

**Confessions of a Non-Non-Fiction Teacher**  
*Juli Kendall, a reading teacher/coach in Long Beach, California*  
<http://www.middleweb.com/ReadWrkshp/JK33.html>

Well, excuse me for coming late to the party, but it took a reading strategy to seduce me.

Until recently, when the idea of teaching the strategy of determining importance in text came along, I was an "artful dodger" of the emphasis on teaching nonfiction -- a push that surfaced only a few years ago. Without ever having made sense of how to teach nonfiction, I decided it was too dense, contrived and boring.

I wish I could say I would have spent more time reading exciting nonfiction with my students and learning all sorts of new things, if I hadn't been stuck trying to finish all the unending paperwork. But, if truth be told, I didn't pay a lot of attention to nonfiction reading in the classroom.

So, I avoided it. Ensnared in great fiction, I carried on with narrative text. Then I discovered some great nonfiction books.

I'm especially drawn to reading that has a sense of humor and that's what Martin Jenkins writes. His *Chameleons are Cool*, *Fly Traps!* *Plants That Bite Back*, and *Wings, Stings and Wiggly Things* are terrific. Using the strategy of determining importance in text with these books won me over to the nonfiction side.

### **The truth about non-fiction in our classroom**

Here's how we're teaching nonfiction in Reading Workshop. [Strategies that Work: Teaching Comprehension to Enhance Understanding](#) lays it out in an easy to understand format. "When we teach the strategy of determining importance, we often introduce it in nonfiction," Harvey and Goudvis write. "They go together. Nonfiction reading is reading to learn. Simply put, readers of nonfiction have to decide and remember what is important in the texts they read if they are going to learn anything from them." (P.118)

We began by doing Read Alouds and Shared Reading with volumes of nonfiction for several weeks. Our reading included magazine articles ("Wild Outdoor World" and "National Geographic World"), articles from the web ([www.SIKids.com](http://www.SIKids.com) and [www.Howstuffworks.com](http://www.Howstuffworks.com)) and books. We find that this immersion in the genre really helps our kids know what nonfiction is about and how it works.

As we continued with the immersion (reading lots and lots of nonfiction), we started to teach Nonfiction Conventions (*Strategies That Work*, p. 122). We made Nonfiction Convention books using blank white paper and construction paper covers. Each day we taught a different nonfiction convention and the kids drew examples on a page in their book. The last several days they picked their own conventions. Making this book had a positive effect on their understanding of the conventions as well as developing their knowledge of the vocabulary, a piece that was missing up to this point.

Our books included these nonfiction conventions:

Labels	Comparisons	Cross-sections	Illustrations and
Graphs	Fonts and effects	Overlays	photographs
Captions	Tables	Insets	Maps

Both [Nonfiction Matters](#) and *Strategies That Work* have lots of good ideas for how to teach Overviewing and Highlighting. These strategies for nonfiction assist in determining importance in text.

With Overviewing, we used their science textbooks. This way everyone had his or her own book. Mini-lessons on these topics from *Strategies That Work*, p. 119, helped them learn the process.

Activating prior knowledge

Noting characteristics of text length and structure

Noting important headings and subheadings

Determining what to pay careful attention to

Determining what to ignore

Deciding to quit because the text contains no relevant information

Deciding if the text is worth careful reading or just skimming

Teaching Highlighting was more of a challenge since we encountered a group of "overzealous highlighters." According to *Strategies That Work*, a reasonable goal for highlighting text is that highlighter will cover no more than 50% of the words, actually one-third of the text is even better. We're still working on this one!

### **Lots of texts**

If it seems as if there's a nonfiction book for every taste, you're not far off. Surprisingly, overlap isn't a big issue. There are so many great topics that we made up some text sets for nonfiction reading. (These are listed at the end of the journal.) We're using them to do two parts of our April curriculum map we developed using *Strategies That Work*.

