



# Maintain Your Mind

***Week 1: Take Control of Your Brain***

## What's Inside:

**Brain-Boost Challenges .....pgs. 2, 8, 9**

**Word Workout .....pg. 2**

**Keep Brain Health in Mind .....pg. 3**

**Gray Matters:  
Thinking and Aging .....pg. 4**

**Brain Basics .....pg. 5**

**Brain Health Habits  
Self-Check ..... pgs. 6, 7**

**Thinking Ahead .....pg. 10**

## Welcome to Maintain Your Mind— A Lifestyle Program for the Preservation and Promotion of Brain Health

Comedian Erma Bombeck once said, “I have a theory about the human mind. A brain is a lot like a computer. It will only take so many facts, and then it will go on overload and blow up.” Fortunately, Erma had it wrong on all accounts! The brain is the most complex biological structure known. It is also an amazing organ that most of us take for granted and don’t “think” about on a regular basis.

There is a great deal of information about the prevention of chronic conditions, like heart disease, cancer and diabetes. Hopefully, you consider your physical health when making lifestyle decisions. What many people aren’t as aware of (or don’t consider as often), is brain health.

Just like physical health, brain health is important at all ages and contributes to optimal well-being and quality of life as you grow older. The fact is... there are lifestyle choices that may help keep your mind sharp and your brain healthy. This program just might be your first step!



# This Week's HEADlines

## Facts About Your Brain

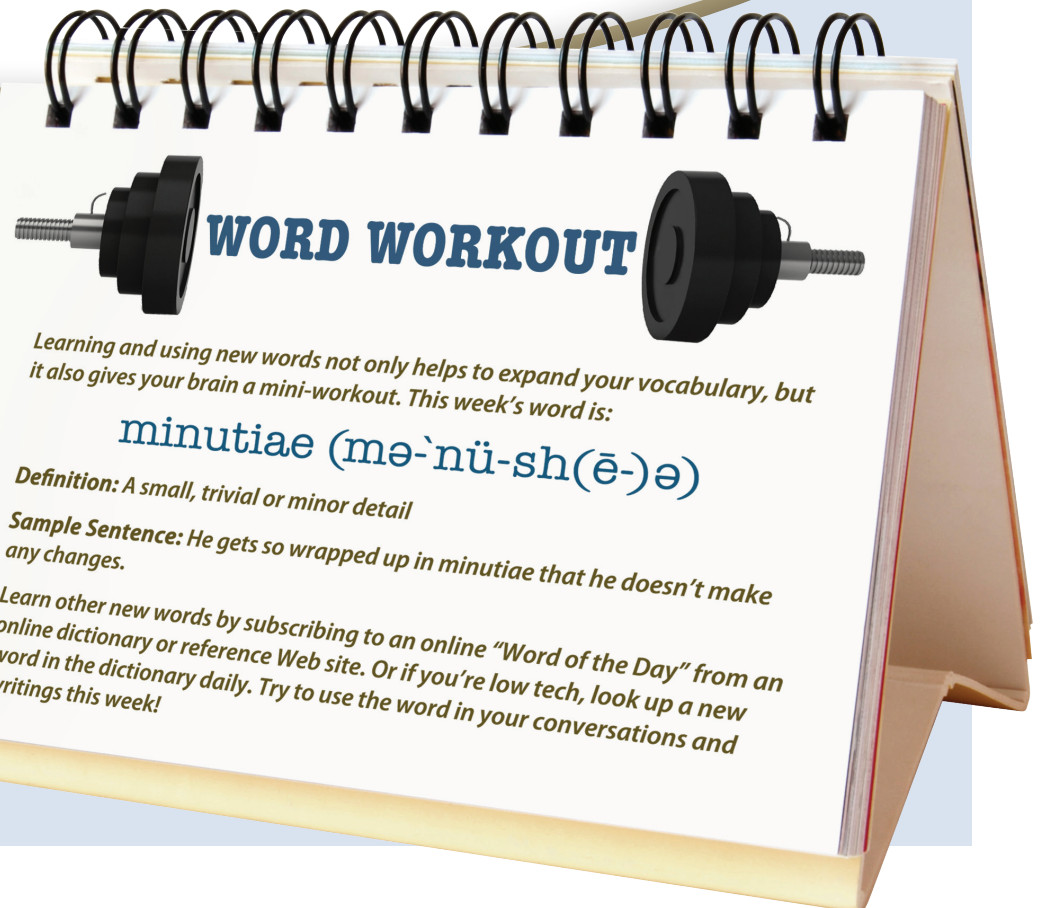
It accounts for two to four pounds of your body weight. ⚙️ It is responsible for abilities, such as memory, language and problem solving. ⚙️ It houses your personality and helps stabilize your mood and emotions. ⚙️ Its functions are more complex than any computer ever invented. ⚙️ It organizes tasks and affects behaviors.

