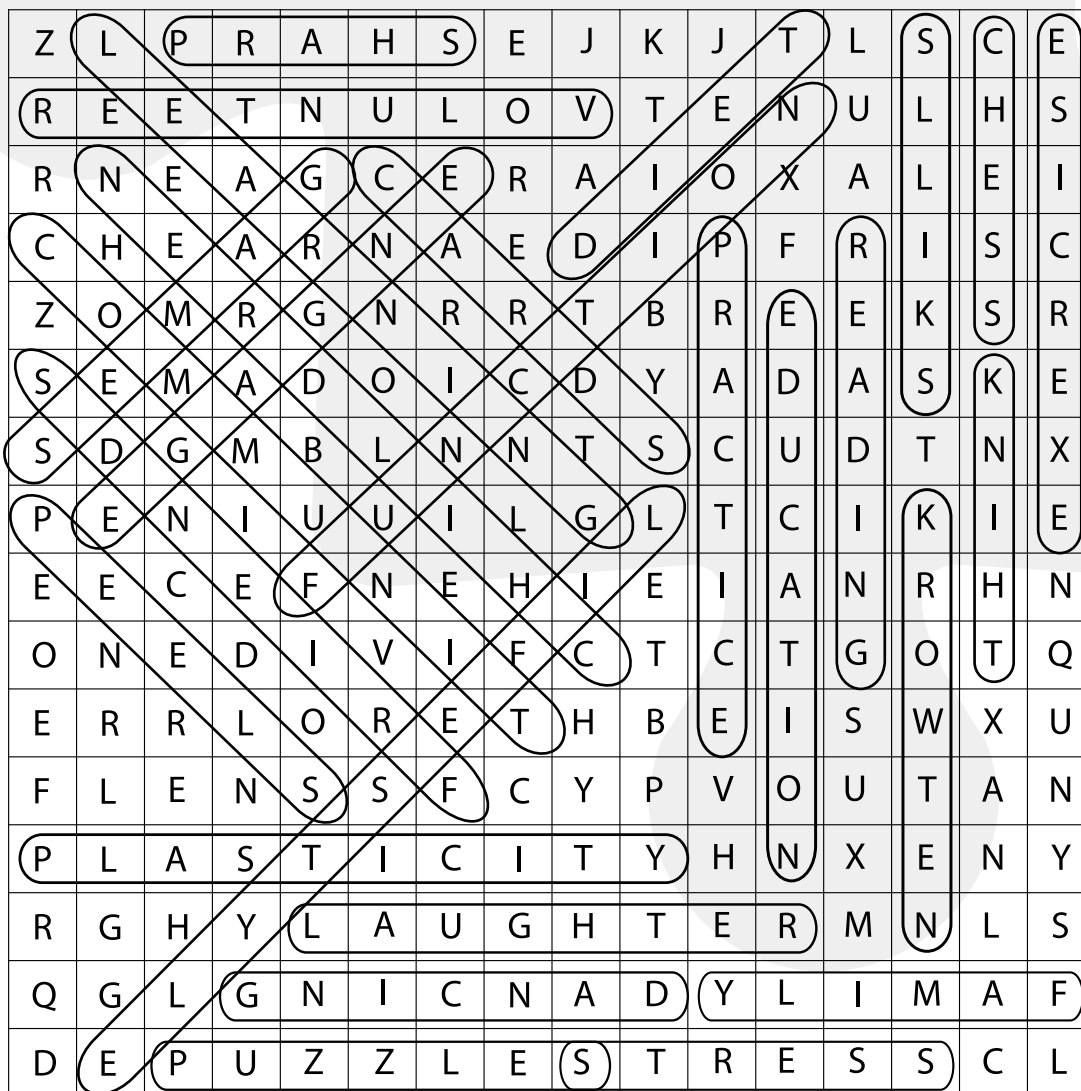


## Successful Aging & Your Brain

### Stay Physically Active

We all know people who stay active into old age, or who seem to blossom creatively late in life. It turns out that these “successful agers” seem to share some common characteristics. Below are some key words related to ways to stay active as we age. To learn more, see the [“Successful Aging & Your Brain”](#) booklet from the Dana Foundation at [www.dana.org/successful\\_aging](http://www.dana.org/successful_aging).

Words may appear in all directions, including diagonally and backwards.



Aerobic  
Cards  
Chess  
Children  
Community  
Dancing  
Diet  
Education

Engage  
Exercise  
Family  
Friends  
Function  
Games  
Laughter  
Learning

Lifestyle  
Network  
Novelty  
Plasticity  
Practice  
Puzzles  
Reading  
Sharp

Skills  
Sleep  
Stress  
Think  
Volunteer

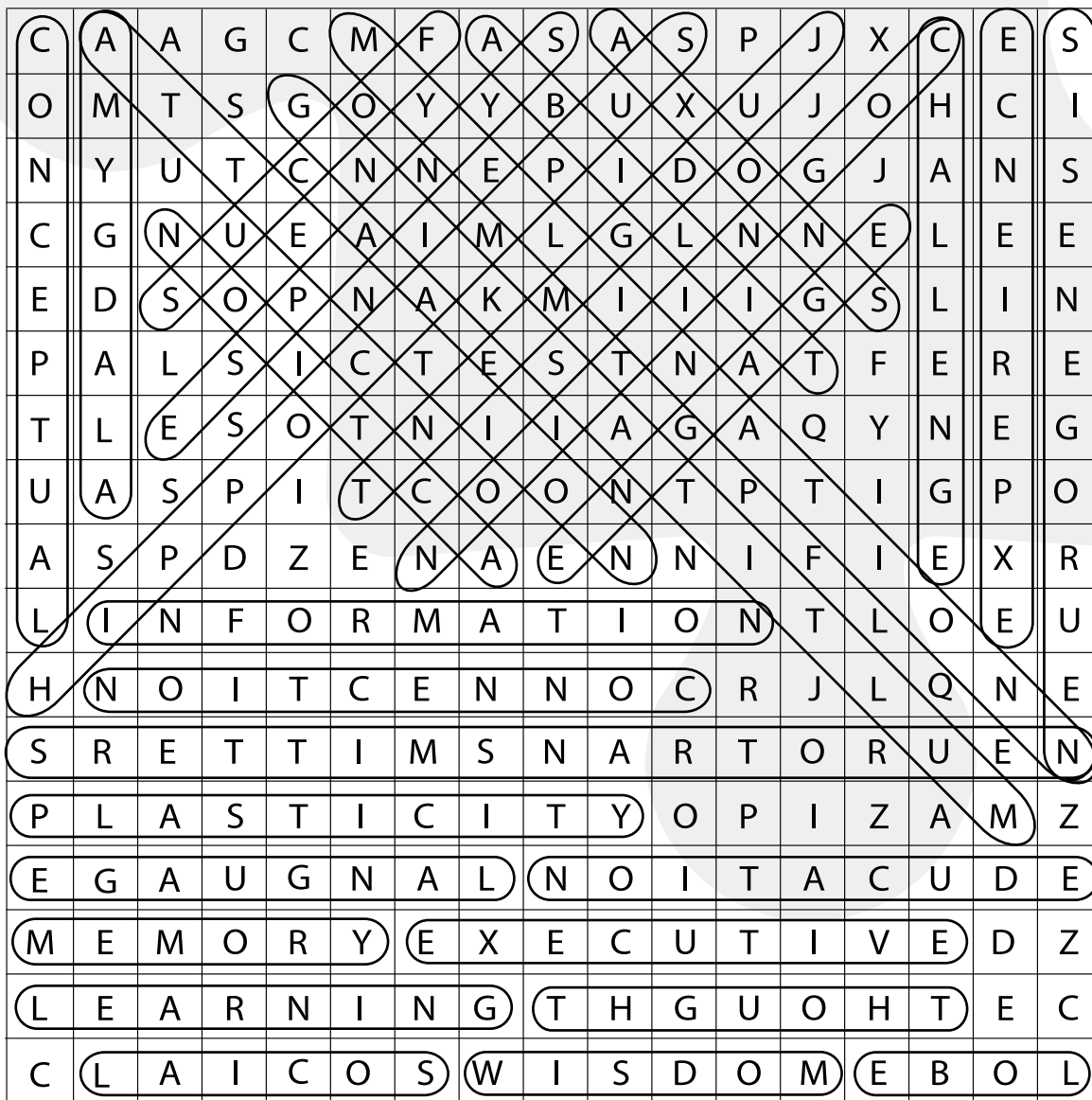
# Successful Aging & Your Brain

## Stay Socially Engaged

From the day we are born our brain is primed for learning, ready to capture the experiences of our lives and encode them into its web of nerve connections. Below are some key words related to how learning and memory happen within the brain and the role social engagement plays in both.

