

# Attainment's **mental fitness** INSTRUCTOR'S GUIDE

Ready-to-use  
activities  
for older  
adults



KARI BERIT GUSTAFSON



### **Win/Mac CD**

This CD contains a printable PDF of the entire book. You can review and print pages from your computer. The PDF (portable document format) file requires Acrobat Reader software.

If you have Acrobat Reader already on your computer, open the file MentalFitness.pdf from the CD.

To Install Acrobat Reader:

Windows: Run ARINSTALL.EXE on the CD.

Mac: Run Reader Installer on the CD.

After installation, run Acrobat Reader and open the file MentalFitness.pdf from the CD.

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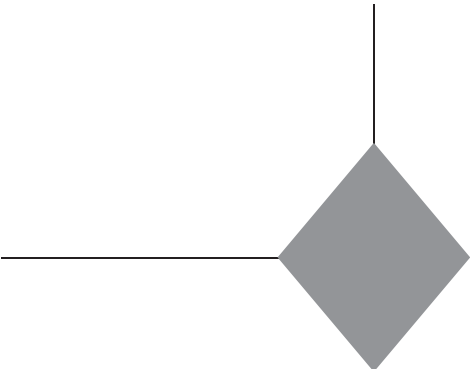
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## about the author



**K**ari Berit Gustafson has focused her life's work on a celebration of aging for almost 20 years. Her original research looked at teaching older adults and enriching activity programs for them. That led to her work as an Elderhostel director, assisted living facility manager, tour guide, consultant, and internationally sought-out trainer and speaker on aging issues. In an era when showing any signs of age is frowned on, Gustafson has built a reputation for talking about this taboo topic with humor, intelligence and insight—and without condescension.

Gustafson has a BA in psychology and international health care from St. Olaf College and an MS in continuing and vocational education from the University of Wisconsin. She served as resident manager, director, and assisted living manager in senior housing facilities for more than a dozen years, while also teaching and directing programs for older adults. In addition, she has been a Life Enrichment activity program consultant for long-term care communities. Most recently, Gustafson has added caregiver coaching to her offerings.

To exercise her own brain, Gustafson enjoys traveling, reading, writing and working on the house she shares with her husband, her dad and his wife, and three pets—Eli the dog, Spike the bird and Solveig the cat. Known for her outstanding singing voice, she sings in English and Norwegian for audiences here and abroad. She attempts to follow her own advice in managing stress, keeping physically and mentally fit, enticing loved ones to get out of their ruts and living life fully engaged.

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## preface

**m**ental Fitness Aerobics came into my life shortly after I met author Marge Engelman at the University of Wisconsin, Madison. One of my courses was Introduction to Aging, held on Saturday mornings at 8:00, not my best time. But Marge had a wonderful way of inviting us to study the topic of aging, and soon we all wanted to talk about this too-often taboo subject, no matter how sleepy we were.

She had us envision ourselves as an 80 year old person. We were to sketch a picture of our physical selves, where we lived, who we were around and what we were doing. (This exercise is one I continue to use in my workshops, as it gets everyone to look into the future and stirs up a lot of laughter.)

By the time I met Marge, the myth “You can’t teach an old dog new tricks” had become a hot-button topic for her. Her graduate work had already centered around creativity and older women. After working with a dynamic group of women in rural Wisconsin some years later, she rededicated herself to the topic. In her program, Marge gave group members “brain workouts,” drawing on a variety of exercises that challenged them to use all their senses, especially memory, and to learn new ideas.

I visited her Belleville class and was inspired by these women—so full of energy and zest and humor. They worked puzzles, wrote poems and dissected art. After my visit to Belleville, I started a discussion group at an independent senior apartment I managed. My goal was to incorporate similar programs and see what happened. Most of the residents had high school diplomas, but some had dropped out after eighth grade to help on the family farm. One woman, who was legally blind, held a Master’s Degree. At the beginning, I was pulling out information from them, coaxing them and coming up with all the ideas and activities myself. By the time I left Wisconsin, this group was exploring and writing Psalms, penning magic-tale narratives (complete with life lessons) and writing songs. They were engaged.

Collecting her various exercises and her research on the brain, Marge published her first book, *Aerobics of the Mind*, in 1996. She followed the book with a set of cards, *Mental Fitness Cards: Aerobics for the Mind*, published by Attainment Company in 2004. When I teach this course, I call it “Mental Fitness Aerobics: Creating a Health Club for the Mind,” and it’s one of my most in-demand programs.

Throughout my 20 year career teaching Elderhostel students and working in assisted living and senior housing, I have made it a priority to step up the level of programs offered participants. Even in dementia care units, I have successfully included mental fitness programming. This guide comes out of a need professionals in the field articulate—they want a well-constructed, ready-to-use mental fitness program. I hope you find it valuable.



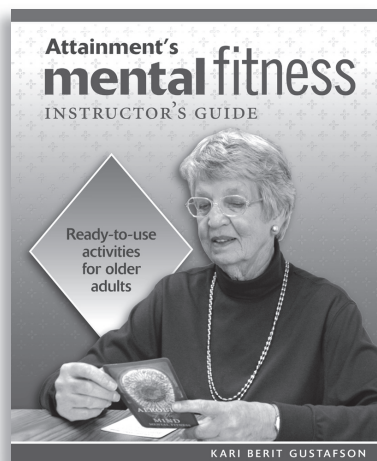
# introduction

**t**he Mental Fitness Instructor's Guide is a timely, invaluable resource for activity directors, adult-day program directors, parish nurses, housing administrators, and family and loved ones. It is also a wonderful tool for nurses, aides, housekeepers, maintenance people and volunteers. Throughout this guide, I will show you how to use Marge Engelman's **Mental Fitness** and **Thinking Cards** in group sessions—formal or informal. I will also point out how you can use mental fitness activities at staff meetings, before discussion groups, after exercise groups, on the bus en route to events, as casual activities and as program boosters to support monthly themes. Whether you're interested in keeping staff engaged with residents or providing richer visits for family members and loved ones, this guide can greatly enhance brain fitness programs and give everybody involved in elder care a unified sense of direction.

The guide is set up in eight themes. Each *Theme* can be used as one session or split into two or more sessions. You can even use a Theme over the course of a month, presenting one or two activities at a time. How you use Themes depends on the following:

- ◆ *Your group's cognitive ability.* If you have a high functioning group and can hold their attention for 1 to 1½ hours, you may be able to work through a Theme in one session. A group functioning at a lower level might work through the same Theme over two or three sessions.
- ◆ *The number of people in your group.* The ideal group is 3 to 15 participants. It takes longer for a larger group to do the activities.
- ◆ *The space available for your activities.* It's always best to have a space with tables and chairs, good lighting and a door that closes, allowing maximum concentration. Just as important is that everyone can see and hear the facilitator. It is more difficult to conduct a mental fitness group in a living room setting, but not impossible. If that's the space you have available, make a circle to create a closed space and connect





all participants. When picking a single activity to do on a bus en route to an event, it's vital to consider the restrictions your space imposes.