### BRAIN-BOOST CHALLENGE I

(Words to know before you begin reading.)

**COGNITIVE** or **COGNITION** are the scientific terms for "the process of thought" that describes brain function as it relates to the mental processes of memory, judgment, reasoning and the ability to think.

**COGNITIVE IMPAIRMENT** is a term used to describe the decline in these functions of the brain.



## Keep Brain Health in Mind

Many people do not think about brain health until they know someone who has been impacted by a brain-related disease or disorder. Ranging from mild cognitive impairment to depression to Alzheimer's disease, these conditions affect millions of Americans and have a significant impact on individuals, families, friends, caregivers and co-workers. In 2002, approximately 2.5 million Americans were diagnosed with dementia. With the aging of Baby Boomers (people born between 1946-1964), the number of people with dementia is expected to reach over five million by 2030 (*Centers for Disease Control and Prevention (CDC) and The Merck Co. Foundation, 2007*).



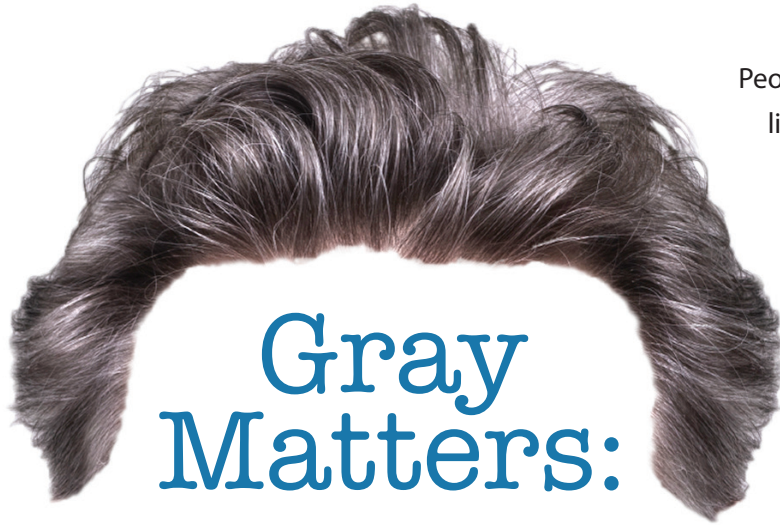
**While research is still evolving, scientists agree that there is a relationship between lifestyle-related risk factors and brain health.**