To learn more, see the ["Successful Aging & Your Brain"](http://www.dana.org/successfulaging) booklet from the Dana Foundation at [www.dana.org/successfulaging](http://www.dana.org/successfulaging).

Words may appear in all directions, including diagonally and backwards.



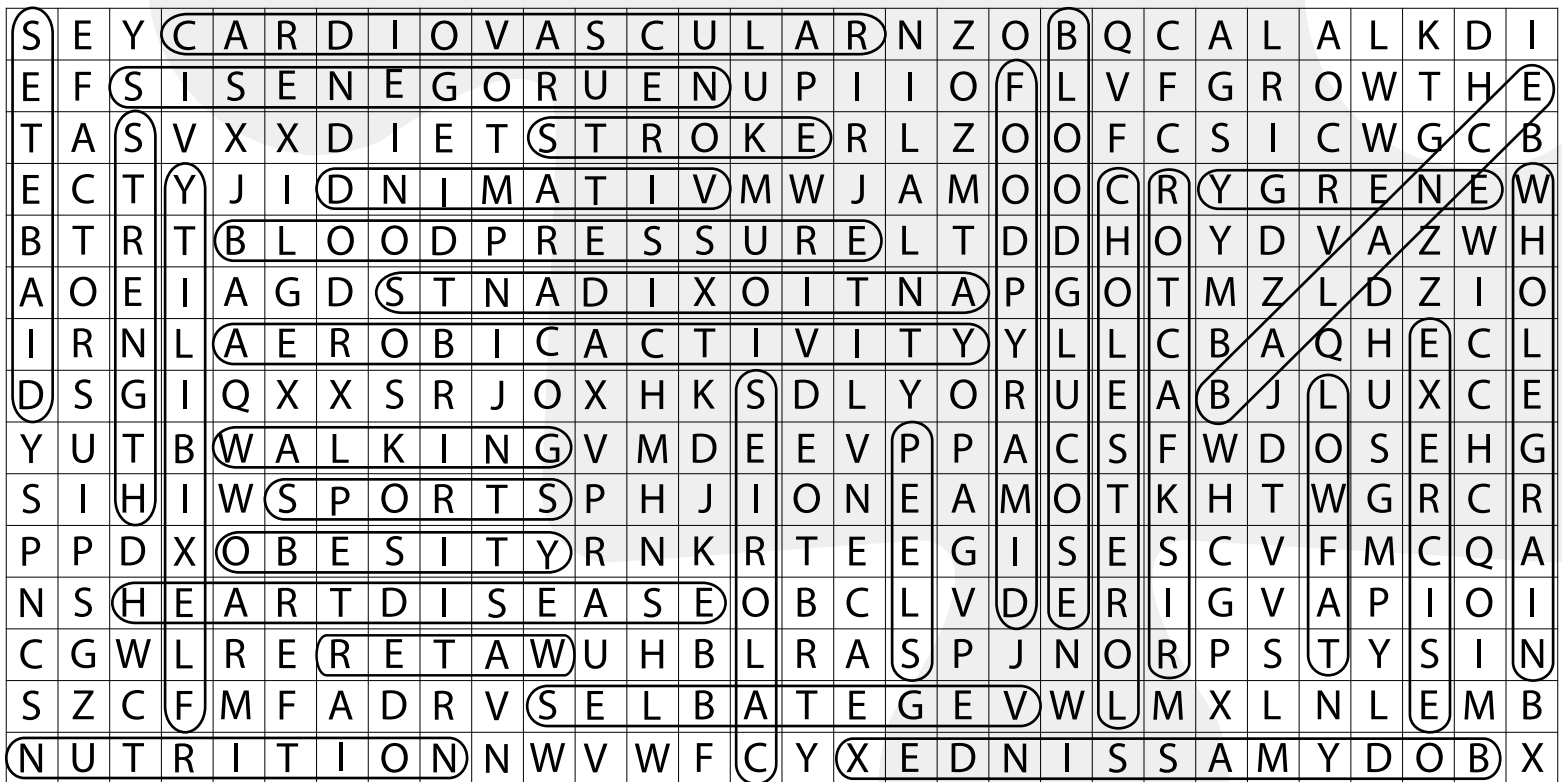
- |            |             |              |                   |
|------------|-------------|--------------|-------------------|
| Ability    | Connection  | Judgment     | Neurotransmitters |
| Action     | Education   | Language     | Plasticity        |
| Amygdala   | Engage      | Learning     | Social            |
| Attention  | Executive   | Lobe         | Synapse           |
| Axons      | Experience  | Memory       | Thought           |
| Challenge  | Focus       | Multitasking | Wisdom            |
| Cognition  | Hippocampus | Myelination  |                   |
| Conceptual | Information | Neurogenesis |                   |

# Successful Aging & Your Brain

## Vascular Health

Eating well and controlling vascular risk factors such as blood pressure, cholesterol, and stress may contribute to the maintenance of cognitive function throughout life. Below are some key words related to diet, exercise, and vascular health. To learn more, see the ["Successful Aging & Your Brain"](http://www.dana.org/successfulaging) booklet from the Dana Foundation at [www.dana.org/successfulaging](http://www.dana.org/successfulaging).

Words may appear in all directions, including diagonally and backwards.



\*note: no spaces, no hyphens

Aerobic activity  
Antioxidants  
Balance  
Blood glucose  
Blood pressure  
Body mass index  
Calories  
Cardiovascular

Cholesterol  
Diabetes  
Diet  
Energy  
Exercise  
Flexibility  
Food pyramid  
Heart disease

Low-fat  
Neurogenesis  
Nutrition  
Obesity  
Risk factor  
Sleep  
Sports  
Strength