- ◆ *Your talents, interests and experience.* To be an excellent facilitator for older adults, it helps if you have unearthed your deep-down attitudes about the elderly and about your own aging. If someone in their retirement years has been a strong role model for you—particularly a parent, grandparent, aunt or uncle—your feelings about growing older may be positive. Unfortunately, the reverse is also true. Stereotypes in the media can also play an important part in how you perceive aging.

If, as facilitator, you are able to show a lot of respect for this age group as interesting and intelligent people, they will feel comfortable participating in these activities and you will have an easier time forming a productive, cohesive group. Everyone will have more fun!

## Structure of the Guide

Each Theme is laid out in a similar format, but they don't all include the same number of activities. Don't feel you have to adhere to the suggested activities only or to the written script. Both provide you with a map to structure the activity and suggest what to say to your group, but they aren't meant to be rigid. I've also included instructions to prepare for the activity and pertinent information to share with the group.

The first page of each Theme includes:

- ◆ *Goal.* To help you understand and document, if necessary, the therapeutic value of the activity.
- ◆ *Cards needed.* The list includes both **Mental Fitness Cards** for healthy adults and **Thinking Cards** for adults with mild cognitive impairment (MCI) or early stage dementia. If you have either or both decks of cards, pull those needed before the session and tell staff, family, volunteers and participants what you'll be covering. This is a great way to encourage engagement and interest in the activity. Note that sometimes the Mental Fitness and Thinking Cards have identical titles. The difference is that Thinking Cards are easier to understand, and some contain fewer steps or directions.
- ◆ *Other resources.* This lets you know what reproducibles you will need in addition to the cards. It also tells you when to have props ready—for example, a melon is sometimes used to represent the human brain.
- ◆ *Supplies.* This list tells you to prepare pencils, paper, an overhead projector and so forth.

## Cognitive adaptation

Cognitive adaptation refers to a person's thinking skills and abilities, including understanding and reasoning. While this guide was written for persons who are aging normally, reality dictates that we also adapt activities



for people with lower cognitive function. The Thinking Cards were adapted for people with MCI or a disease with a dementia component. When found here under the heading “Cognitive Adaptation,” the Thinking Card replaces its identically titled Mental Fitness Card.

## Homework

At the end of each Theme is a homework assignment. Use this as a tool to encourage participants to stay engaged in the Theme. I assign homework in nearly all sessions I teach. I find it gives some people a reason to dig deeper, ask more questions and return excited for the next activity.

## Participant Materials—CD-ROM

At the end of each Theme are numerous helpful reproducibles. Either photocopy the pages or print them out from the PDF format files on the CD-ROM.

## Mental Fitness Instructor’s Guide DVD

Along with the book and the two sets of cards—available for separate purchase—we’ve included a DVD that shows the **Mental Fitness Instructor’s Guide** in action. Viewing this video will give facilitators new to the field confidence in their ability to use this rewarding and simple-to-use program. On the other hand, experienced facilitators can discover how refreshing this new approach is.

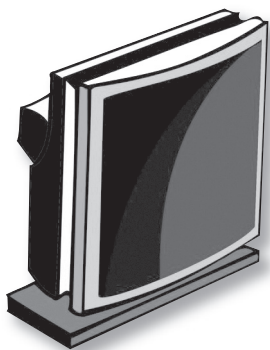
For each Theme, the DVD shows participants doing three sets of activities. In addition, it demonstrates one whole Theme—the facilitator and participants do all the activities in that Theme. When no facilitator is available, although not the ideal scenario, the video can even be used to lead the group.

## Using Mental Fitness and Thinking Cards

Having the **Mental Fitness** or **Thinking Card** decks allows you to incorporate the cards into your programs in many other ways. Listed are a few examples.

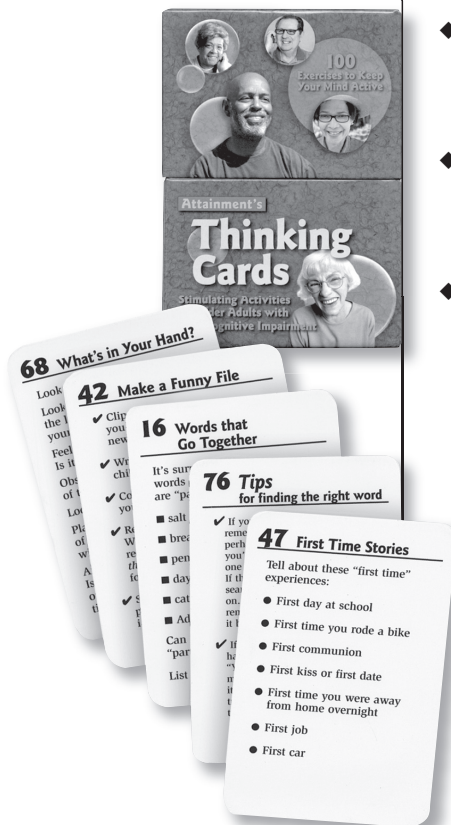
### Pull card en route to event

For example, on the bus headed to an event, pull Mental Fitness Card 87 (“We Look, but Do We Really See?”). Once everyone’s on the bus, grab the bus microphone and ask the various questions. When you’ve worked through all the questions, see if the group can come up with others. Steer the group away from excessive reminiscing by also asking about things seen every day. For example, “What’s the color of your bedspread? Whose face is on 1, 10, 20, 50 and 100 dollar bills? What color pen do you use most often? What is your favorite time of the day?” And so on.



Mental Fitness Program includes DVD.





### Use one-on-one

Once staff, family or volunteers learn how to use the cards, they can easily engage a participant. For example:

- ◆ If an older adult watches a lot of television, suggest they use Mental Fitness Card 4 (“Enhancing TV Watching”) to help make their TV viewing experience more instructional.
- ◆ Pull Mental Fitness Card 40 (“Addition and Subtraction”) and have a grandchild and grandparent work through addition and subtraction problems together. (The answers are shown on page 147.)
- ◆ Give Mental Fitness Card 28 (“Try to Remember”) to a high school student and pair him or her up with an older adult. Have one read the first part of the card and the other finish it. Follow directions at the bottom of the card. (You may want to provide a copy of the card for each person so that they can write freely on it.) This presents a wonderful opportunity to look at self-esteem together.
- ◆ Encourage housekeepers and maintenance folks to take a card along as they go about their workday and to look for opportunities to engage a resident.
- ◆ Take along Mental Fitness Card 19 (“The Months of the Year”) and work at reciting the months (you’ll probably learn a tune or two from the residents); then try to recite them alphabetically.