Acquiring information about an interesting topic, asking some questions, and designing pages based on authentic pages in nonfiction trade books

Becoming a specialist on a favorite topic, choosing what is important to include in a piece of writing, and writing informational teaching books

No one wants to speak against the status quo, but the sentiment in reading famously insisting "Read one book, read them all" in no way applies to the universe of nonfiction. Oh, my gosh, I thought. This is what nonfiction is all about -- a variety of texts, fascinating illustrations and lots of great information to learn. I was addicted too.

### **Our Nonfiction Text Sets**

The Universe

*The Illustrated World of Space*, Nicolson

*The Moon Book*, Gibbon

*Do Stars Have Points? Questions and Answers About Stars and Planets*  
Scholastic

*The Universe*, Simon

*Our Solar System*, Simon

*Mercury*, Simon

*Venus*, Simon

*Mars*, Simon

*Jupiter*, Simon

*Saturn*, Simon

*Neptune*, Simon

*Uranus*, Simon

Amazing Animals:

*Do Tarantulas Have Teeth? Questions and Answers About Poisonous Creatures*,  
Scholastic

*Exploding Ants: Amazing Facts About How Animals Adapt*, Settel

*Animal Defenses: How Animals Protect Themselves*, Kaner

*Yuck! A big book of little horrors:*

*Micromarvels in, on, and around you*,  
Snedden

*Animals Nobody Loves*, Seymour Simon

Reptiles and Amphibians

*The Snake Scientist*, Montgomery

*Chameleons are Cool*, Jenkins

*Crocodiles and Alligators*, Simon

*Snake*, Ling

*Slinky, Scaly, Slithery Snakes*, Hinshaw

Animals of Africa

*Elephant Quest*, Ted and Betsy Lewin

*Gorilla Walk*, Ted and Betsy Lewin

*Safari*, Robert Bateman

*Gorillas*, Simon

*Big Cats*, Simon

Ocean Life

### **Earth Science and Adventure**

*Spirit of Endurance, The True Story of the Shackleton Expedition to the Antarctic*,  
Armstrong

*The Top of the World, Climbing Mount Everest*, Jenkins

*Why Do Volcanoes Blow Their Tops? Questions and Answers About Volcanoes and Earthquakes*, Scholastic

*The Most Beautiful Roof in the World:*

*Exploring the Rainforest Canopy*, Lasky

*Hottest, Coldest, Highest, Deepest*, Jenkins

*What Makes an Ocean Wave? Question and Answers about Oceans and Ocean Life*, Scholastic

*Giant Squid, Mystery of the Deep*,

American Museum of Natural History

*Whales: Killer Whales, Blue Whales and More*, Hodge

*Chelonia, Return of the Sea Turtle*,

Navarro, Snodgrass, and Nichols

*Outside and Inside Sharks*, Markle

*Gentle, Giant Octopus*, Wallace

*Oceans*, Simon

# How Body Mass Index Works by [Stephanie Wilson](#)



To find out how much you weigh, you simply step on a [scale](#). But your weight alone can't tell you whether you're underweight, healthy, or overweight. If you're 6'4" and you weigh 200 pounds, you're probably at a healthy weight; but if you're 5'9" and weigh 200 pounds, you're probably overweight.

Because both height and weight are important to help determine if someone is overweight, scientists came up with a mathematical formula called **Body Mass Index** (BMI). This simple measurement helps doctors determine whether their patients are at a healthy weight or need to lose or gain a few pounds.

In this article, you'll learn how the BMI is calculated and what the numbers mean to your health.

## BMI Calculator

Body Mass Index is a calculation that takes into consideration both a person's body weight and height to determine whether they are underweight, overweight, or at a healthy weight. It can be calculated in inches and pounds (in the United States), or meters and kilograms (in countries that use the metric system).