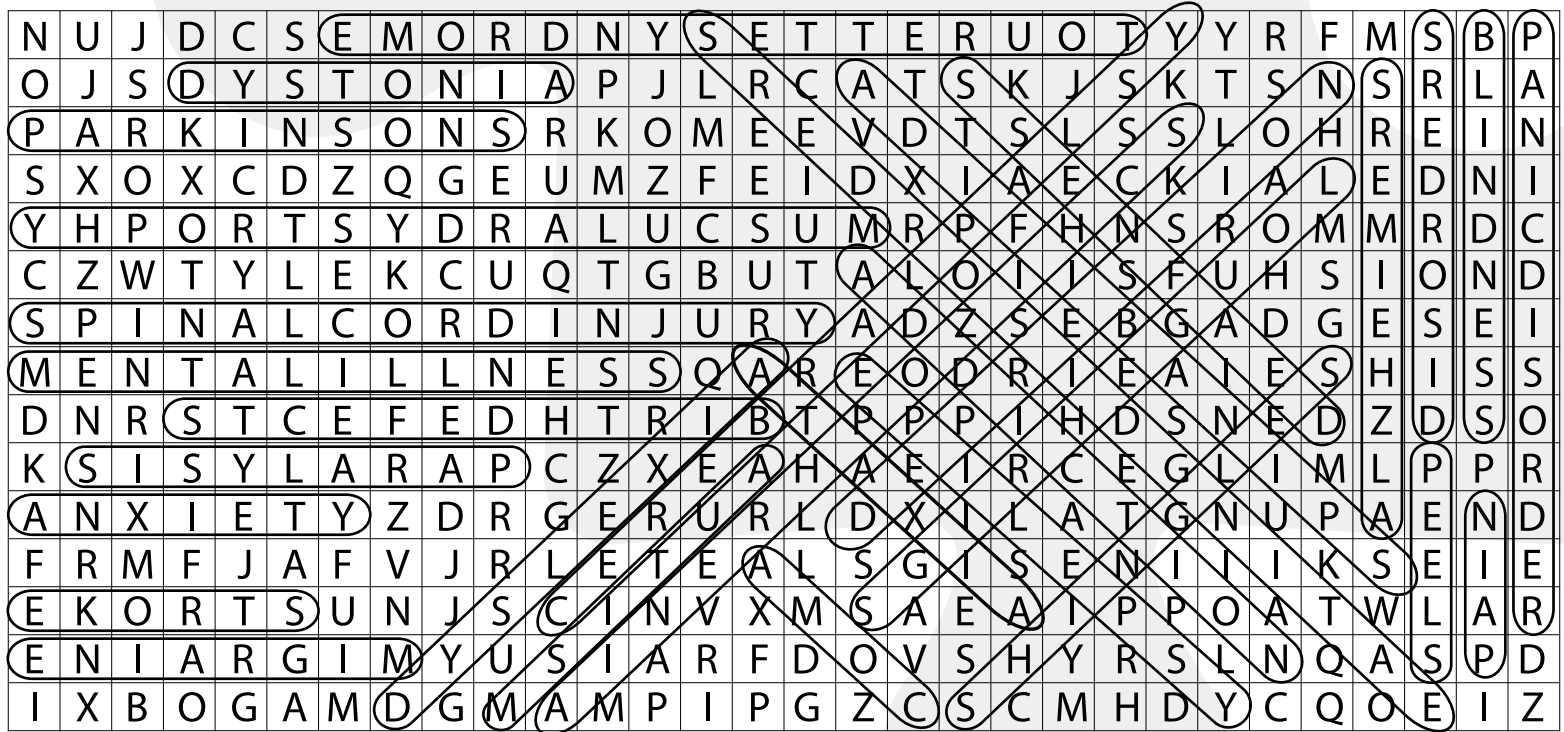
Stroke  
Vegetables  
Vitamin D  
Walking  
Water  
Whole-grain

# Successful Aging & Your Brain

## See Your Doctor

Nearly one in five Americans is afflicted with a brain disorder – conditions that range from learning disabilities to depression to traumatic brain injury. Seeing your doctor can help keep your brain healthy and help prevent and treat various brain diseases and disorders. See how many key words related to brain diseases and disorders you can find. To learn more, see the [“Successful Aging & Your Brain”](#) booklet from the Dana Foundation at [www.dana.org/successfulaging](http://www.dana.org/successfulaging).

Words may appear in all directions, including diagonally and backwards.



\*note: no spaces, no hyphens, no apostrophes

- |                |                  |                    |                    |
|----------------|------------------|--------------------|--------------------|
| Addiction      | Coma             | Mental illness     | Shingles           |
| Alzheimer's    | Deafness         | Migraine           | Sleep disorders    |
| Anxiety        | Depression       | Muscular dystrophy | Spina bifida       |
| Ataxia         | Dyslexia         | Pain               | Spinal cord injury |
| Autism         | Dystonia         | Panic disorder     | Stroke             |
| Birth defects  | Eating disorders | Paralysis          | Tourette syndrome  |
| Blindness      | Epilepsy         | Parkinson's        |                    |
| Cerebral palsy | Lou Gehrig's     | Schizophrenia      |                    |

# Successful Aging & Your Brain

## Four Factors Jumble

Unscramble the words below to learn about the four factors of successful aging (hint: for help, see the ["Successful Aging & Your Brain" bookmark](http://www.dana.org/successfulaging) at [www.dana.org/successfulaging](http://www.dana.org/successfulaging)). Once you figure out the answers, unscramble the highlighted letters to fill in the healthy brain mystery phrase (three letters have been filled in for you).

IALOSC MGGEATEENN

S O C I A L      E N G A G E M E N T  
7 55                      37 73                      58                      26                      46

RAPIEMID NUFNOITC

I M P A I R E D      F U N C T I O N  
44                      65 72 21                      49                      23                      8

LOCTLHEEROS

C H O L E S T E R O L  
53 6                      61                      60 32 40 11

NALCITTULLEE VATTYICI

I N T E L L E C T U A L      A C T I V I T Y  
39 22                      57                      68 17                      4

COORDT

D O C T O R  
59                      14                      19

GODO DETI

G O O D      D I E T  
63                      34 18 15

CETMDINOIA DSEI-CESTEFF

M E D I C A T I O N      S I D E - E F F E C T S  
20                      38                      43                      47 69                      1 71                      24                      36                      28 54

VAURSACL HETAHL

V A S C U L A R      H E A L T H  
25 67 35                      29 30 10 33                      31 12 2

RIEEXSEC

E X E R C I S E  
41 9 16 27

DUETEAQA SELPE

A D E Q U A T E      S L E E P  
3 51                      64 13                      42 45                      62

LODBO PESRUERS

B L O O D      P R E S S U R E  
66 70 48 52                      5 50                      56

S T A Y      P H Y S I C A L L Y      A C T I V E ,      R E D U C E  
1 2 3 4                      5 6 4 7 8 9 10 11 12 4                      13 14 15 16 17 18                      19 20 21 22 23 24

V A S C U L A R      R I S K      F A C T O R S ,      T A L K      T O  
25 26 27 28 29 30 31 32                      33 34 35                      36 37 38 39 40 41 42                      43 44 45                      46 47

Y O U R      D O C T O R ,      A N D      K E E P      Y O U R      B R A I N  
4 48 49 50                      51 52 53 54 55 56                      57 58 59                      60 61 62                      4 63 64 65                      66 67 68 69

L I V E L Y !  
70 71 17 72 73 4

# Successful Aging & Your Brain

## Get Moving! Jumble

Unscramble the words below to see what regular exercise can do for your body (hint: for help, see the ["Successful Aging & Your Brain" bookmark](http://www.dana.org/successfulaging) at [www.dana.org/successfulaging](http://www.dana.org/successfulaging)). Once you figure out the answers, unscramble the highlighted letters to answer the riddle (two letters have been filled in for you).

### Regular exercise can...

Prevent...

BIOTYSE

O B E S I T Y

Promote...

SOENIEGESNUR

N E U R O G E N E S I S

Boost...

DOMO

M O O D

Slow...

NEBO SOLS

B O N E L O S S

Decrease risk of some...

SIAEDSES

D I S E A S E S

Increase...

REGNYE

E N E R G Y

Combat high blood...

PERURESS

P R E S S U R E

Improve overall...

HHTELA

H E A L T H

What happened to the mollusk that went to the gym?

" I T P U L L E D A M U S S E L ! "

# Successful Aging & Your Brain

## Keep Your Memory Sharp Jumble

What may seem like a faltering memory may in fact be a decline in the rate at which we learn and store new information. Visit [www.dana.org](http://www.dana.org) for more information on memory, and practice these memory skills to enhance learning and make remembering easier:

The following jumbled words are skills you can practice to help keep your memory sharp (hint: we've underlined the first letter of each word for you). Once you figure out the answers, unscramble the highlighted letters to answer the riddle (eight letters have been filled in for you, and letters can be used multiple times).

ICESTAAO

A S S O C I A T E

XEARL

R E L A X

RENNECATCTO

C O N C E N T R A T E

COSEU

F O C U S

LSWO NOWD

S L O W   D O W N

NAOZIGRE

O R G A N I Z E

WITRE

W R I T E

PETREAA

R E P E A T

IUZAVISLE

V I S U A L I Z E

"Why do reptiles have such good memories?"

" BECAUSE   THEY   HAVE

TURTLE   RECALL "

# Successful Aging & Your Brain

## Brain Quote Cryptograms

The following cryptograms are all quotes about the brain, with the names of their authors. Some of the letters have been filled in to give you a head start. See how many you can solve! Visit [www.dana.org](http://www.dana.org) for more information on neuroscience and the brain.