### Make adaptations

Tweak the activities in the card deck as necessary, depending on your group. For instance: You are using Mental Fitness Card 23 (“Pyramid Sentences”) in a skilled nursing facility with participants who have difficulty writing. Use a white board and work the activities as a group, writing in bold letters. If some group members have poor eyesight, help them out by talking about a Theme, then telling them how many words you need next.

### Start staff meetings with a card

Before a staff meeting, pull Mental Fitness Card 55 (“If You Were . . .”) and go around the group, allowing each staff member to answer once, following this example: “If I were an animal, I would be a dolphin, swimming freely through the oceans and leaping out of the air. The three adjectives that describe me are playful, energetic and powerful.” Staffers get only one minute to answer the question and describe themselves with three adjectives. No interruptions—others should acknowledge what was said, but not refute or challenge the staff member’s feelings. Make sure everyone gets a turn.

### Exercise brain after exercising body

If you regularly exercise the gray matter right after physical exercise, the group will look forward to it—and reap the benefits. Here’s an example: Following physical exercise, give everyone a cup of water and then, using

Mental Fitness Card 10, have the group do the “Alphabet Stretch.” With your group sitting in a circle, ask someone to name an animal that starts with the letter A. Work your way around the group, trying to let everyone have a chance. If you have someone in the group who finds this activity difficult, let others pull him or her along. Try not to let one person, however, monopolize the group. You, as the leader, are the encourager—be positive and help fill in gaps when necessary. If the group is high functioning, make the activity more challenging by choosing exotic foods or animals.

**THEME**

one

Opening Your “New Brain”



## THEME

# one

## Opening Your “New Brain”

### Goal

To open your participants’ “new brains” by getting them out of their usual ruts. This is a great program with which to begin brain aerobics. Don’t worry about explaining the new program to them at this point. Instead, focus on habits and ruts.

### Cards needed

Mental Fitness Cards 1, 2, 8, 68, 86, 88, 89  
Thinking Cards 6, 11

### Other resources

Illustration of a neuron and optical-illusion pictures (Mental Fitness Cards 86, 88, 89), enlarged or prepared for overhead projector.

### Supplies

Paper, pens/pencils, writing surfaces, overhead projector or bulletin board.

### Before you begin

Distribute copies of “Your Brain Quiz” or enlarge it on the overhead screen. Invite participants to work on the quiz as the group is assembling.

### Pertinent information

Begin by inviting your group to “Open your ‘new brain,’ which means setting aside the rote response, ‘I can’t do this; this won’t work for me.’ Help defy the myth that older adults are unwilling to change. By opening your new brain, you listen to ideas with the attitude, ‘I wonder what I’ll learn from this information and how it could benefit me.’”

So many times we prejudge an event before it even begins. Some of this has to do with fear of the unknown, and some is our fear that we won’t be able to keep up. If you help your group bring out their fears beforehand, it will make the session go more smoothly. Simply take a white board or flip chart and ask the group, “What have you heard about learning in older age?” Then move into answering “Your Brain Quiz.”

## Separating fact from fiction

Take a look at “Your Brain Quiz,” and work through the questions, providing the facts behind the myths. Keep in mind that this quiz is about normal aging, rather than aging with disease.

### Your Brain Quiz

1. *After about age 40–50, you can expect your mental powers to decline.* FALSE.

Quite the contrary. There is now evidence that the brain grows stronger, even physically larger, with regular use and purposeful exercise.

2. *Memory loss is a natural part of the aging process.* FALSE.

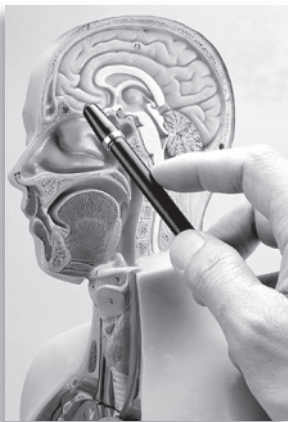
The truth is that your memory can actually improve with age. Ask the participants, “How many of you forget? And when you can’t remember something, you say, ‘I must be having a \_\_\_\_\_.’” (They usually fill in “senior moment.”) Follow that with, “How many of you know teenagers who forget things? Or how about kindergartners? They leave behind mittens, lunch boxes, boots, etc.” Then I add, “And I often forget and I’m forty-something; on what do I get to blame my forgetfulness? The truth is that as we age, we lose some ability to quickly recall facts, names or numbers, what we call *fluid intelligence*. Not having something on the tip of your tongue doesn’t signal Alzheimer’s Disease. As we get older it becomes more difficult to multi-task, but having become much wiser as we age, we now realize we don’t *need* to do two things at once! Wisdom—or ‘crystallized intelligence’—grows with age. We have a much richer foundation of experiences and knowledge from which to make decisions. It may take more time. To that I say, ‘Big deal.’ We could all benefit from slowing down a little.”

3. *Chronic confusion and forgetfulness are the first symptoms of approaching senility.* FALSE.

Explain to your group, “More often than not these symptoms can be traced to a vitamin, mineral or dietary deficiency. I have witnessed a number of ‘confused’ older adults become ‘un-confused’ once their medications were straightened out. Forgetfulness can be a symptom of a physical or emotional problem. Many older adults forget more and are increasingly confused when they have to move into an assisted living or nursing home. When something changes drastically, life becomes more stressful. Stress can cause many people to forget. There is a difference between forgetting where we put our car keys (normal forgetfulness at any age) and not knowing what car keys are or what they do (a warning sign of dementia).

4. *There is nothing you can do to slow the aging of your brain.* FALSE.

There is a great deal you can do to keep your brain and mind going strong. Doing brain aerobics is one way.







5. *Once dendrites are lost, they cannot be regenerated.* FALSE.

New research is showing that dendrites can be regenerated. When giving this answer, I often say, “And what are dendrites anyway?” This question gives you a wonderful opportunity to present “A Look at Neurons” (page 13). Explain that dendrites are the tentacle-like fibers, at the end of neurons, that carry impulses to other cells involved in memory and learning. When you challenge yourself to learn something new, you’re waking up those dendrites and they, in turn, reach out to make connections with existing or new neurons. Emphasize to your group that this is very exciting news: We can, in a sense, regenerate our brains!

6. *Creative ability cannot be developed in aging persons.* FALSE.

