I'm sure we can find another town where people are wasting energy. C'mon, let's go!

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ACTIVITY SHEET 4

TYPES OF POLLUTANTS - PART 1 (cont'd)

The Gremlins leave in their cloud.

Christina: What do you want to do now?

Steven: Let's go outside and ride our bikes in the fresh, clean air.

Christina: I hope those Gremlins don't come back.

Steven: They won't as long as we continue to do things right.

THE END

Reference: The Air Pollution Gremlins were created by the Texas Natural Resource Conservation Commission and cited in 'Who Cares About Our Air'.

TYPES OF POLLUTANTS - PART 2

Fill in the table from the information given in the play.

Pollutant	Where it comes from	Effect
Smelly Sulfur Dioxide		
Nasty Nitrogen Oxide		
Odious Ozone		
Pesky Particulate		
Cranky Carbon Monoxide		
Lumpy Lead		

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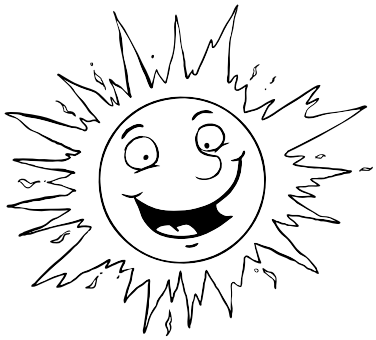
ACTIVITY SHEET 5

TRIGGER OR NOT A TRIGGER

Name: _____



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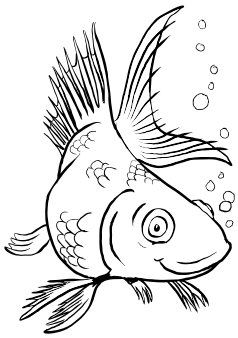

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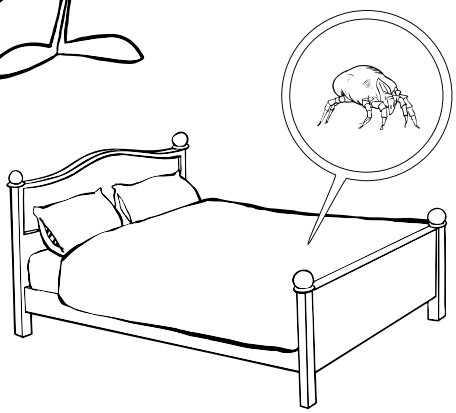

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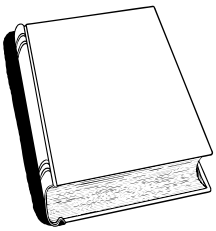
_____



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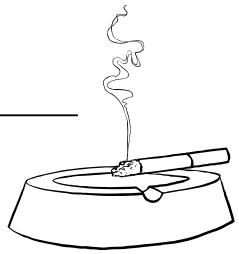
_____



_____

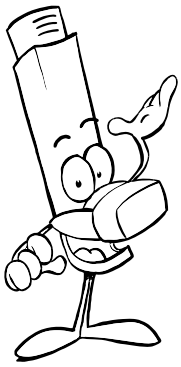
_____

_____

_____

ACTIVITY SHEET 6

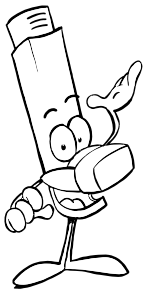
TRIGGER SCENARIOS



Name: _____

Teachers, duplicate and cut up this sheet so that each student has a copy of their scenario.

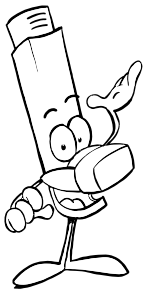
Students can paste these into their books with their answers.



Trigger Scenario 1

It is Chang's mother's birthday. To celebrate, Chang and her family go out to a restaurant for dinner. At the restaurant there is a log fire going. Chang has asthma.

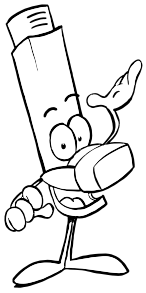
- What is the trigger in this story?
- What can Chang do to avoid the log fire smoke?
- How can Chang prevent this from happening again?



Trigger Scenario 2

Carla is listening to her teacher read the class a story. Sitting close to her teacher's desk, Carla notices a big bunch of flowers. Carla has asthma.

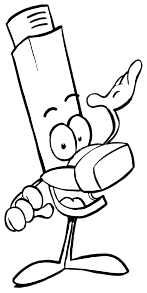
- What is the trigger in this story?
- What can Carla do or say to avoid the trigger?
- What can Carla's teacher do to prevent this from happening again?



Trigger Scenario 3

Jess would like a pet. Jess and her mum go to the pet store and see a kitten and some fish. Jess has asthma.