**Here is some food for thought:**

- Certain chronic diseases, such as diabetes and depression, and risk factors, such as smoking, are associated with increased risk for Alzheimer's disease and cognitive decline (*National Institutes of Health (NIH) Expert Panel, 2010*).
- Preventing or controlling high blood pressure, cholesterol, diabetes, weight gain and obesity; preventing or stopping smoking; and being physically active are associated with maintenance of cognitive health (*CDC and Alzheimer's Association, 2007*).
- An increasing number of studies suggest that modifiable risk factors for heart disease (like diet, smoking, physical activity, alcohol intake and sleep habits) are also risk factors for cognitive decline (*Hendrie, 2006*). Another study published in the journal, *Neurology*, showed that smokers who quit greatly slowed their cognitive decline (*Rush University Medical Center, 2009*).
- Strong relationships and social networks, emotional support and stress resilience are associated with less mental decline and more active living as people age (*AARP, 2009*).
- Regular physical activity may protect against and even reverse age-related brain decline by lowering the risk for vascular disease and inflammation, both of which increase risk for cognitive decline and dementia (*CDC and Alzheimer's Association, 2006*).
- Eating a Mediterranean-style diet is associated with lower risk of cognitive impairment (*Scarmeas, 2008, p216*).
- A diet that consists of Omega-3 rich oils, such as canola oil, flaxseed oil and walnut oil, reduces risk of dementia by 60%. People who ate fruits and vegetables daily reduced their risk of dementia by 30% (*Barberger-Gateau, 2007*).
- Engaging in mentally stimulating activities, such as reading, writing letters and solving crosswords and other puzzles may help maintain memory, concentration and problem solving skills (*Journal of the American Medical Association (JAMA), 2006*).
- There is insufficient evidence to support the use of pharmaceutical agents or dietary/herbal supplements in the prevention of cognitive decline or Alzheimer's disease (*NIH Expert Panel, 2010*).
- Vitamin D deficiency is associated with an increased risk for dementia and cerebrovascular disease. Vitamin D may have vasculoprotective properties (*American Academy of Neurology 62nd Annual Meeting, 2010*).

The debate continues as science evolves with new research emerging about the impact of lifestyle practices on brain health. What has become evident is this fact:

**A decline in brain health is not an inevitable or even “normal” consequence of aging. In fact, you do have some control in preserving and promoting this remarkable, highly complex organ.**



# Gray Matters: Thinking & Aging

People are living longer. In 1970, the average life expectancy at birth was 70.8 years; in 2000, it was 76.9 years; and by 2030 it is estimated that the “oldest-old,” age 85 and older, could grow to 10 million people (*National Institute on Aging (NIA), 2008*). People age 65 and over will soon outnumber children under age five for the first time in history (*U.S. Census Bureau, 2008*).

Views on aging are also changing, and as life expectancy increases, the interest in “active life expectancy” and healthy aging also grows. There is still much to learn, but so far there are two major trains of thought by researchers.

First, “normal” aging can be distinguished from disease. Although people’s bodies change and can in some ways decline over time, these changes do not inevitably lead to diseases, such as diabetes, high blood pressure or dementia. A number of conditions that typically occur in old age are a result of disease processes, not normal aging.

Second, no single, chronological timetable of human aging exists. Everyone ages differently. In fact, in terms of change and development, there are more differences among older people than among younger people. Genetics, lifestyle and disease processes affect the rate of aging between and within all individuals (*NIA, 2008*).

## Take Control of Your Brain

The goal of **MAINTAIN YOUR MIND** is to empower you to *take control of your brain*. This doesn’t guarantee that you’ll never experience some type of cognitive impairment or mental decline. What it does mean is that **you can take steps now, no matter what your age, to preserve and promote your brain health to help you stay sharper, longer.**

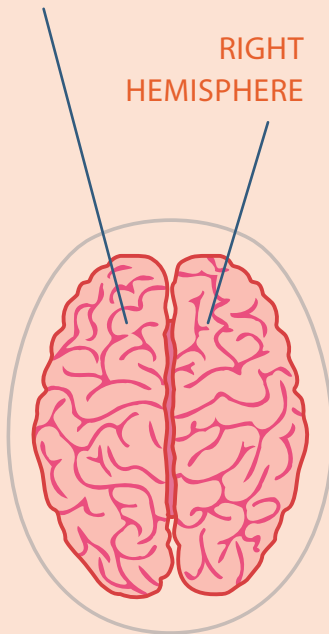
With **MAINTAIN YOUR MIND**, you will learn about “brain basics” and explore the lifestyle factors that contribute to maintaining a mind that is sharp, active and functioning optimally. You will also discover how to add practical brain-boosting activities and strategies into your daily routine by making small, realistic changes to last a lifetime. Let’s get started with a few of the basics.