A number of studies show that creative tendencies can get stronger as we grow older. Brainstorming (discussed in Theme Three) is one way to foster creativity.

7. *Once your memory “goes,” nothing can bring it back.* FALSE.

There are many methods for improving your memory. (Sprinkled throughout the sessions are activities that work on improving memory.)

8. *Males are more creative than females.* FALSE.

Women have just as much creative ability as men, and studies show that they may be *more* creative. If I’ve got men in my groups, I often ask the men what they think of this. Usually they answer “false.”

### Who’s at risk for decline?

1. *The less-educated.* Many studies show that those with a higher education or those who are lifelong learners—always wanting to learn more—maintain a healthier brain. This is not to say that people with PhDs don’t get dementia; rather, your risk decreases the more you challenge your brain. When we continually learn new things, we stretch our capacity to solve problems and think better.
2. *Couch potatoes.* When we’re bored and disengaged from life, our brains tend to atrophy.
3. *Physically unfit people.* The old saying, “what’s good for the heart is good for the brain,” rings true. Pumping the blood and getting oxygen to the brain are just some of the brain benefits of physical exercise. Exercise also gets those endorphins going, which increases one’s desire to be more engaged in life.
4. *Those without enough sleep.* Our bodies and minds need adequate down time and a good night’s sleep to function properly.
5. *Those who have sustained head trauma.* If the brain has been damaged, the risk of dementia increases.
6. *The stressed-out.* Our brains don’t work well when we’re forcing them to work at a fevered pace. Have you ever become frustrated with yourself because you can’t figure out the answer to a problem? And then have





you tried “racking your brain” or “pounding your head on the table”? Funny enough, the answer comes at 2 a.m., when you’ve finally let go and relaxed.

7. ***Folks with a poor attitude.*** Having a negative attitude about life shows you’re focused on things you have no control over. By concentrating on how you respond to situations rather than bemoaning the bad stuff life inevitably throws at you, you keep your brain from spinning in negative circles.
8. ***Alcoholics and smokers.*** Both cigarettes and excess alcohol damage the brain and increase the risk of disease.
9. ***Those stuck in a rut.*** Rutted brains don’t flourish. When we’re stuck in ruts, we’re not challenging our brains; we are simply on automatic pilot. So challenge yourself to sit at a different place at the table, or set the table using different plates. Drive home from church a different way.

## Mental Fitness Card 1

### Breathing exercise

Introduce the importance of good, deep breathing on Mental Fitness Card 1. I ask my groups, “Is anyone a singer? Singers know they need to breathe from their \_\_\_\_\_.” (The singers—and there always seem to be some—will fill in the blank with the word *diaphragm*.) Ask participants to sit up straight and take a deep breath. Then guide them in their breathing by saying: “Breathe in while I count to three; breathe out while I count to three.” Continue to do this until they have established a comfortable rhythm. Let them know, “We’ll talk more about breathing in the next session.” (If you haven’t introduced breathing yet, I would suggest taking a look at the video example on breathing. We will also take a closer look at breathing in Theme Two.)

### The Small Cage Habit

Read “The Small Cage Habit” as an example of ruts:

Once upon a time there was a very sad polar bear who was kept in a very small cage in the town zoo. When the sad bear wasn’t eating or sleeping, she occupied her time pacing . . . eight paces forward and eight paces back again. Again and again she paced the parameters of her very small cage.

One day the zookeeper said: “It’s depressing to see this bear pacing back and forth in her confining cage. I shall build her a great open and elegant space so that she may romp with great freedom and abandon.” And so he did.

As the space was completed, great waves of excitement charged through the town, and finally the magic day came to move the bear to her new headquarters. The town mayor delivered a rousing speech, with a chorus of children screaming in anticipation.

The city marching band manifested a brassy bravado of sound that reached a crescendo at the glorious moment that the sad bear was ushered into her elegant new quarters. Whispers of curious expectation rose from the crowd as they watched the great beast frozen in the uncertainty of the moment. The sad bear looked to her left and to her right, and then she began to move . . . one step, two, five, eight paces forward and eight back again . . . again and again. To the shocked amazement of the crowd, she still paced the parameters of her old very small cage.

After you've read the story, ask the group these questions:

1. What kind of bear is the story about?
2. How many steps did the bear make as she paced back and forth in the cage?
3. Who decided to build a new space for the bear?
4. Who gave a speech at the celebration?
5. Where was the band from that played at the event?
6. What adjective is used to describe the bear?

Mental Fitness Cards  
86, 88, 89

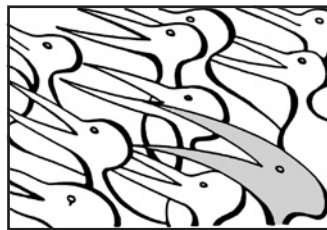
### Look at optical illusions

Enlarge the illusions on Mental Fitness Cards 86, 88 and 89 and hang them on the board or show them on an overhead projector. Follow the questions on the cards. Some participants will have seen some of these illusions; encourage them to help others.

#### Answer to Mental Fitness Card 88 ("Seeing Squares")

You should be able to see up to 30 squares, larger, smaller and in different configurations.

#### Answer to Mental Fitness Card 89 ("Picture Illusions")



A bird or an antelope, or  
you may see another animal.

## What are your habits?

Researchers say it takes 21 days to form a new habit—and even longer to break one. Many of us don’t know what our habits are. To get a clue to the habits and ruts we all have, fold your hands and arms in new ways:

1. Fold your hands with the fingers positioned between each other.
2. Look to see which thumb is on top.
3. Raise your hand if the left thumb is on top.
4. Raise your hand if the right thumb is on top. (Usually an equal number of participants go each way; there is no right or wrong way.)
5. Now try folding your hands the opposite way. (Often there is laughter, as many find it more difficult than they expected.)
6. Next, fold your arms.
7. Observe which arm is on top—right or left? (Again, the group is usually about equally divided for each position; some will observe that the left hand was on top, but the right arm was on top.)
8. Now try folding your arms the opposite way. (Again, generally there’s laughter as people discover how awkward this is.)

Follow up by asking: “What does all this mean? We’re not totally sure. It may have something to do with right/left brain tendencies. There is some suspicion that those who put the left thumb on top were originally left handed, but we don’t know for sure. What this activity does show is that we get into ruts about how we do things.”

## COGNITIVE ADAPTATION

Thinking Card 11

Use the instructions on Thinking Card 11 (“Fold Your Hands”). Don’t worry about how participants do this; just remind them that it may feel awkward.