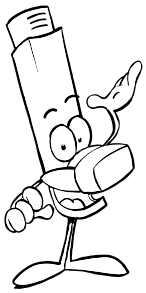
- What is the trigger in this story?
- What type of pet should Jess buy?
- Some people with asthma are allergic to cats, what are some other things people with asthma are allergic to?



Trigger Scenario 4

It is the school sports day and Karim will be competing in some athletic events. Karim has asthma.

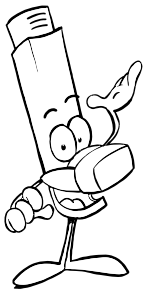
- What is the trigger in this story?
- Should Karim compete in the sports day?
- Why / why not?



Trigger Scenario 5

Tuan is watching his brother play soccer. He notices his brother run off the field. Tuan's brother has asthma.

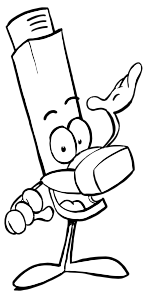
- What is the trigger in this story?
- Comment on the statement: "Physical activity is an asthma trigger that should not be avoided."
- What are some of the benefits of physical activity?



Trigger Scenario 6

Kai and Brett are playing in the local park where someone is mowing the lawn. Brett has asthma.

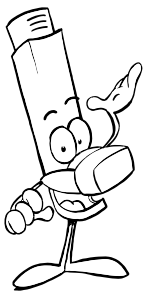
- What is the trigger in this story?
- What can Brett do to avoid the trigger?
- Who in the community could Brett see about this problem?



Trigger Scenario 7

Mai is changing clothes for her sport lesson. Lots of girls from the previous sport class are using spray deodorant in the changing room.

- What is the trigger in this story?
- What could Mai do to avoid this trigger?
- Can you think of a way to solve this problem?



Trigger Scenario 8

Julia's classroom is warm. She goes outside to play at recess and it is a very cold day.

- What is the trigger in this scenario?
- Can Julia avoid this trigger?
- What could the school do to help Julia?

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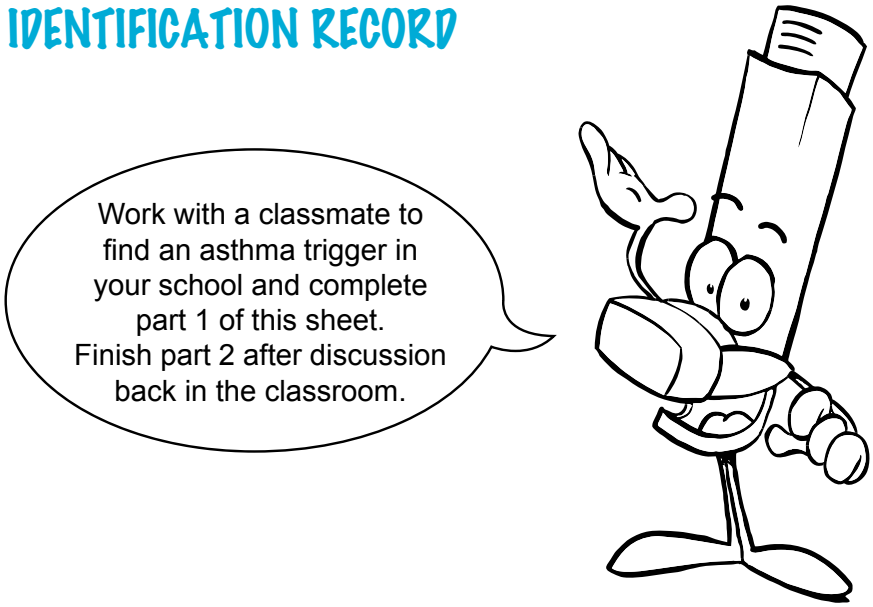
ACTIVITY SHEET 7

ASTHMA TRIGGER IDENTIFICATION RECORD



Part 1

TRIGGER: _____

LOCATION (where): _____

What do you think needs to be done?: _____

_____

Part 2 (circle your answers)

Can this trigger be controlled? Yes / No

What action could help control this trigger? Remove / reduce / avoid / change / inform

Who do you need to tell? Principal / your teacher / parents / students / other:_____

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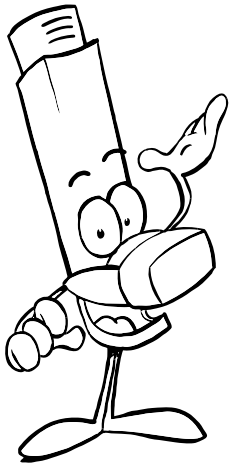
ACTIVITY SHEET 7

ASTHMA - WHO CAN HELP?



You need help because your friend has asthma, **WHO CAN HELP YOU**?

Write or draw a picture of **WHO CAN HELP YOU** and your friend when at...

Home

School

In the community

What would you tell the person who can help you about your friend with asthma?

_____

_____

_____

_____

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