In the book **Save Your Brain** by Paul Nussbaum, PhD, LH, a clinical neuropsychologist and brain health expert, he states, “While the brain is fragile, it is also the most magnificent system ever designed, capable of more than we can presently know and deserving of a lifetime’s dedication to health.”

# BRAIN BASICS

Learning more about your brain is one way to take control of it. You may be interested in the following facts about your brain (Nussbaum, 2007).

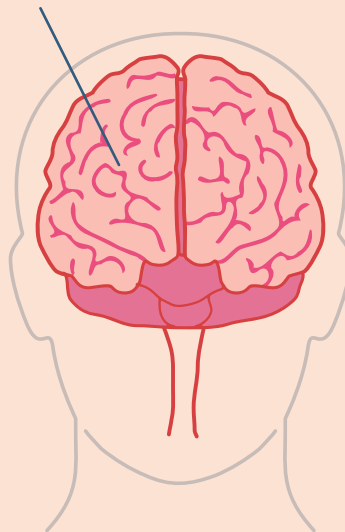
## LEFT HEMISPHERE



## RIGHT HEMISPHERE

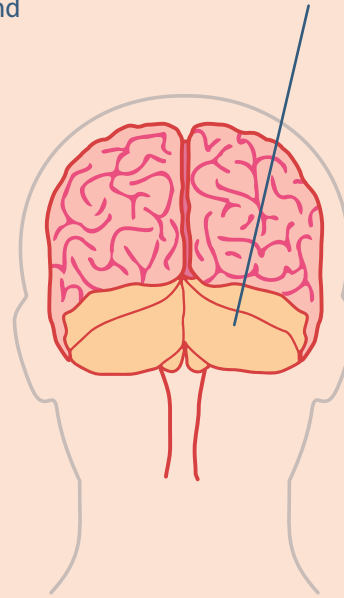
## CORTEX

The cortex is organized by four primary regions that have specific functions, including: planning and conceptualizing, mood stability, organizing and executing behaviors, memory, new learning, language, reading, writing and mathematical ability, sight and perception.



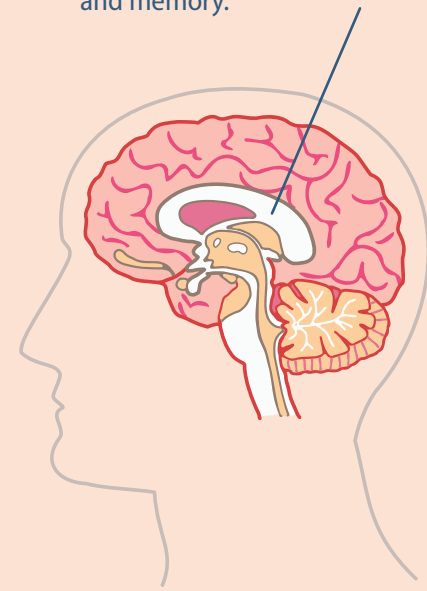
## SUBCORTEX

The subcortex is responsible for functions that are conducted subconsciously, such as driving and dressing.



## HIPPOCAMPUS

You have a hippocampus in each hemisphere (plural: hippocampi) that takes in and encodes new information and initiates learning and memory.



## BRAIN PLASTICITY

Your brain has no limitations and has the ability to constantly develop. This is known as brain plasticity. Because of brain plasticity, engaging in behaviors to promote cognitive health can benefit you whether you are in your 20s, 40s, 60s and beyond.