## Analyzing daily habits

We all have beneficial daily habits and ones that aren’t so helpful. Explain to your group: “We rarely analyze our habits and ruts, but let’s take a look at some. List seven habits and use an asterisk to mark the ones you’d like to change.” A list might look like this:

1. Before getting out of bed, I do some easy stretching.
2. I have morning coffee while reading the newspaper.
3. I turn on the TV to catch news, then start to doze—until mid-morning.\*
4. I take the dog for a walk.
5. Then more coffee.\*





Mental Fitness Card 2

Thinking Card 6

## Homework

Send your group away with a copy of Mental Fitness Card 2 (“New and Different”), and encourage them to examine their daily ruts.

## COGNITIVE ADAPTATION

Give participants a copy of Thinking Card 6 (“New and Different”). They may need a partner for this activity, which is about trying new and different things. Encourage an aide, family member or volunteer to work with them.

## Sharpen Your Hearing

Mental Fitness Card 91



This activity is designed to help you sharpen your hearing and improve your concentration. Turn on the radio to a talk show or a news report. Lower the volume until it is just barely audible. Then, draw a horizontal line on a sheet of paper. Put the point of the pencil at the beginning of the line and very slowly turn up the volume of the radio. When you can understand clearly what is being said on the radio, make a mark on the line.

Repeat this activity several times in one day striving to make the mark on the paper earlier each time. Try the activity again several days later, each time working to hear the talking more clearly and sooner than the last time.

The change may not be dramatic, but you should notice some improvement as a result of purposeful listening and concentration.

## Music and Mood

### Thinking Card 99



We know that music affects our mood. Look through your collection of records, tapes or CDs. Choose four different songs that you enjoy which fit these moods:

**Song 1:** Slow, quiet and maybe a little melancholy.

**Song 2:** A bit peppier, but still tranquil and mellow.

**Song 3:** Faster tempo and more upbeat mood—a toe-tapper.

**Song 4:** Fast, lively and happy— makes you want to dance.

If you are feeling blue, try playing the songs in order, from 1 to 4. If you want to calm down and take a rest, play the songs in order from 4 to 1.





## Describe What you Smell

### Mental Fitness Card 97

It's not easy, but describing in words what we smell helps sensitize us to those smells. This activity brings together our sense of smell with the words that describe the smell and stimulates two different parts of the brain. Try to find one or two words to describe each of the following smells:

- ◆ the smell of rain
- ◆ the smell of burning leaves
- ◆ the smell of onions frying
- ◆ the smell of cabbage cooking
- ◆ the smell of a wet dog
- ◆ the smell of freshly mown hay
- ◆ the smell of newly cultivated soil
- ◆ the smell of a sweating body
- ◆ the smell of gasoline
- ◆ the smell of dirty hair
- ◆ the smell of a rose

## Scent Associations

Thinking Card 72



Write down in a column or say out loud your favorite smells.

Then, write down or tell what smells you dislike the most.

Is there something that each of these smells reminds you of? Write these down or talk about them with a friend or family member.

When you do this, you are stimulating the area of the brain involved with odors and emotions.



## Sniff Your Way Around

Mental Fitness Card 99

Smell is probably the sense we most underestimate. Of all of our senses, smell is the most basic. It is a chemical sense whose only requirement is that the chemical signal travels up the nose. Researchers tell us there are as many as 20 different odors.

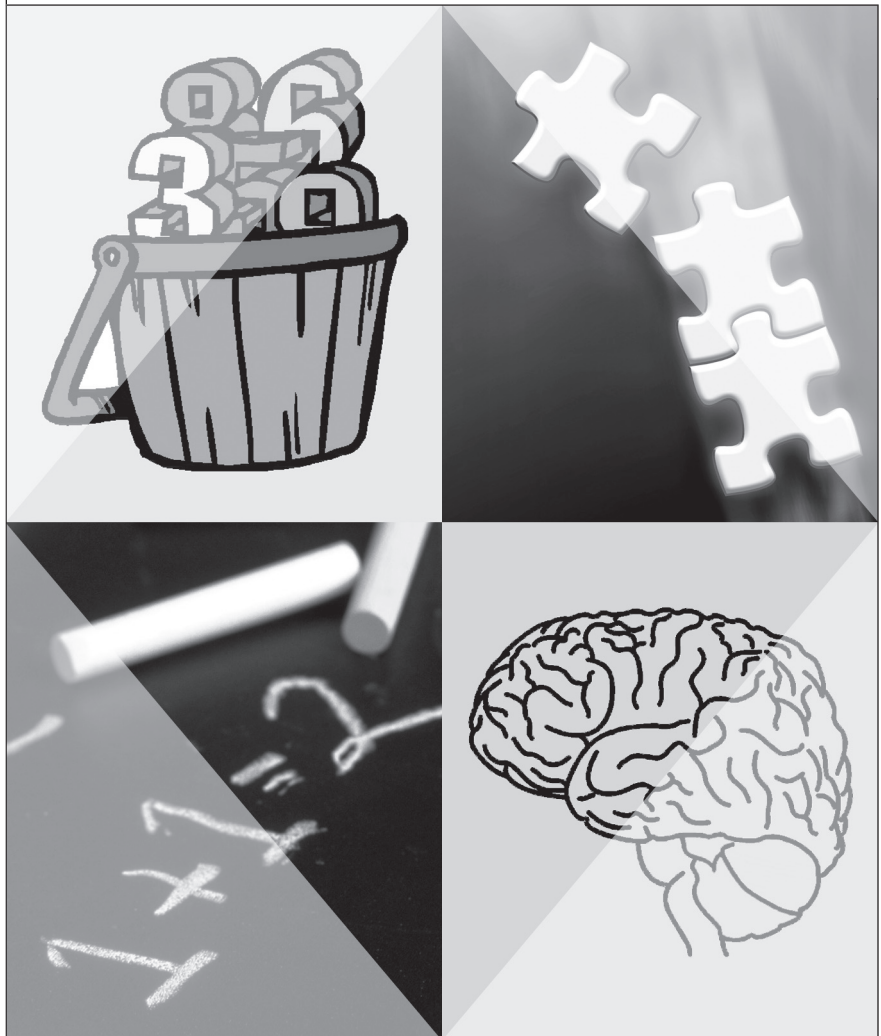
Today, sniff your way around. Be extra aware of smells. Search out different smells. If you have a kitchen, go to the spice shelf and spend some time sniffing the different spices. If you are near a flower garden, take time to smell different flowers. If possible, go to a cosmetic counter and ask to smell different soaps and perfumes. You may want to find a restaurant that cooks different foods than you ordinarily eat and take time to be aware of different cooking odors. You will probably need to ask what you are smelling.

Get a pot of mint. It is a natural brain stimulant.