In inches, the formula looks like this:

$$\left[ \frac{\text{weight in pounds}}{(\text{height in inches}) \times (\text{height in inches})} \right] \times 703$$

A person who weighs 180 pounds and is 5 feet 8 inches tall has a BMI of 27.4.

$$\left[ \frac{180 \text{ lbs}}{(68 \text{ inches}) \times (68 \text{ inches})} \right] \times 703 = 27.4$$

In meters, the formula looks like this:

$$\left[ \frac{\text{weight in kilograms}}{(\text{height in meters}) \times (\text{height in meters})} \right]$$

A person who weighs 99.79 kilograms and is 1.905 meters (190.50 centimeters) tall has a BMI of 27.5.

$$\left[ \frac{99.79 \text{ Kg}}{(1.905 \text{ m}) \times (1.905 \text{ m})} \right] = 27.5$$

What's your BMI? Type your height and weight into the boxes and press "Find My BMI."

Your height:  feet  inches

Your weight:  pounds

Studies have indicated that being overweight or obese can significantly increase a person's risk for developing several diseases, including:

- [Heart disease](#)
- [Diabetes](#)
- [Osteoarthritis](#)
- Some types of [cancer](#)

Similarly, being underweight can also lead to increased health risks due to malnutrition.

In a broad sense, the BMI helps health officials get a general idea of how weight and obesity affect the health of the population. On an individual basis, it enables doctors to identify weight problems in their patients before serious health conditions arise. Patients who are overweight, or at risk for being overweight, can start on a [diet](#) and [exercise](#) program to help them bring their weight down to a healthy range.

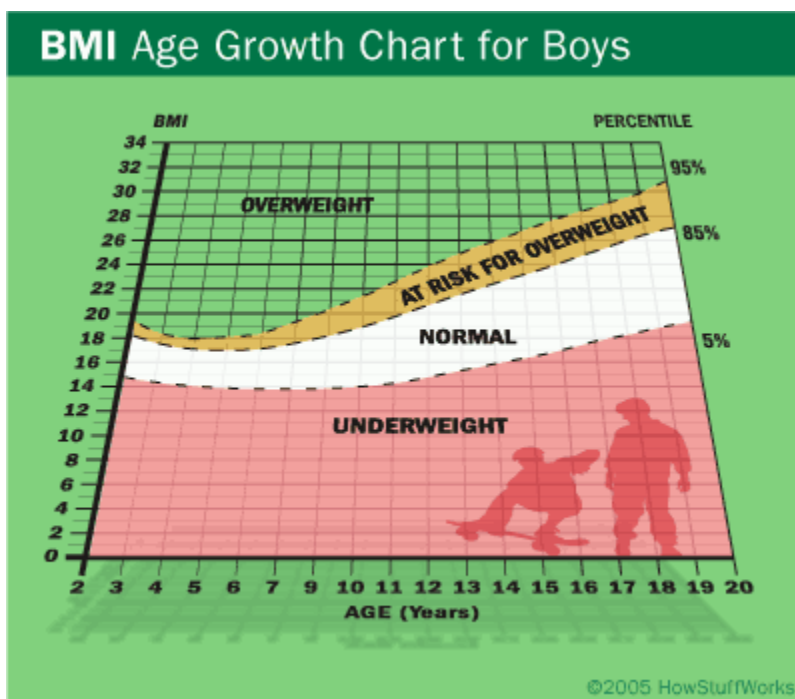
It's important to note that BMI is just one factor involved in determining risk for disease. Diet choices, exercise, and smoking all combine to determine whether or not an individual is healthy. In the next section we'll see how BMI is measured for children.

## BMI for Children

Young children naturally start out with high body [fat](#), but tend to get leaner as they get older. Girls and boys also have different body compositions. To take into account the differences between boys and girls and children of different ages, scientists have created a special BMI for children, called **BMI-for-age**.