## NEURONS

The operation and function of your brain is conducted by millions of brain cells known as neurons. Neurons can increase in number and are shaped by new environments and experiences.

## SYNAPSES

Neurons communicate with one another via synapses. The more synaptic connections you develop over time, the greater brain reserve you will have and the healthier your brain may be.

## BRAIN RESERVE

Brain reserve may also delay the onset of disorders or diseases, such as Alzheimer's disease.

## Do You Think You Live a Healthy Brain Lifestyle?

Another way to take control of your brain is to learn more about your current lifestyle. The following lifestyle practices are associated with improved brain/cognitive function. While the **BRAIN HEALTH HABITS SELF-CHECK** assessment is not all-inclusive, it is a starting point to guide you on the path toward brain preservation and health promotion.

**DIRECTIONS:** Think about your typical habits, lifestyle and daily routines, and select the rating that best describes how frequently you do the following activities. Total your score to see if your habits make the grade. Keep in mind that this is an informational assessment and in no way covers every lifestyle practice that promotes brain health. It is simply a broad overview to assess where you are today.

### HOW TO SCORE

4 = Always

3 = Usually

2 = Sometimes

1 = Rarely

0 = Never



Brain Health Habits Self-Check	SCORE
<b>HOW FREQUENTLY DO YOU:</b>	
Walk or bike for exercise daily (about 30 minutes)?	
Do Tai Chi, yoga and other activities daily (about 30 minutes)?	
Participate in strength or resistance training (2 to 3 times per week)?	
Play sports or games that require strategy and hand-eye coordination?	
Maintain a healthy body weight?	
Control chronic conditions, like high blood pressure or cholesterol?	
Limit your intake of foods high in fat and cholesterol?	
Avoid smoking and tobacco use?	
Eat several servings of fruits and vegetables daily?	
Eat cold water, fatty fish like salmon, halibut, mackerel and tuna?	
Eat some nuts, like walnuts, almonds and pecans?	
Cook with extra virgin olive oil (in moderation)?	
Drink green tea?	
"Unplug" from technology, like cell phones, pagers and PDAs?	
Maintain an optimistic outlook?	
Get adequate sleep to feel rested and energetic?	
Volunteer in community groups?	
Join bridge clubs, square dancing clubs or other social groups?	
Travel or take a vacation?	
Participate in activities, such as dancing, gardening or knitting?	
Read more than the news on a daily basis?	
Do crosswords or other puzzles or play board games?	
Play a musical instrument or listen to classical music?	

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Brain Health Habits Self-Check	SCORE
<b>HOW FREQUENTLY DO YOU:</b>	
Speak more than one language?	
Change your daily routine, like drive alternative routes to destinations?	
Eat a meal with family, friends or co-workers?	
Engage in personally meaningful activities, such as causes close to your heart?	
Attend lectures, seminars and plays?	
Take classes about things that interest you to expand your learning?	
Engage in a hobby?	
Pray, meditate or focus inward?	
Engage in stress management practices?	
Use your non-dominant hand?	
Spend time with people that challenge you?	
Learn new words to expand your vocabulary?	
<b>TOTAL YOUR SCORE</b>	



## SCORING

### A = 126 to 140

Your habits, lifestyle and daily routines pass the test to promote cognitive health and emotional well-being. Keep up the good work! How can you improve even more?

### B = 112 to 125

Your habits, lifestyle and daily routines need work and may potentially contribute to less than optimal cognitive health and emotional well-being. Select two options that you would like to gradually improve over the next six weeks.

### C = 98 to 111

Your habits, lifestyle and daily routines need a lot of work and may be major contributors to less than optimal cognitive health and emotional well-being. Select four or more options that you would like to gradually improve over the next six weeks and beyond.

### D = 97 or less

Your habits, lifestyle and daily routines do not make the grade and may have a significant impact on your cognitive health and emotional well-being. Select six or more habits that you would like to gradually improve over the next six weeks and beyond.