**THEME**

# eight

Puzzling Out Puzzles and Numbers



## THEME

# eight

## Puzzling Out Puzzles and Numbers

### Goal

To use puzzles and numbers as mind stimulation.

### Cards needed

Mental Fitness Cards 40, 41, 42, 68, 70, 71, 72, 73, 74, 78  
Thinking Cards 59, 62, 96

### Other resources

Flash cards, old math books, number lists, construction paper, posters, magazines, lightweight cardboard.

### Supplies

Paper, pens/pencils, writing surfaces, overhead projector or bulletin board, scissors, glue.

### Pertinent information

Researchers at the University of Minnesota Medical School learned that when persons in ice-cold rooms became thoroughly chilled and nothing could stop their teeth from chattering, the best warmer-upper was not a cup of hot coffee but a card brimming with rows of numbers to be added. Have you ever been aware, when you were struggling to balance your checkbook, that you began to feel warm? The reason, researchers speculate, is that when you do mental calculations, your breathing slows down and this makes you feel warmer.

Some of your group members may need a little extra encouragement when asked to work with numbers or puzzles. I was reluctant myself. I tend to claim, "I'm not a numbers person." I am naturally right-brained, but this means that I benefit greatly from working with numbers and puzzles that strengthen the left side of my brain. If you're caught in an emotional situation, doing some math problems can help you move quickly from the emotional side of your brain (the right side) to the intellectual side (your left brain). Try it some time!

## Mental Fitness Card 78

### Challenging the left brain

Give each participant a copy of Mental Fitness Card 78 and request that someone read the initial paragraph aloud. Ask the group: “How many of you remember doing story problems? And how many of you enjoy doing them?” This generally gets some chuckles and passionate talk about math failures. You may also want to ask, “How many of you use math and numbers on a daily basis?” When the conversation has died down, encourage participants to work the three story problems on this card.

#### Answers to Mental Fitness Card 78 (“Challenging the Left Brain”)

1. Jane—3 miles
2. Sara—140 pounds
3. Ken—\$195

## Thinking Card 62

### COGNITIVE ADAPTATION

The instructions on Thinking Card 62 (“Challenging the Left Brain”) are somewhat simpler than on Card 78, especially for Problem 2. This is, however, a challenging activity even to healthy older adults.

## Mental Fitness Cards 40, 42

### Working some math problems

Make copies of Mental Fitness Cards 40 and 42 for everyone. When working Card 40, remind the group that there are two sides of the equation—the numbers on the left need to be added or subtracted to equal the number on the right. Those who aren’t math-challenged tackle the problems on their own and sit quietly when they’re finished. Meanwhile, groaning and moaning come from those who struggle, and they feel compelled to restate that they are “not math people.” It’s then I tell them they can work with each other. If you’ve got a number of frustrated people in your group, you can also remind them to employ breathing techniques to calm themselves. Our brains don’t work well when we’re trying too hard.

#### Answers to Mental Fitness Card 40 (“Addition and Subtraction”)

$$3 + 2 - 1 + 4 - 1 + 3 = 10$$

$$8 - 7 + 1 + 4 + 4 - 6 = 4$$

$$5 - 3 + 2 + 4 + 1 + 5 = 14$$

$$2 - 1 + 8 + 9 - 3 + 5 = 20$$

$$5 - 3 + 4 - 4 - 2 + 9 = 9$$

$$7 - 6 + 2 + 9 - 9 - 3 = 0$$

### Answer to Mental Fitness Card 42 (“Adding Numbers”)

$$\begin{array}{ccccccc} & (6) & (1) & (2) & & & \\ & 5 & \cdot & \cdot & \cdot & & \\ & 8 & 7 & 4 & 3 & & \\ (4) & & & & & (5) & \\ \hline 1 & \cdot & 3 & 5 & \cdot & & \end{array}$$

### Remembering numbers

Use “Remembering Numbers,” the reproducible on page 158, or write two sets of six numbers on the flip chart or overhead projector, such as:

2, 4, 8, 3, 2, 5

and

6, 3, 9, 4, 5, 7

Ask participants to read these two sets of numbers over at least three times and then write them down in the correct order. If this proves too difficult for your group members, try writing only five numbers in each set. Ask participants to develop their own sets of numbers and keep practicing until their memory gets sharper. Assure them that practice does make a difference. In most cases, it’s hard to memorize only because the brain is out of practice. Also remind participants to breathe and relax as they memorize.

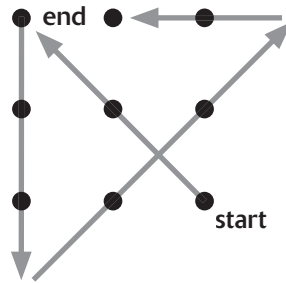
### Connecting the dots

#### Mental Fitness Card 68

Give each participant a copy of Mental Fitness Card 68 and ask for a volunteer to read the instructions aloud. After they’ve worked at connecting the dots without lifting their pencils, ask the group, “What restrictions have you set up for yourself in solving this problem?” Then reread the directions, emphasizing that there are no boundaries as to where the lines can be drawn. (In other words, they *can* draw outside the box.) Display the problem on a flip chart or overhead projector and draw the four lines for them. (If someone has figured it out, please have *them* draw the answer if they are willing and able.) Unless the members of your group have tried this puzzle before, they will struggle intensely to follow the directions. This can lead to a discussion on why we tend to stay “within the box.”



### Answer to Mental Fitness Card 68 (“Connecting the Dots”)

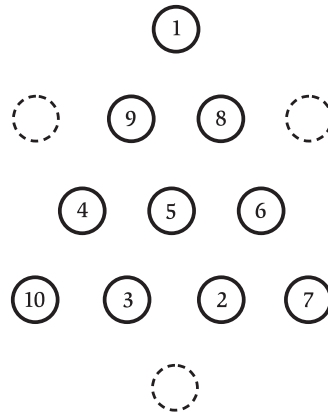


### Mental Fitness Card 74

#### Coin puzzle

Gather enough pennies for each member of the group to work the puzzle. You can also break up a big group and have smaller groups work this puzzle. Again, ask someone to read the directions aloud.

#### Answer to Mental Fitness Card 74 (“Coin Puzzle”)



### Mental Fitness Card 71

#### Jigsaw puzzle

Puzzles are great for exercising the part of the brain that deals with spatial perceptions. And it’s almost addicting to sit down and “put a few pieces in.” If you can get pictures of participants’ families beforehand and create meaningful puzzles out of the photos for each group member, you’ll be delighted with their response. I realize that this takes preparation time on your part. Here are easier ways to make jigsaw puzzles:

1. Cut up five-inch hearts or shamrocks into five or six pieces.
2. Cut letters from a large poster into puzzle pieces.
3. Paste magazine pictures on lightweight cardboard and cut them up.