### We're Not in Kansas Anymore

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4						18	19				25									10		14		9	

$\frac{A}{4} \frac{N}{8} \frac{D}{3} \quad \frac{M}{7} \frac{Y}{9} \quad \frac{H}{19} \frac{E}{13} \frac{A}{4} \frac{D}{3} \quad \frac{I}{12} \frac{D}{3} \quad \frac{B}{15} \frac{E}{13} \quad \frac{S}{5} \frac{C}{17} \frac{R}{6} \frac{A}{4} \frac{T}{1} \frac{C}{17} \frac{H}{19} \frac{I}{12} \frac{N}{8} \frac{G}{18}$

$\frac{W}{14} \frac{H}{19} \frac{I}{12} \frac{L}{25} \frac{E}{13} \quad \frac{M}{7} \frac{Y}{9} \quad \frac{T}{1} \frac{H}{19} \frac{O}{2} \frac{U}{10} \frac{G}{18} \frac{H}{19} \frac{T}{1} \frac{S}{5} \quad \frac{W}{14} \frac{E}{13} \frac{R}{6} \frac{E}{13} \quad \frac{B}{15} \frac{U}{10} \frac{S}{5} \frac{Y}{9}$

$\frac{H}{19} \frac{A}{4} \frac{T}{1} \frac{C}{17} \frac{H}{19} \frac{I}{12} \frac{N}{8} \frac{G}{18} \quad \frac{I}{12} \frac{F}{22} \quad \frac{I}{12} \quad \frac{O}{2} \frac{N}{8} \frac{L}{25} \frac{Y}{9} \quad \frac{H}{19} \frac{A}{4} \frac{D}{3} \quad \frac{A}{4} \quad \frac{B}{15} \frac{R}{6} \frac{A}{4} \frac{I}{12} \frac{N}{8}$

$\frac{T}{1} \frac{H}{19} \frac{E}{13} \quad \frac{S}{5} \frac{C}{17} \frac{A}{4} \frac{R}{6} \frac{E}{13} \frac{C}{17} \frac{R}{6} \frac{O}{2} \frac{W}{14}$

### The Sci-Fi Brain

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
		7			10		9	22				8								1	20	19			

$\frac{T}{17} \frac{H}{9} \frac{E}{16} \quad \frac{H}{9} \frac{U}{1} \frac{M}{8} \frac{A}{3} \frac{N}{12} \quad \frac{B}{6} \frac{R}{21} \frac{A}{3} \frac{I}{22} \frac{N}{12} \quad \frac{T}{17} \frac{H}{9} \frac{E}{16} \frac{N}{12} \quad \frac{I}{22} \frac{S}{15} \quad \frac{T}{17} \frac{H}{9} \frac{E}{16}$

$\frac{M}{8} \frac{O}{23} \frac{S}{15} \frac{T}{17} \quad \frac{C}{7} \frac{O}{23} \frac{M}{8} \frac{P}{5} \frac{L}{25} \frac{I}{22} \frac{C}{7} \frac{A}{3} \frac{T}{17} \frac{E}{16} \frac{D}{26} \quad \frac{O}{23} \frac{R}{21} \frac{G}{2} \frac{A}{3} \frac{N}{12} \frac{I}{22} \frac{Z}{11} \frac{A}{3} \frac{T}{17} \frac{I}{22} \frac{O}{23} \frac{N}{12}$

$\frac{O}{23} \frac{F}{10} \quad \frac{M}{8} \frac{A}{3} \frac{T}{17} \frac{T}{17} \frac{E}{16} \frac{R}{21} \quad \frac{T}{17} \frac{H}{9} \frac{A}{3} \frac{T}{17} \quad \frac{W}{19} \frac{E}{16} \quad \frac{K}{4} \frac{N}{12} \frac{O}{23} \frac{W}{19}$

$\frac{I}{22} \frac{S}{15} \frac{A}{3} \frac{A}{3} \frac{C}{7} \quad \frac{A}{3} \frac{S}{15} \frac{I}{22} \frac{M}{8} \frac{O}{23} \frac{V}{20}$



# Successful Aging & Your Brain

## Brain Quote Cryptograms

The following cryptograms are all quotes about the brain, with the names of their authors. Some of the letters have been filled in to give you a head start. See how many you can solve! Visit [www.dana.org](http://www.dana.org) for more information on neuroscience and the brain.

### The Poetry of the Brain

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4	14		13							16		3		17					6	5				2	

$\frac{T}{6} \frac{H}{26} \frac{E}{24}$     $\frac{B}{14} \frac{R}{19} \frac{A}{4} \frac{I}{1} \frac{N}{10}$     $\frac{I}{1} \frac{S}{9}$     $\frac{W}{18} \frac{I}{1} \frac{D}{13} \frac{E}{24} \frac{R}{19}$     $\frac{T}{6} \frac{H}{26} \frac{A}{4} \frac{N}{10}$     $\frac{T}{6} \frac{H}{26} \frac{E}{24}$

$\frac{S}{9} \frac{K}{16} \frac{Y}{2}$  ,  $\frac{F}{7} \frac{O}{17} \frac{R}{19}$     $\frac{P}{20} \frac{U}{5} \frac{T}{6}$     $\frac{T}{6} \frac{H}{26} \frac{E}{24} \frac{M}{3}$     $\frac{S}{9} \frac{I}{1} \frac{D}{13} \frac{E}{24}$     $\frac{B}{14} \frac{Y}{2}$     $\frac{S}{9} \frac{I}{1} \frac{D}{13} \frac{E}{24}$  ,

$\frac{T}{6} \frac{H}{26} \frac{E}{24}$     $\frac{O}{17} \frac{N}{10} \frac{E}{24}$     $\frac{T}{6} \frac{H}{26} \frac{E}{24}$     $\frac{O}{17} \frac{T}{6} \frac{H}{26} \frac{E}{24} \frac{R}{19}$     $\frac{W}{18} \frac{I}{1} \frac{L}{23} \frac{L}{23}$     $\frac{C}{22} \frac{O}{17} \frac{N}{10} \frac{T}{6} \frac{A}{4} \frac{I}{1} \frac{N}{10}$  ,

$\frac{W}{18} \frac{I}{1} \frac{T}{6} \frac{H}{26}$     $\frac{E}{24} \frac{A}{4} \frac{S}{9} \frac{E}{24}$  ,  $\frac{A}{4} \frac{N}{10} \frac{D}{13}$     $\frac{Y}{2} \frac{O}{17} \frac{U}{5}$     $\frac{B}{14} \frac{E}{24} \frac{S}{9} \frac{I}{1} \frac{D}{13} \frac{E}{24}$  .

$\frac{E}{24} \frac{M}{3} \frac{I}{1} \frac{L}{23} \frac{Y}{2}$     $\frac{D}{13} \frac{I}{1} \frac{C}{22} \frac{K}{16} \frac{I}{1} \frac{N}{10} \frac{S}{9} \frac{O}{17} \frac{N}{10}$

### Beam Me Up!

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
										18	13		19				10	6	12				23	22	5	

$\frac{T}{12} \frac{H}{9} \frac{E}{17}$     $\frac{K}{18} \frac{N}{19} \frac{O}{11} \frac{W}{23} \frac{L}{13} \frac{E}{17} \frac{D}{2} \frac{G}{3} \frac{E}{17}$     $\frac{T}{12} \frac{O}{11}$     $\frac{R}{10} \frac{E}{17} \frac{C}{15} \frac{L}{11} \frac{O}{19} \frac{N}{19} \frac{N}{17} \frac{E}{15} \frac{C}{12}$

$\frac{A}{8}$     $\frac{B}{24} \frac{R}{10} \frac{A}{8} \frac{I}{20} \frac{N}{19}$     $\frac{D}{2} \frac{O}{11} \frac{E}{17} \frac{S}{6}$     $\frac{N}{19} \frac{O}{11} \frac{T}{12}$     $\frac{E}{17} \frac{X}{22} \frac{I}{20} \frac{S}{6} \frac{T}{12}$     $\frac{Y}{5} \frac{E}{17} \frac{T}{12}$

$\frac{I}{20} \frac{N}{19}$     $\frac{T}{12} \frac{H}{9} \frac{E}{17}$     $\frac{G}{3} \frac{A}{8} \frac{L}{13} \frac{A}{8} \frac{X}{22} \frac{Y}{5}$  .    $\frac{M}{25} \frac{R}{10}$  .  $\frac{S}{6} \frac{P}{4} \frac{O}{11} \frac{C}{15} \frac{K}{18}$

# Successful Aging & Your Brain

## Brain Quote Cryptograms

The following cryptograms are all quotes about the brain, with the names of their authors. Some of the letters have been filled in to give you a head start. See how many you can solve! Visit [www.dana.org](http://www.dana.org) for more information on neuroscience and the brain.