## BRAIN-BOOST CHALLENGE II

Take a little time today to give your brain a workout with this challenging word search that includes words found throughout this newsletter. It's fun and will help you to *take control of your brain!*

i	p	s	o	t	h	s	c	t	s	n	h	i	a	m	y	i	b	y
h	i	i	t	s	e	x	s	i	p	t	a	e	b	e	t	i	e	n
b	w	b	b	i	c	o	n	c	e	p	t	u	a	l	i	z	e	c
r	a	r	t	d	l	e	s	b	u	e	l	m	c	t	l	h	m	o
f	a	a	b	r	a	i	n	p	l	a	s	t	i	c	i	t	y	y
i	b	i	m	e	y	e	o	i	n	l	o	t	o	p	b	o	p	b
t	b	n	m	i	r	b	r	g	i	a	h	g	p	a	a	e	i	h
o	s	r	e	t	a	a	u	a	t	i	n	o	p	l	l	n	b	e
b	h	e	m	a	o	a	e	n	t	i	c	g	i	a	a	p	t	c
r	x	s	o	o	g	s	n	r	t	a	a	t	s	b	c	e	o	x
a	c	e	r	e	h	p	s	i	m	e	h	t	h	g	i	r	a	e
i	g	r	y	t	y	e	o	p	m	g	l	n	p	t	t	c	s	t
n	p	v	r	a	s	n	u	a	i	p	e	g	z	e	a	e	e	r
c	t	e	e	e	i	s	g	s	p	t	i	a	x	i	m	p	s	o
e	e	l	e	f	t	h	e	m	i	s	p	h	e	r	e	t	p	c
l	i	c	h	b	s	m	p	r	i	h	o	l	x	e	h	i	a	b
l	c	s	f	n	m	t	w	n	t	r	r	s	e	u	t	o	n	u
s	n	o	i	t	c	e	n	n	o	c	c	i	t	p	a	n	y	s
n	t	i	s	s	b	r	a	i	n	a	n	a	t	o	m	y	s	m

### BRAIN WORDS

cortex  
subcortex  
cognition  
conceptualize  
right hemisphere  
left hemisphere  
hippocampus  
memory  
brain plasticity  
brain cells  
neurons  
synapses  
synaptic connections  
brain reserve  
brain anatomy  
language  
perception  
sight  
mathematical ability  
read  
write

## Make Up Your Mind

Based on what you learned from taking the **BRAIN HEALTH HABITS SELF-CHECK** assessment, write down three habits that you can improve to help you *take control of your brain*. (Examples: I can get more sleep, I can read one new book each month, I can volunteer in my community, etc.)