Involve one group in creating puzzles and the other in putting them together. Then switch. Of course, intriguing commercial puzzles are widely available as well.

Thinking Card 59

### COGNITIVE ADAPTATION:

Commercial puzzles can be frustrating even to those of us without any cognitive challenges! I suggest you use Thinking Card 59 (“Jigsaw Puzzle”), especially if you can get pictures of the family. Software for making puzzles is available on the computer (puzzlesgalore.com is one source).

### Breathing break

Before you move into counting, get the participants to take in some good, deep, relaxing breaths and clear their brains for the next challenge.

### Counting

If you’ve ever taken a “mini-mental exam,” you know one of the initial questions is, “Count backwards from 100 by sevens to zero.” Most of us growl, but others start listing the numbers. Remind participants that the important part is exercising the brain, not getting the numbers right.

### COGNITIVE ADAPTATION

Thinking Card 96 (“Counting Games”) is a wonderful alternative to counting backward from 100 by sevens. Have the group warm up by counting up to 20 by twos, then threes, etc. Follow the directions on this enjoyable card.



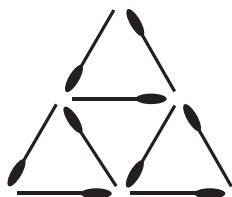
Mental Fitness Cards  
70, 72, 73

### Homework

For Mental Fitness Card 70, participants will need matchsticks (the wooden ones are best). For Cards 72 and 73, they will need only a copy of the card. If they’re struggling with Card 72, encourage them to build the pyramid with blocks or sugar cubes.

These puzzles can also be done with grandchildren or friends. Remind the group to “Have fun challenging your brain!” Remind them that “Doing puzzles with grandchildren or other young friends can be oodles of fun.”

### Answer to Mental Fitness Card 70 (“Matchsticks”)



**Answer to Mental Fitness Card 72 (“Hidden Cubes”)**

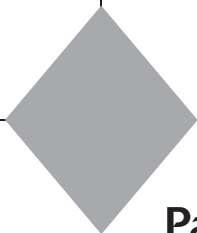
There are 31 total cubes, with 16 entirely hidden from view.

**Answer to Mental Fitness Card 73 (“Triangles”)**

The figure has 35 triangles.



**THEME**



# eight

## Participant Materials

Challenging the Left Brain  
(Mental Fitness Card) 154

Challenging the Left Brain  
(Thinking Card) 155

Addition and Subtraction 156

Adding Numbers 157

Remembering Numbers 158

Connecting the Dots 159

Coin Puzzle 160

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Counting 163

Counting Games 164

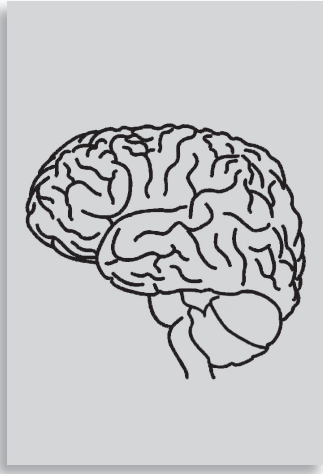
Matchsticks 165

Hidden Cubes 166

Triangles 167

## Challenging the Left Brain

### Mental Fitness Card 78

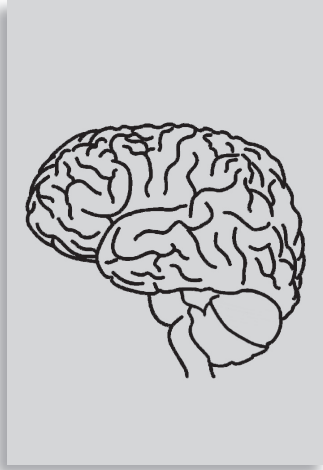


In most people, the left side of the brain deals with adding, subtracting, multiplying and dividing. Since mathematics is one skill that seems to fade rapidly as we age, doing activities with numbers will help refresh the left brain.

1. Jane walks a half mile in 15 minutes.  
How far will she have gone in  $1\frac{1}{2}$  hours?
2. Sara was 5 feet, 6 inches tall. When she weighed herself one day, she weighed 170 pounds. She was disturbed and put herself on a diet for 10 weeks. She lost 3 pounds each week. How much did she weigh at the end of the 10 weeks?
3. Ken was raising money to help build a children's playground. His neighbor gave him \$20, his cousin gave him \$40, his four children each gave him \$15 and he added \$75 from his own savings. How much did Ken collect?

## Challenging the Left Brain

Thinking Card 62



If you enjoy doing math, this might be a fun activity for you. In most people, the left side of the brain deals with adding, subtracting, multiplying and dividing. Since mathematics is one skill that seems to fade rapidly as we age, doing activities with numbers will help refresh the left brain.

1. Jane walks a half mile in 15 minutes. How far will she walk in  $1\frac{1}{2}$  hours?
2. Sara weighed 170 pounds and dieted for 10 weeks. She lost 3 pounds each week. How much did she weigh at the end of the 10 weeks?
3. Ken was raising money to help build a playground. His neighbor gave him \$20, his cousin gave him \$40, his four children each gave him \$15 and he added \$75 from his own savings. How much did Ken collect?



## Addition and Subtraction

### Mental Fitness Card 40



Place a + (plus) or a – (minus) sign between the digits so that both sides of each equation are equal.

$$3 \quad 2 \quad 1 \quad 4 \quad 1 \quad 3 \quad = \quad 10$$

$$8 \quad 7 \quad 1 \quad 4 \quad 4 \quad 6 \quad = \quad 4$$

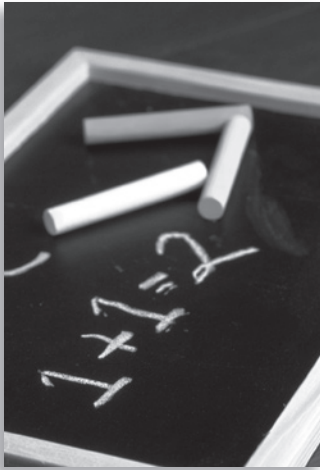
$$5 \quad 3 \quad 2 \quad 4 \quad 1 \quad 5 \quad = \quad 14$$

$$2 \quad 1 \quad 8 \quad 9 \quad 3 \quad 5 \quad = \quad 20$$

$$5 \quad 3 \quad 4 \quad 4 \quad 2 \quad 9 \quad = \quad 9$$

$$7 \quad 6 \quad 2 \quad 9 \quad 9 \quad 3 \quad = \quad 0$$

If you like this activity, invent some equations of your own.