### Oh, the Places You'll Go!

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
	9		13															2			6			12	

$\frac{Y}{12} \frac{O}{22} \frac{U}{20} \quad \frac{H}{23} \frac{A}{15} \frac{V}{6} \frac{E}{11} \quad \frac{B}{9} \frac{R}{5} \frac{A}{15} \frac{I}{7} \frac{N}{17} \frac{S}{2} \quad \frac{I}{7} \frac{N}{17} \quad \frac{Y}{12} \frac{O}{22} \frac{U}{20} \frac{R}{5} \quad \frac{H}{23} \frac{E}{11} \frac{A}{15} \frac{D}{13}$

$\frac{Y}{12} \frac{O}{22} \frac{U}{20} \quad \frac{H}{23} \frac{A}{15} \frac{V}{6} \frac{E}{11} \quad \frac{F}{25} \frac{E}{11} \frac{E}{11} \frac{T}{26} \quad \frac{I}{7} \frac{N}{17} \quad \frac{Y}{12} \frac{O}{22} \frac{U}{20} \frac{R}{5} \quad \frac{S}{2} \frac{H}{23} \frac{O}{22} \frac{E}{11} \frac{S}{2}$

$\frac{Y}{12} \frac{O}{22} \frac{U}{20} \quad \frac{C}{1} \frac{A}{15} \frac{N}{17} \quad \frac{S}{2} \frac{T}{26} \frac{E}{11} \frac{E}{11} \frac{R}{5} \quad \frac{Y}{12} \frac{O}{22} \frac{U}{20} \frac{R}{5} \quad \frac{S}{2} \frac{E}{11} \frac{L}{18} \frac{F}{25} \quad \frac{A}{15} \frac{N}{17} \frac{Y}{12}$

$\frac{D}{13} \frac{I}{7} \frac{R}{5} \frac{E}{11} \frac{C}{1} \frac{T}{26} \frac{I}{7} \frac{O}{22} \frac{N}{17} \quad \frac{Y}{12} \frac{O}{22} \frac{U}{20} \quad \frac{C}{1} \frac{H}{23} \frac{O}{22} \frac{O}{22} \frac{S}{2} \frac{E}{11}$

$\frac{D}{13} \frac{R}{5} \quad \frac{S}{2} \frac{U}{11} \frac{E}{20} \frac{S}{2} \frac{S}{2}$

### Renaissance Brain

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
		15				8	16	21																	

$\frac{A}{26} \quad \frac{M}{9} \frac{A}{26} \frac{N}{24} \quad \frac{P}{4} \frac{A}{26} \frac{I}{21} \frac{N}{24} \frac{T}{23} \frac{S}{11} \quad \frac{W}{18} \frac{I}{21} \frac{T}{23} \frac{H}{16} \quad \frac{H}{16} \frac{I}{21} \frac{S}{11} \quad \frac{B}{1} \frac{R}{7} \frac{A}{26} \frac{I}{21} \frac{N}{24} \frac{S}{11}$

$\frac{A}{26} \frac{N}{24} \frac{D}{10} \quad \frac{N}{24} \frac{O}{2} \frac{T}{23} \quad \frac{W}{18} \frac{I}{21} \frac{T}{23} \frac{H}{16} \quad \frac{H}{16} \frac{I}{21} \frac{S}{11} \quad \frac{H}{16} \frac{A}{26} \frac{N}{24} \frac{D}{10} \frac{S}{11}, \quad \frac{A}{26} \frac{N}{24} \frac{D}{10}$

$\frac{I}{21} \frac{F}{19} \quad \frac{H}{16} \frac{E}{3} \quad \frac{C}{15} \frac{A}{26} \frac{N}{24} \frac{N}{24} \frac{O}{2} \frac{T}{23} \quad \frac{H}{16} \frac{A}{26} \frac{V}{5} \frac{E}{3} \quad \frac{H}{16} \frac{I}{21} \frac{S}{11} \quad \frac{B}{1} \frac{R}{7} \frac{A}{26} \frac{I}{21} \frac{N}{24} \frac{S}{11}$

$\frac{C}{15} \frac{L}{22} \frac{E}{3} \frac{A}{26} \frac{R}{7} \quad \frac{H}{16} \frac{E}{3} \quad \frac{W}{18} \frac{I}{21} \frac{L}{22} \frac{L}{22} \quad \frac{C}{15} \frac{O}{2} \frac{M}{9} \frac{E}{3} \quad \frac{T}{23} \frac{O}{2} \quad \frac{G}{8} \frac{R}{7} \frac{I}{21} \frac{E}{3} \frac{F}{19}$

$\frac{M}{9} \frac{I}{21} \frac{C}{15} \frac{H}{16} \frac{E}{3} \frac{L}{22} \frac{A}{26} \frac{N}{24} \frac{G}{8} \frac{E}{3} \frac{L}{22} \frac{O}{2}$

# Successful Aging & Your Brain

## Brain Quote Cryptograms

The following cryptograms are all quotes about the brain, with the names of their authors. Some of the letters have been filled in to give you a head start. See how many you can solve! Visit [www.dana.org](http://www.dana.org) for more information on the brain and neuroscience.

### An Ancient View?

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
					17	15					3	7			6		13								

$\frac{M}{7} \frac{E}{18} \frac{N}{23}$     $\frac{O}{20} \frac{U}{12} \frac{G}{15} \frac{H}{2} \frac{T}{9}$     $\frac{T}{9} \frac{O}{20}$     $\frac{K}{24} \frac{N}{23} \frac{O}{20} \frac{W}{14}$     $\frac{T}{9} \frac{H}{2} \frac{A}{8} \frac{T}{9}$     $\frac{F}{17} \frac{R}{13} \frac{O}{20} \frac{M}{7}$

$\frac{T}{9} \frac{H}{2} \frac{E}{18}$     $\frac{B}{4} \frac{R}{13} \frac{A}{8} \frac{I}{5} \frac{N}{23}$ ,    $\frac{A}{8} \frac{N}{23} \frac{D}{19}$     $\frac{F}{17} \frac{R}{13} \frac{O}{20} \frac{M}{7}$     $\frac{T}{9} \frac{H}{2} \frac{E}{18}$     $\frac{B}{4} \frac{R}{13} \frac{A}{8} \frac{I}{5} \frac{N}{23}$

$\frac{O}{20} \frac{N}{23} \frac{L}{3} \frac{Y}{22}$ ,    $\frac{A}{8} \frac{R}{13} \frac{I}{5} \frac{S}{21} \frac{E}{18}$     $\frac{O}{20} \frac{U}{12} \frac{R}{13}$     $\frac{P}{6} \frac{L}{3} \frac{E}{18} \frac{A}{8} \frac{S}{21} \frac{U}{12} \frac{R}{13} \frac{E}{18} \frac{S}{21}$ ,

$\frac{J}{10} \frac{O}{20} \frac{Y}{22}$ ,    $\frac{L}{3} \frac{A}{8} \frac{U}{12} \frac{G}{15} \frac{H}{2} \frac{T}{9} \frac{E}{18} \frac{R}{13}$ ,    $\frac{A}{8} \frac{N}{23} \frac{D}{19}$     $\frac{J}{10} \frac{E}{18} \frac{S}{21} \frac{T}{9} \frac{S}{21}$ ,    $\frac{A}{8} \frac{S}{21}$

$\frac{W}{14} \frac{E}{18} \frac{L}{3} \frac{L}{3}$     $\frac{A}{8} \frac{S}{21}$     $\frac{O}{20} \frac{U}{12} \frac{R}{13}$     $\frac{S}{21} \frac{O}{20} \frac{R}{13} \frac{R}{13} \frac{O}{20} \frac{W}{14} \frac{S}{21}$ ,    $\frac{P}{6} \frac{A}{8} \frac{I}{5} \frac{N}{23} \frac{S}{21}$ ,

$\frac{G}{15} \frac{R}{13} \frac{I}{5} \frac{E}{18} \frac{F}{17} \frac{S}{21}$ ,    $\frac{A}{8} \frac{N}{23} \frac{D}{19}$     $\frac{T}{9} \frac{E}{18} \frac{A}{8} \frac{R}{13} \frac{S}{21}$ .