1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

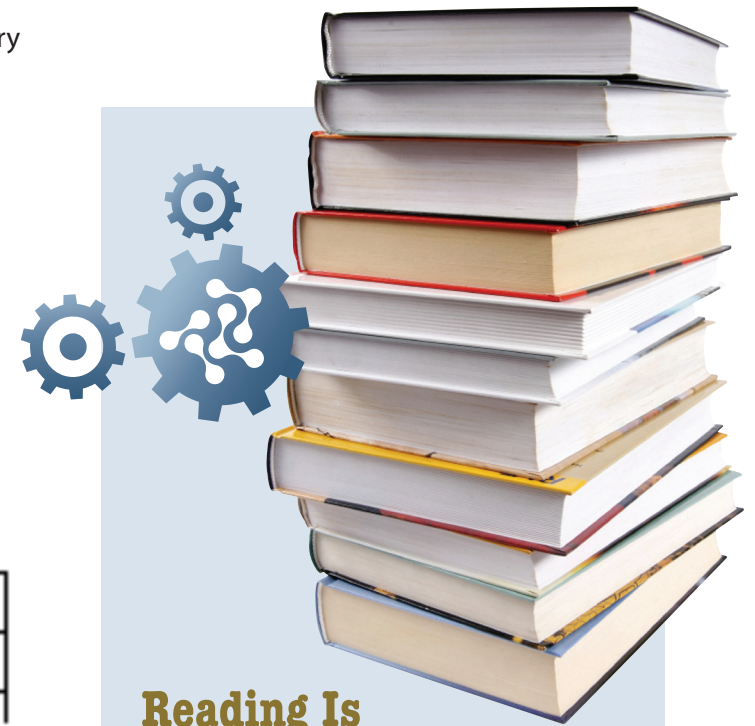
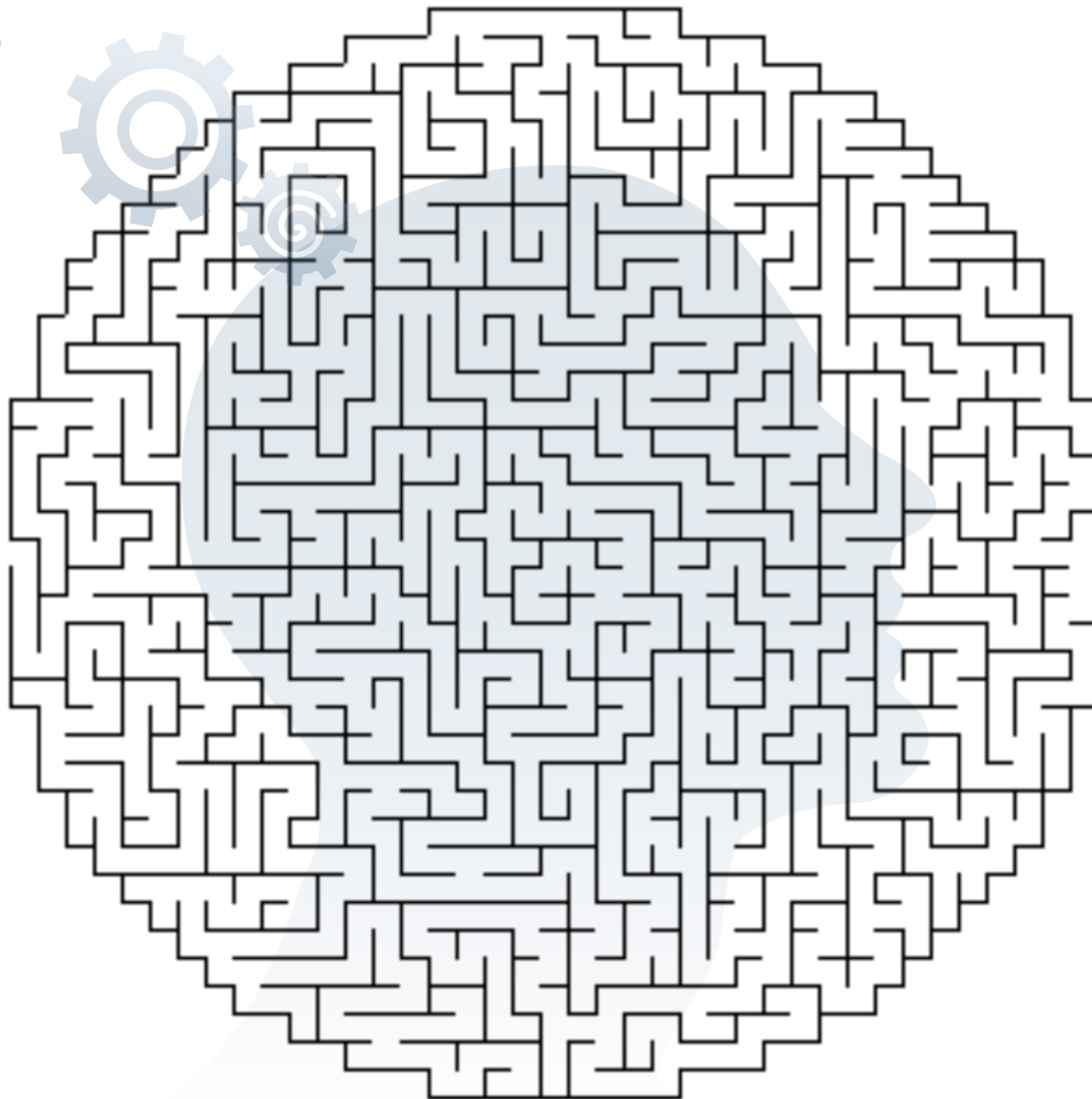
Take Dr. Nussbaum's online Brain Lifestyle Quiz at [www.fitbrains.com/brain-lifestyle-quiz/](http://www.fitbrains.com/brain-lifestyle-quiz/).