## Adding Numbers

### Mental Fitness Card 42

Replace each dot below with either 1, 2, 4, 5 or 6 to make the problem add up correctly. Each number may be used only once.

$$\begin{array}{rcccc} & 5 & \bullet & \bullet & \bullet \\ & 8 & 7 & 4 & 3 \\ \hline 1 & \bullet & 3 & 5 & \bullet \end{array}$$

## Remembering Numbers



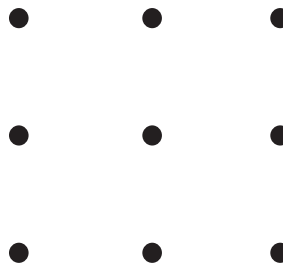
2 4 8 3 2 5

6 3 9 4 5 7

## Connecting the Dots

### Mental Fitness Card 68

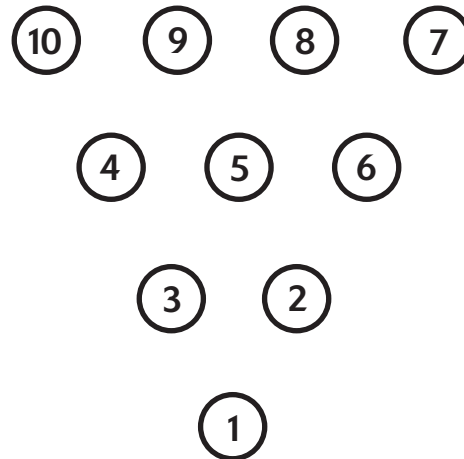
Without lifting your pencil from the paper, draw four straight, connected lines which go through all nine dots but through each only once. After you have tried two different ways, ask yourself what restrictions you have set up for yourself in solving this problem. Be sure to read these directions several times.



## Coin Puzzle

Mental Fitness Card 74

Arrange 10 coins to make this triangle. By moving only three coins, turn the triangle upside down.



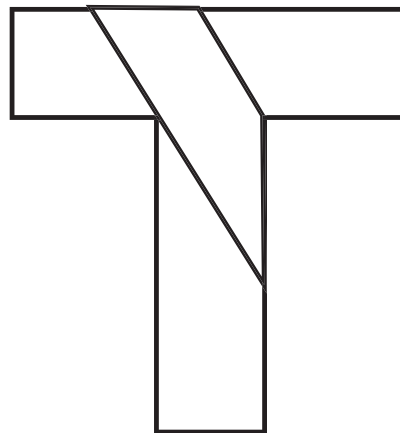
## Jigsaw Puzzle

### Mental Fitness Card 71

Jigsaw puzzles of any kind are a challenge to the part of the brain that deals with spatial perceptions. Make a puzzle by drawing this T shape on a piece of heavy paper and cutting it up into four pieces.

Now without looking at the original of the puzzle, put it back together. Put the pieces away for a week or more and try it again. Try it with friends. Other puzzles to make:

- ◆ A five inch heart cut into six pieces
- ◆ Letters from a large poster cut into puzzle pieces
- ◆ Pictures from a magazine pasted on heavy paper and cut up



## Jigsaw Puzzle

Thinking Card 59



Jigsaw puzzles of any kind are a challenge to the part of the brain that deals with spatial perceptions.

You or a family member can make your own jigsaw puzzles by cutting photos or magazine pictures into anywhere from four to six pieces. Then try to put the pieces together to form the whole picture.

Instead of making your own puzzle, you can also purchase puzzles with different levels of difficulty.

Even simple puzzles are good for the brain!



## Counting

### Mental Fitness Card 41

Count out loud by twos up to 100 as fast as you can.

Count backward by twos from 100 to zero.

Now try counting by threes up to 100.

Now count backward by threes from 100.

For the ultimate challenge, count forward by sevens and then count backward by sevens.



## Counting Games

### Thinking Card 96



Do you remember when you learned your multiplication facts in school? You may have learned to count by twos, threes, fours, etc.

Try counting by threes:

3 ... 6 ... 9 ... 12 ... 15 ... 18 ...

How far can you go?

Now try counting by other numbers.

If you want a real challenge, try to list the prime numbers. (Prime numbers are divisible only by one and themselves.)

To help you get started:

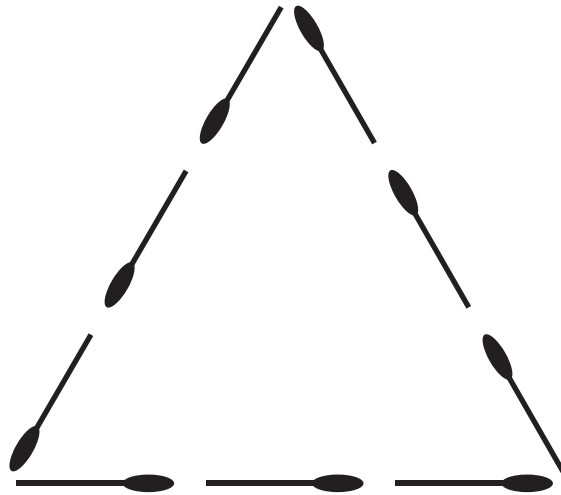
1 ... 3 ... 5 ... 7 ... 11 ... 13 ...

Can you continue?

## Matchsticks

Mental Fitness Card 70

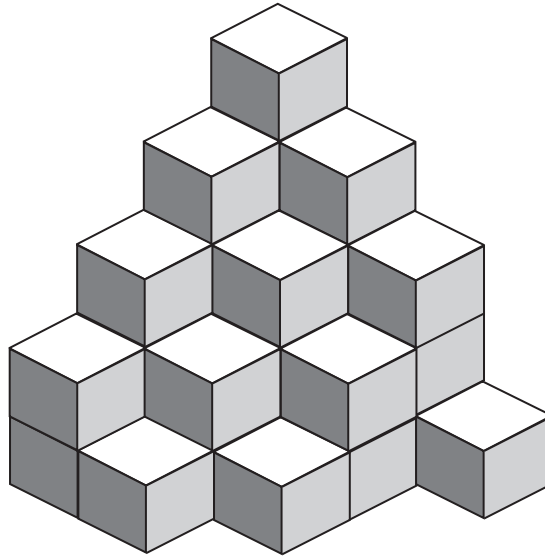
Arrange nine matchsticks in a triangle as shown. Now, rearrange five of the matchsticks so that there are a total of five triangles.



## Hidden Cubes

Mental Fitness Card 72

How many cubes are there in all? How many cubes are entirely hidden and cannot be seen?



## Triangles

### Mental Fitness Card 73

Count the number of triangles found in this drawing. It may be helpful to number the small areas and then write down the combinations that make up all the different triangles.