$\frac{H}{2} \frac{I}{5} \frac{P}{6} \frac{P}{6} \frac{O}{20} \frac{C}{16} \frac{R}{13} \frac{A}{8} \frac{T}{9} \frac{E}{18} \frac{S}{21}$

# Successful Aging & Your Brain

## The Senses: Vision and Hearing

Use the Dana Alliance's Brain Briefs on "The Senses" of vision and hearing available at [www.dana.org/downloads/](http://www.dana.org/downloads/) to find all the words and to reveal the hidden message formed by letters that are not part of the found words.

Words may appear in all directions, including diagonally and backwards.

Y R O T I D U A M M V S Q O V L  
 I N F E R I O R C O C H L E A O  
 N O I T P E C R E P F P C Z R V  
 S E L C I S S O S H A P E Q U F  
 J Z S T B L X T E M P O R A L N  
 C T H A L A M U S L V J U W E Q

note: no apostrophes

- |            |            |            |            |
|------------|------------|------------|------------|
| Amplitude  | Filaments  | Ossicles   | Thalamus   |
| Auditory   | Frequency  | Perception | Tympanic   |
| Cataract   | Inferior   | Presbyopia | Volume     |
| Cochlea    | Mechanical | Retina     | Wernicke's |
| Colliculus | Membrane   | Rhythm     |            |
| Cornea     | Occipital  | Shape      |            |
| Cortex     | Optic      | Temporal   |            |

M U S I C A N D A R T A R E  
E N G A G I N G A N D E N J O I A B L E !

# Successful Aging & Your Brain

## Words in a Word Puzzle

**Neuroscience** is the study of the brain and nervous system, including their structure, function, and disorders. How many common four- and five-letter English words (no proper names or abbreviations) can you find in the word NEUROSCIENCE? See how many you can find, and then check your words against ours in the answer key. **Good luck!** Visit [www.dana.org](http://www.dana.org) for more information about neuroscience and the brain.

### NEUROSCIENCE

#### Four-letter words:

cees	crus	inro	nous	rocs	sire
cere	cues	ions	nuns	roes	sone
cero	cure	ires	once	rose	sori
cine	curn	iron	ones	roue	sorn
cion	curs	nene	onus	ruin	sour
cire	ecru	neon	orcs	rune	suer
coin	ecus	nice	ores	runs	sunn
coir	eons	nine	ours	ruse	sure
cone	erne	noes	recs	seen	unci
coni	eros	noir	rees	seer	unco
conn	euro	none	rein	sene	uric
core	ices	nori	reis	sere	urns
corn	icon	nose	rice	sice	user
croc	inns	noun	rise	sine	

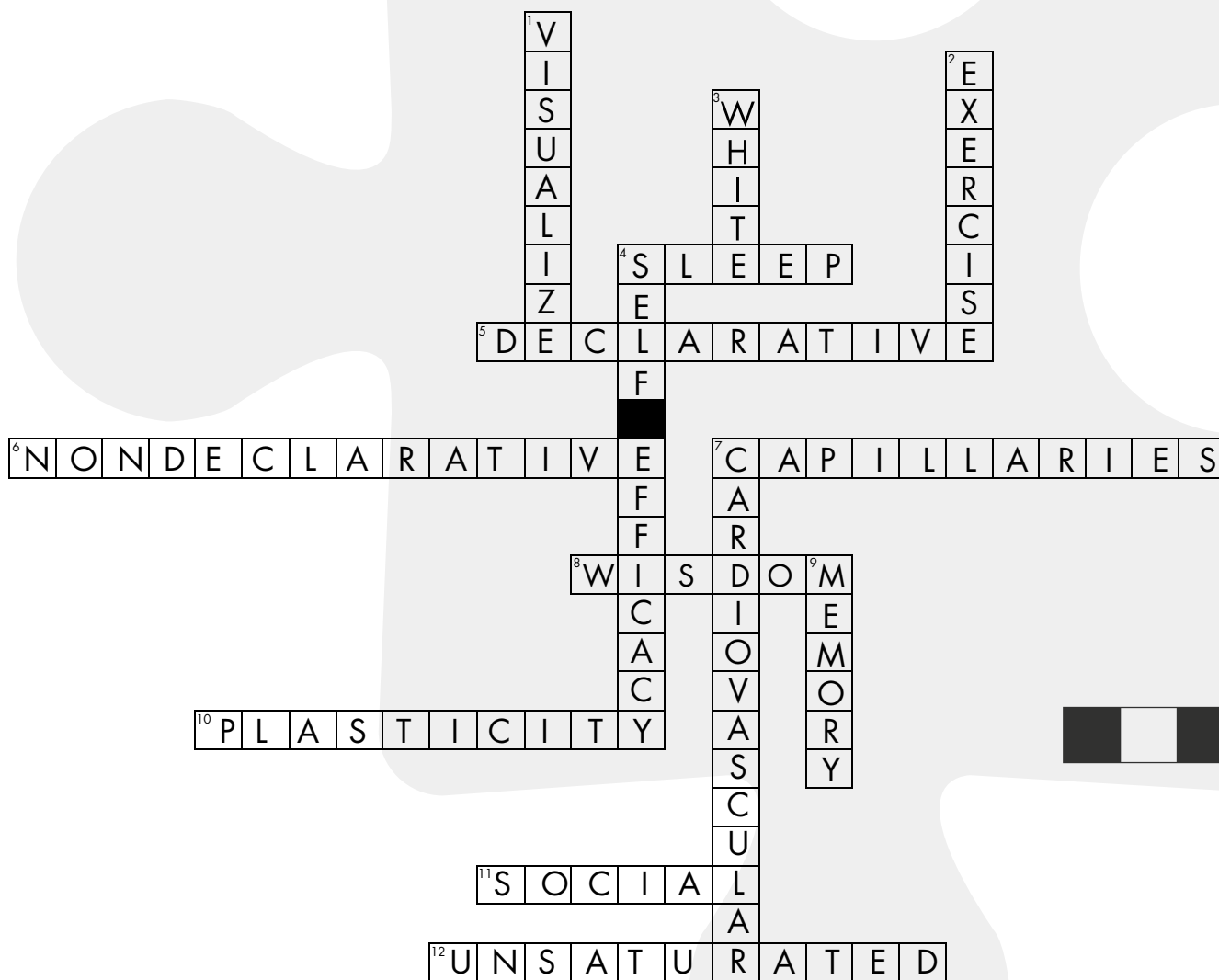
#### Five-letter words:

cense	cores	cusec	irone	osier	rouse	siree
cerci	corns	ecrus	irons	ounce	ruins	siren
ceres	cornu	eerie	neons	ourie	runes	sneer
ceric	corse	ennui	nicer	recce	runic	snore
ceros	cosec	ensue	niece	recon	scene	sonic
cines	cosie	enure	nines	reins	scion	sucre
cions	cries	eosin	noirs	renin	scone	uncos
cires	croci	ernes	noise	resee	score	union
cisco	crocs	erose	nonce	resin	scorn	ureic
coins	crone	euros	nones	reuse	scour	urine
coirs	cruse	icons	noris	rices	scree	
cones	cures	incur	nouns	rinse	secco	
conic	curie	incus	nurse	risen	seine	
conin	curio	inner	occur	rosin	senor	
conns	curns	inure	orcin	rouen	serin	
conus	curse	inurn	ornis	roues	since	

# Successful Aging & Your Brain

## Stay Sharp Crossword

Reference the Dana Foundation's "[Successful Aging & Your Brain](http://www.dana.org)" booklet available at [www.dana.org](http://www.dana.org), to solve this BRAIN-Y crossword puzzle!