## Be Mindful of Others

Remember that this program isn't just for you. People of all ages can benefit from a healthy brain lifestyle, so share this information with your family and friends.

## BRAIN-BOOST CHALLENGE III

Practice using your computer mouse with your non-dominant hand every day this week. Also, try the *take control of your brain* maze. Can you find your way out?



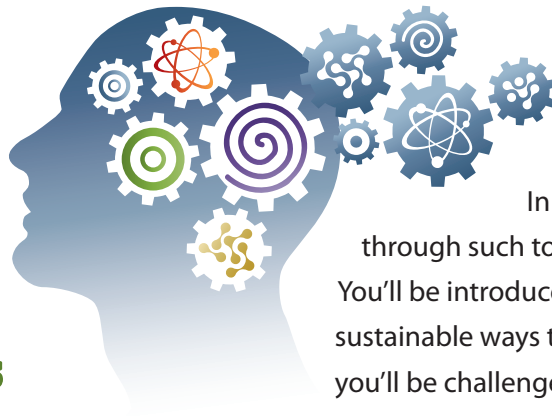
### Reading Is Fundamental for Brain Health

Reading, understanding and applying the strategies in this newsletter is good for your brain! Don't know a word? Look it up online or in the dictionary, and try to use it in conversation.

## Food for Thought: Going Beyond the Basics

If you would like to learn more about the anatomy of your brain and its functions, check out Dr. Nussbaum's books, *Your Brain Health Lifestyle* (2007) and *Save Your Brain* (2010). Both books are available at [www.paulnussbaum.com](http://www.paulnussbaum.com). Or visit one of the following resources:

- The Dana Foundation - [www.dana.org/brain.aspx](http://www.dana.org/brain.aspx)
- The Secret Life of the Brain - [www.pbs.org/wnet/brain](http://www.pbs.org/wnet/brain)
- AARP - [www.aarp.org/health/brain](http://www.aarp.org/health/brain)



## Thinking Ahead

In the weeks to come, you will learn about more ways to **MAINTAIN YOUR MIND** through such topics as *Feed Your Brain*, *Unwind Your Mind*, *Train Your Brain* and *Sharpen Your Mind*. You'll be introduced to the latest research on lifestyle and brain health, and discover simple and sustainable ways to preserve and promote your cognitive and emotional well-being. Each week, you'll be challenged to make up your mind about the lifestyle changes that you feel ready to make to keep your brain sharp, your mind active and your body fit.

### YOU CAN ALSO LOOK FORWARD TO...

- Delicious and nutritious recipes
- Mind-bending brain games
- Practical suggestions for social connections
- Permission to "unplug"
- Daily "vitamins" for your brain
- And more...

Maintaining optimal health and wellness isn't just about reducing risk factors like high blood pressure, excess weight and elevated cholesterol—it's much more. It's also about optimizing your "brain-wellness" to enhance your health, your performance and your life! A recent *National Institutes of Health (NIH) Expert Panel* found a relationship between Alzheimer's disease and cognitive decline and heart disease, high blood pressure, diabetes and physical exercise, which tells us that what is good for the heart is often also good for the brain (*NIH Expert Panel*, April 2010).

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