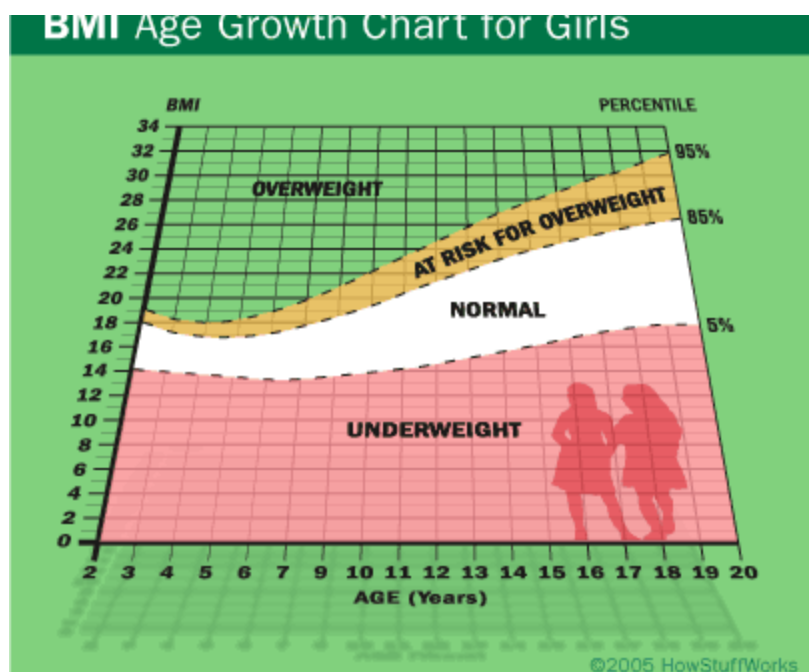
Doctors use a set of growth charts to track the development of children and young adults between the ages of two and 20. The BMI-for-age figures in a child's height, weight, and age to determine how much body fat he has. It compares the results to those of other children of the same age and gender, and can help predict whether children will be at risk for being overweight when they get older. You can view a complete set of the charts at [CDC's growth chart page](#).

Each chart contains a set of curved lines indicating the child's percentile. For example, if a 15-year-old boy is in the 75th percentile for BMI, 75 percent of boys of the same age have a lower BMI. He is at a normal weight. Although his BMI changes as he grows, he can stay at around the same percentile and remain at a normal weight.



The normal BMI range becomes higher for girls as they mature, because teenage girls normally have more body fat than teenage boys.

A boy and girl of the same age may have the same BMI, but the girl could be of normal weight and the boy could be at risk for being overweight.