### ACROSS

4. During \_\_\_\_\_, certain types of memories become consolidated.
5. The type of memories that can be recalled consciously and described verbally, including facts, people, and places.
6. A type of memory that is used when learning motor skills and other actions.
7. Tiny blood vessels that provide oxygen to the brain, sense when active brain cells need more oxygen, and remove carbon dioxide.
8. Denotes the ability to use knowledge, experience, and understanding to make good decisions.
10. The brain's capacity to structurally change by learning.
11. The type of network involving relationships that may help to preserve mental sharpness and decrease the risk of developing depression and dementia.
12. The type of healthy fat found in olive, sunflower, and soybean oils.

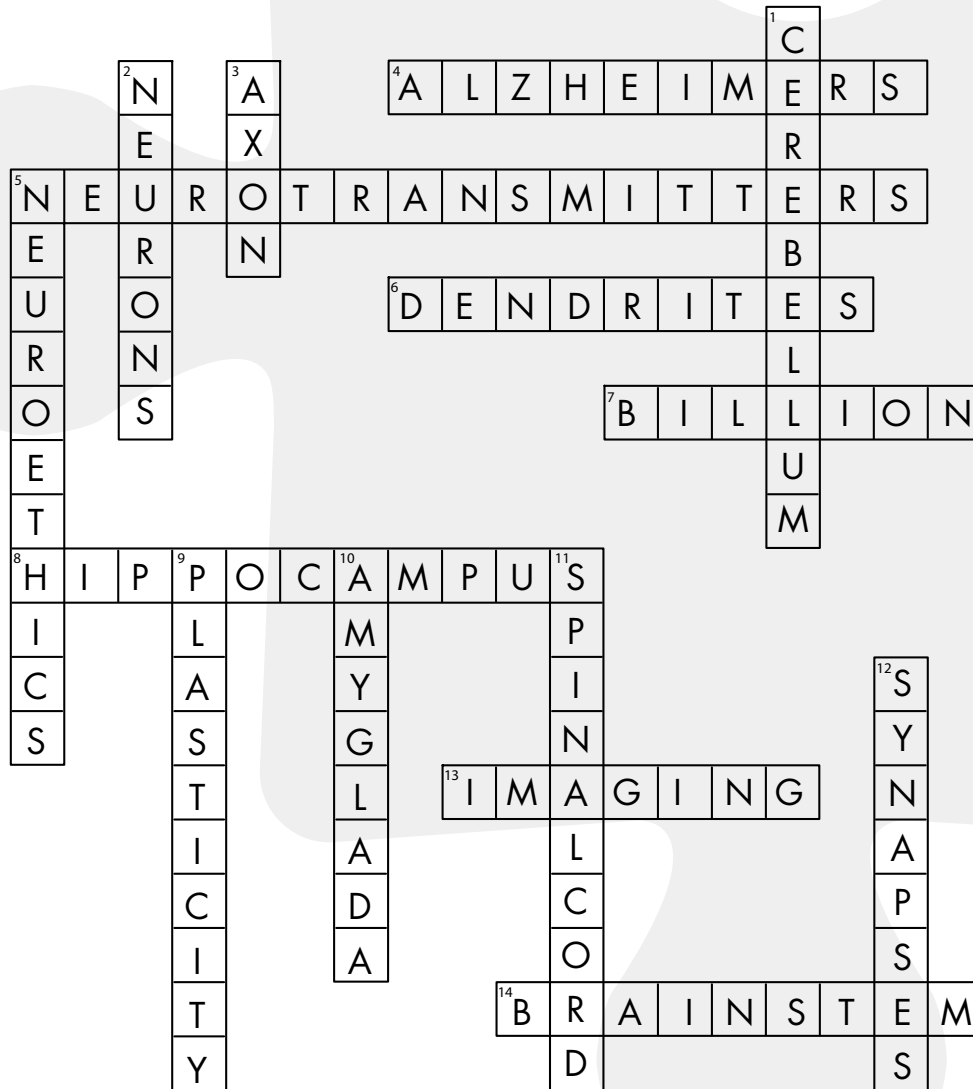
### DOWN

1. The process of creating an image of what you want to remember that improves recall by giving your brain another way to access information.
2. Action that can improve mood, enlarges blood vessels so more blood and oxygen can flow to the brain, and boosts brain-derived neurotrophic factor (BDNF), that is associated with alleviating depression and anxiety.
3. Many studies have linked aging with a decrease in \_\_\_\_\_ matter, the bundles of axons that transmit nerve signals between brain regions.
4. Believing in our ability to succeed in a specific situation, giving us confidence.
7. A type of risk factor, such as high blood pressure, high cholesterol, smoking, obesity, and diabetes, that increases the risk of cognitive decline.
9. A series of interrelated processes involving, encoding, storing, and retrieving information.

# Successful Aging & Your Brain

## Brain-y Crossword

Reference the Dana Alliance's "Mindboggling" booklet series and "[Q&A: Answering Your Questions About the Brain](#)," available at [www.dana.org](http://www.dana.org), to solve this BRAIN-Y crossword puzzle!



### ACROSS

4. One of the most prevalent neurodegenerative disorders that greatly reduces a person's memory.
5. The general name for the chemicals that are released by one neuron and taken up by another.
6. The branches of a neuron that receive electrical signals from other neurons.
7. You have more than 100 \_\_\_\_ neurons. (spell out the number).
8. An area of the brain located deep inside the brain and involved in memory.
13. What does the "I" in MRI stand for?
14. The part of the brain that connects directly with the spinal cord and is responsible for some of the automatic functions of the body.

