

# EVERY BREATH WE TAKE



## MATH LESSON

### BOOK CONCEPT

"YOU TAKE ABOUT FORTY THOUSAND BREATHS A DAY; YOUR MOM OR DAD OR TEACHER TAKES ABOUT HALF AS MANY. SMALLER PEOPLE, AND SMALLER ANIMALS, BREATHE MORE OFTEN, AND THEIR HEARTS BEAT FASTER, TOO."

### OBJECTIVE

REINFORCE THE CONCEPT THAT WE NEED CLEAN AIR FOR BREATHING.  
DISPLAY DATA (I.E. BAR GRAPH) TO HELP VISUALIZE THE CONCEPT THAT SMALLER CREATURES CAN BE AFFECTED BY DIRTY AIR MORE THAN LARGER CREATURES.

### MATERIALS

- CREATE-A-BAR-GRAPH WEBSITE
- PAPER
- CRAYONS, COLORED PENCILS, MARKERS

## ACTIVITY

Create breath bar graph comparing the number of breaths taken by smaller vs. bigger creatures.

### 1 EXPLAIN

most living things need the oxygen in air to breathe and that we breathe air in and out with our lungs. Demonstrate by asking the children to place a hand on their chest as they breathe in and out. Ask:

- "What happens when you pull air in?"
- "What happens when you push air out?"

### 2 REFER

to the following table of respiration rates for various creatures, adapted from Purdue University's 4-H Science Toolkit Series: Animal Science:

Respiration Rates (breaths per minute)

HORSE	8-16
SMALL CHILD	20-30
PIG	20-40
GOLDFISH	80-90

Alternatively, have children choose which animals they would like to learn about and research respiration rates for small and larger creatures.

### 3 USE

the data to create a bar graph, either by hand or using the computer, demonstrating smaller creatures usually take more breaths per minute than larger ones. (Refer to the attached example using the above data and the create-a-bar-graph website. Note: to create the graph using the website you must enter an average value for breaths per minute).



FOR MORE INFO ON CLEAN AIR:  
[www.momscleanairforce.org](http://www.momscleanairforce.org)

SAY HELLO AND SEND US PICS:  
[info@momscleanairforce.org](mailto:info@momscleanairforce.org)

**MOMS**  
*clean air*  
**FORCE**

FIGHTING FOR  
OUR KIDS' HEALTH

# EVERY BREATH WE TAKE



## MATH LESSON

### BOOK CONCEPT

"YOU TAKE ABOUT FORTY THOUSAND BREATHS A DAY; YOUR MOM OR DAD OR TEACHER TAKES ABOUT HALF AS MANY. SMALLER PEOPLE, AND SMALLER ANIMALS, BREATHE MORE OFTEN, AND THEIR HEARTS BEAT FASTER, TOO."

### OBJECTIVE

REINFORCE THE CONCEPT THAT WE NEED CLEAN AIR FOR BREATHING.  
DISPLAY DATA (I.E. BAR GRAPH) TO HELP VISUALIZE THE CONCEPT THAT SMALLER CREATURES CAN BE AFFECTED BY DIRTY AIR MORE THAN LARGER CREATURES.

### MATERIALS

- CREATE-A-BAR-GRAPH WEBSITE
- PAPER
- CRAYONS, COLORED PENCILS, MARKERS

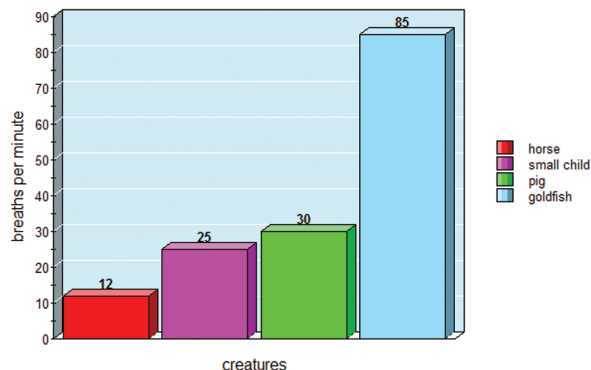
## ACTIVITY

Create breath bar graph comparing the number of breaths taken by smaller vs. bigger creatures.

3

Chart from Create-A-Bar-Graph website  
(<https://nces.ed.gov/nceskids/graphing/classic/bar.asp>)

**Respiration Rates (breaths per minute) for various creatures**



4

### DISCUSS

Compared with adults, stress that children are smaller and take in lots of air, especially when active. Also their lungs are still growing!

We want children to breathe air that is clean, not dirty, to be as healthy as possible!



FOR MORE INFO ON CLEAN AIR:  
[www.momscleanairforce.org](http://www.momscleanairforce.org)

SAY HELLO AND SEND US PICS:  
[info@momscleanairforce.org](mailto:info@momscleanairforce.org)

**MOMS**  
*clean air*  
**FORCE**

FIGHTING FOR  
OUR KIDS' HEALTH