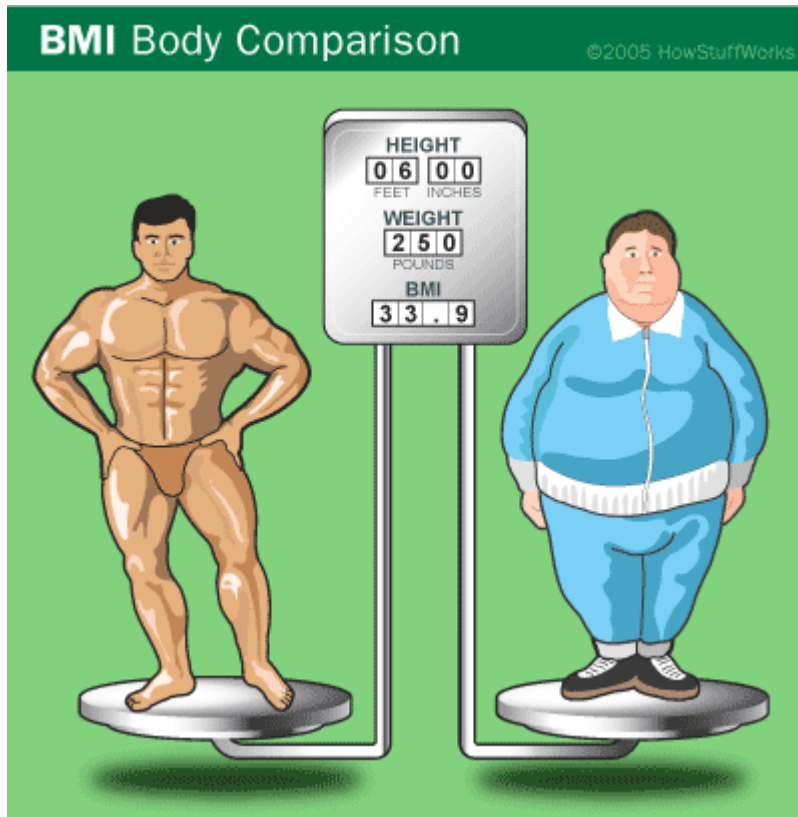


Doctors say it's important with children to track BMI over time rather than looking at one individual number, because children can go through growth spurts.

In the next section, we'll learn about some of the controversy associated with using BMI.

## Is BMI an Accurate Measure of Obesity?

It's important to note that although BMI is accurate most of the time, it may overestimate or underestimate body fat. For example, BMI doesn't distinguish between body fat and [muscle](#) mass, which weighs more than fat. Many [NFL players](#) have been labeled "obese" because of their high BMI, when they actually have a low percentage of body fat.



The BMI is not always accurate in elderly adults, who have often lost muscle and bone mass. Although their BMI might be within a normal range, they could still be overweight. BMI may also relate differently to various ethnic groups. For example, Asians may be at risk for health problems at a lower BMI than Caucasians.

Because of the possibility for error, BMI should be just one of many gauges used to assess a person's weight status and health. [The National Institutes of Health](#) (NIH) recommends that doctors assess whether their patients are overweight based on three factors:

1. BMI
2. Waist circumference - a measurement of abdominal fat
3. Risk factors for diseases associated with obesity, such as high [blood pressure](#), high LDL ("bad") [cholesterol](#), low HDL ("good") cholesterol, high blood sugar, and smoking



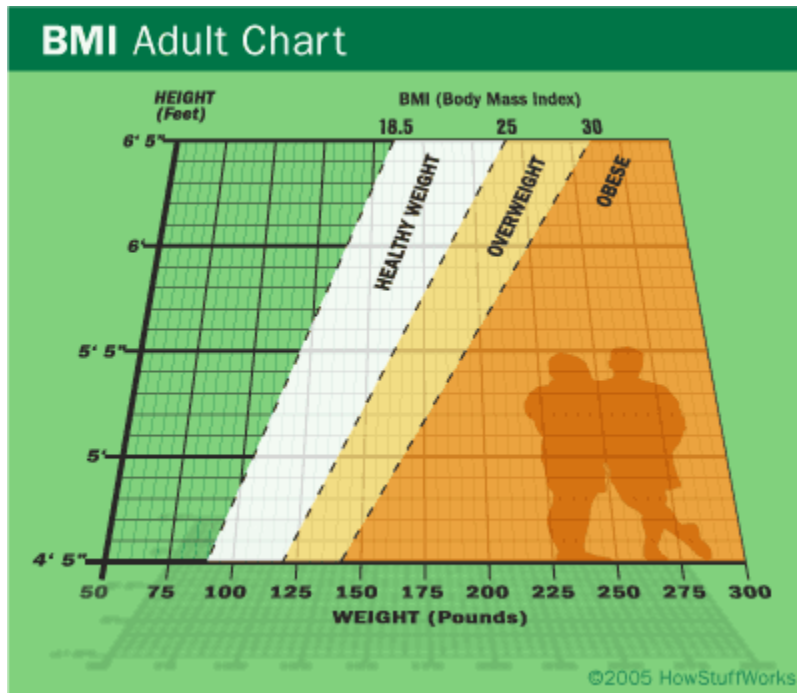
Many health experts say that body fat percentage is a better indicator of weight status than BMI. But body fat isn't always as easy, or as inexpensive, to measure. Tests such as **skin-fold measurements** (in which a technician pinches a fold of skin on the patient's body to measure the subcutaneous fat layer just beneath the skin), **dual energy X-ray absorptiometry** (DEXA, which measures bone density), or **bioelectrical impedance** (which measures the opposition to a flow of electric current through the body -- impedance is low in lean tissue and high in fat tissue) are more precise, but they must be done by a trained medical professional.