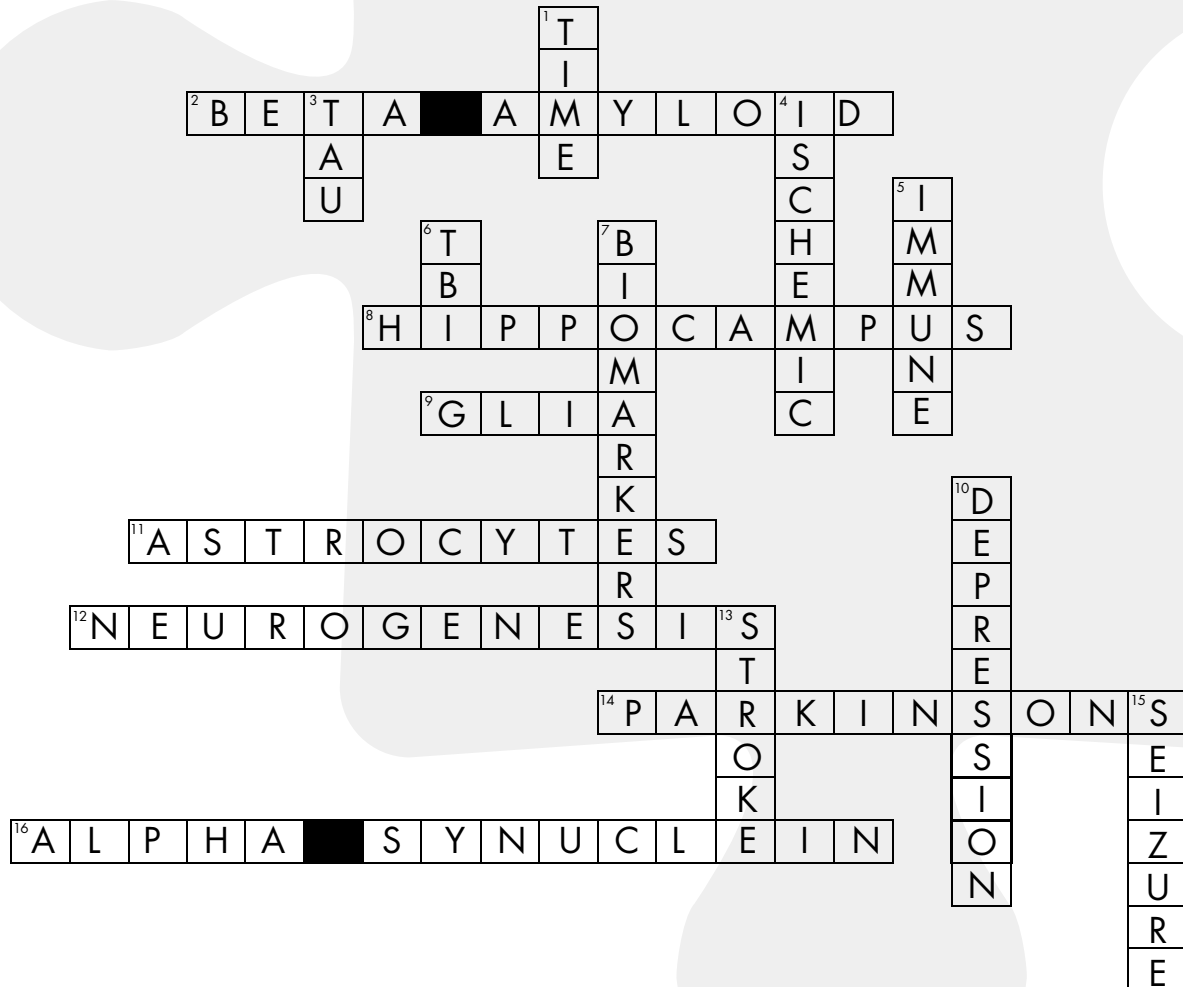
### DOWN

1. The tennis-ball-sized area at the back of the brain that regulates motor movements; it is responsible for balance and involved in motor learning.
2. The nerve cells in the brain.
3. The long, tail-like branch that extends from the neuron cell body and transmits electrical information to other target cells.
5. The exploration of ethical issues surrounding advances in neuroscience.
9. The brain's ability to change and rewire its synaptic connections.
10. The area of the brain involved with emotions, especially fear, anger, and happiness.
11. The pathway for nerve signals to travel to and from the brain (two words, no space).
12. The junctions where neurons form connections with one another.

# Successful Aging & Your Brain

## Brain Injury and Neurodegenerative Diseases

Reference the Dana Alliance's Fact Sheets based on content from our "Q&A: Answering Your Questions about Brain Research" at [www.dana.org](http://www.dana.org) to solve this BRAIN-Y crossword puzzle!



### ACROSS

2. The type of protein that clumps together in Alzheimer's.
8. One of the first areas of the brain affected by Alzheimer's.
9. A type of cell that supports and regulates neurons studied by researchers.
11. Brain cells that support and regulate neurons and also help both limit and exacerbate brain damage.
12. When brain circuits reshape themselves to take over functions for damaged areas; also, new cell growth.
14. The disease where a loss of dopamine-producing neurons in the basal ganglia causes movement problems.
16. Protein that accumulates in Parkinson's disease.

### DOWN

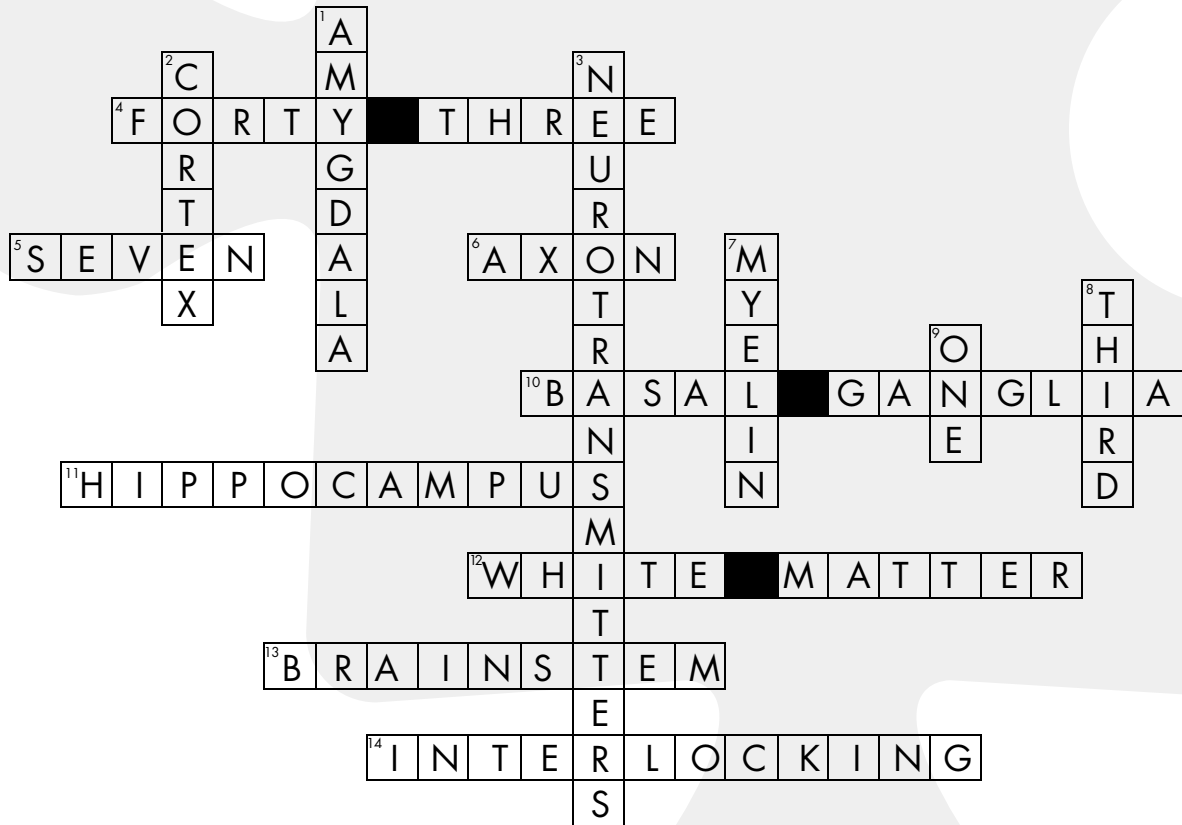
1. \_\_\_\_\_ lost is brain lost.
3. Protein responsible for common neurodegenerative diseases and traumatic brain injury (TBI).
4. The most common type of stroke caused by a blood clot.
5. One of the types of cells that both limits and exacerbates brain damage.
6. A condition caused by repeated blows to the brain that occurs in professional athletes.
7. Compounds in the blood or spinal cord fluid, for example, that can reveal disease activity earlier than symptoms develop.
10. A condition that can be caused by TBI.
13. Interruption of the brain's blood supply.
15. This may happen in response to TBI.



# Successful Aging & Your Brain

## How Does the Brain Work and Develop?

Reference the Dana Alliance's Fact Sheets based on "[Q&A: Answering Your Questions About the Brain](#)," available at [www.dana.org](http://www.dana.org), to solve this crossword puzzle!



### ACROSS

4. The percent of the body's daily energy intake that is used by the developing brain until puberty.
5. The week during gestation when primitive forms of the cortex, cerebellum, and brainstem are apparent.
6. Nerve fiber that conducts electrical impulses.
10. The part of the brain that controls movement. (two words, no space).
11. The part of the brain that is a keystone of memory.
12. Bundles of axons that carry signals from region to region, like long-distance cables. (two words, no space).
13. The part of the brain that regulates balance, coordination, and life-sustaining processes such as breathing and heartbeat.
14. Throughout the brain, neurons communicate with one another through \_\_\_\_\_ circuits.

### DOWN

1. One of the primitive regions of the brain important in emotion that is not fully functional until age three.
2. The outermost layer of the brain that is divided up into specialized lobes to regulate sensory experience, language and memory, and our sense of space.
3. Chemicals that cross a synapse to stimulate neurons nearby.
7. The sheath that covers axons and speeds electrical messages along.
8. The week during gestation when genes switch on to turn some of the embryo's stem cells into neurons and glia.
9. Percent a baby's brain volume grows per day after birth before slowing down by the third month.