## The History of BMI

Using a formula to calculate [obesity](#) is not a new concept. In the nineteenth century, a Belgian statistician named Adolphe Quetelet came up with the **Quetelet Index of Obesity**, which measured obesity by dividing a person's weight (in kilograms) by the square of his or her height (in inches).

Formula:  $w/h^2$

Before 1980, doctors generally used weight-for-height tables -- one for men and one for women -- that included ranges of body weights for each inch of height. These tables were limited because they were based on weight alone, rather than body composition. BMI became an international standard for obesity measurement in the 1980s. The public learned about BMI in the late 1990s, when the [government](#) launched an initiative to encourage healthy eating and exercise.



In 1998, the National Institutes of Health lowered the overweight threshold for BMI 27.8 to 25 to match international guidelines. The move added 30 million Americans who were previously in the "healthy weight" category to the "overweight" category. Today, the NIH advises doctors and their patients to include BMI in a complete assessment of a person's body size and overall health.

For more information on BMI and related topics, check out the links on the next page

# How Body Mass Index Works by [Stephanie Wilson](#)

<http://health.howstuffworks.com/bmi.htm>

## Inside This Article

### **Introduction to How Body Mass Index Works**

BMI Calculator

BMI for Children

Is BMI an Accurate Measure of Obesity?

The History of BMI

Lots More Information

See all **Fitness** articles

## Lots More Information

- [How Fat Cells Work](#)
- [How Dieting Works](#)
- [How Diet Pills Work](#)
- [How the Atkins Diet Works](#)
- [How Low-carb Dieting Works](#)
- [How Exercise Works](#)
- [How Fat Vaccines Will Work](#)
- [How Heart Disease Works](#)

## More Great Links

- [American Obesity Association](#)
- [CDC: BMI](#)
- [MedlinePlus: Weight Control](#)
- [Obesity Help](#)
- [Weight-control Information Network](#)

## Sources

- "Aim for a healthy weight." National Heart, Lung and Blood Institute. [http://www.nhlbi.nih.gov/health/public/heart/obesity/lose\\_wt/risk.htm](http://www.nhlbi.nih.gov/health/public/heart/obesity/lose_wt/risk.htm)
- "Bioelectrical Impedance Analysis." Impedimed Limited, March 10, 2005. <http://florey.biosci.uq.edu.au/BIA/whatitis.html>
- CDC: BMI <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-means.htm>
- CDC: BMI-for-age <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-for-age.htm>
- CDC: Growth Charts <http://www.cdc.gov/nchs/about/major/nhanes/growthcharts/charts.htm>
- KidsHealth.org: BMI Charts [http://kidshealth.org/PageManager.jsp?dn=KidsHealth&lic=1&ps=107&cat\\_id=148&article\\_set=22610](http://kidshealth.org/PageManager.jsp?dn=KidsHealth&lic=1&ps=107&cat_id=148&article_set=22610)
- Kuczmarski, R. J. and K. M. Flegal. "Criteria for definition of overweight in transition: background and recommendations for the United States." American Journal of Clinical Nutrition, Vol. 72, No. 5, 1074-1081, November 2000 <http://www.ajcn.org/cgi/content/full/72/5/1074>
- Mackey, Carole S. "Body Mass Index." Nutrition and Well-Being A to Z. Vol. 1. New York: Macmillan Reference USA, 2004. 71-74.
- Platkin, Charles Stuart. "BMI is a better way to measure." North Virginia Daily, 2005. [http://www.nvdaily.com/Food/2005/salad\\_051805/BMI.html](http://www.nvdaily.com/Food/2005/salad_051805/BMI.html)