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MEMORY TRAINING FOR THE ELDERLY

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Memory Training

- ▶ A way to support your memory not only in old age.
- ▶ A great kind of group or individual activity you can do with the elderly in lifelong learning courses, in nursing homes or wherever.



Overview

- ▶ How does the memory work?
- ▶ Which brain abilities are important for a “good memory”?
- ▶ Are all the memory difficulties in old age related to dementia?
- ▶ How can the elderly train their memory every day?
- ▶ What is the benefit of group memory training?

What is memory?

Memory is the brain's ability to **encode, store** and **retrieve** information



The Memory Process

Encode

Get the information
into your brain
through the senses

Store

Retain the
information in
long-term memory

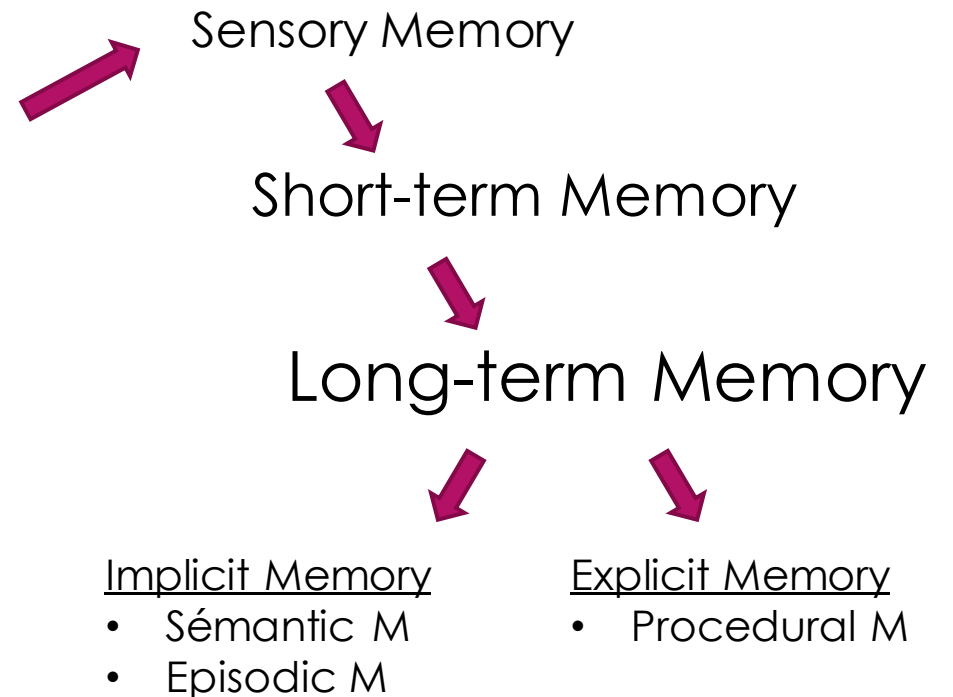
Retrieve

Recall the information
from long-term
memory

The Memory Process

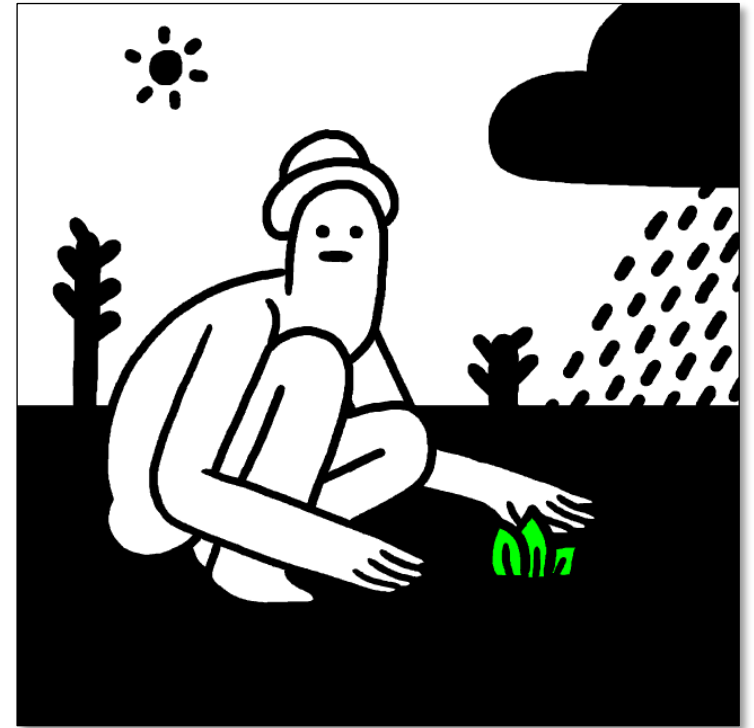
The information is transferred...

- ▶ From **perception**
- ▶ to **sensory memory**
- ▶ to **short-term memory**
- ▶ to **long-term memory**



Sensory Memory

Sensory memory is the ability to retain stimuli received through the five senses of sight, hearing, smell, taste and touch.



Sensory Memory

- ▶ It takes less than a second.
- ▶ Most of the information disappears immediately.
- ▶ Only information important enough to **pay attention** to are transferred to short-term memory.



Attention! Attention! Attention!

- ▶ When you do not pay attention, you cannot remember.
- ▶ When you do something automatically, subconsciously, there is no information to recall.
- ▶ Not “bad memory“ but “poor attention“.



Short-term Memory

Short-term memory holds a small amount of information for a short period of time.



Short-term Memory

- ▶ Ultra-short term memory (few seconds)
- ▶ Short-term memory (few hours)
- ▶ Limited capacity (5 +/- 2 items)
- ▶ Space for remembering and processing information at the same time

Consolidation

- ▶ Only the important information is transferred to long-term memory
- ▶ It happens through the process of **consolidation**
- ▶ Consolidation involves **rehearsal** and meaningful **associations**
- ▶ There is the right time for **mnemonics** to remember better!

Mnemonics

- ▶ **Mnemonics** are techniques or strategies to help you to remember better.
- ▶ Mnemonics make the information more memorable (organized better, unusual, funny...).
- ▶ Mnemonics help you to remember longer pieces more easily.

Mnemonics – examples

- ▶ **Acronyms:** HOMES (*Huron, Ontario, Michigan, Eirie, Superior*) ROY G. BIV (*colors of the Rainbow*)
- ▶ **Method of loci:** information is tied to a specific place
- ▶ **Chunking:** long information is separated to short units
- ▶ **Meaningful categories:** information are separated in a logical order

<https://en.wikipedia.org/wiki/Mnemonic>

Daily exercise:

- ▶ Imagine all the items.
- ▶ Make a mental picture.
- ▶ Is it in a box... in a jar?
- ▶ The more detailed the better.
- ▶ List the items in a logical order.
- ▶ Try to recall the items looking only at the **category**.

ORGANIZE THE SHOPPING LIST INTO CATEGORIES TO REMEMBER BETTER

Category

Milk (a glass), Cheddar mild, Yogurts (2 whites) Cottage cheese, Butter (small)

Bananas, Apples (1kg) Cherries (1kg) Plums(2 kg), Strawberries in a basket

Salmon (two pieces) Shrimp (one pack) Tuna (tinned)

Aspirin, Antacid, Vitamins, bandages (2 wide)

Potatoes (1 pack) Carrots (5), Beans (pack) Garlic (5 bulbs), Onions (1kg)

Bread (rye), Croissants (5), Baguette, Buns (5) Muffins (5)

Shampoo, Conditioner, Comb, Toothpaste, Toothbrush, Makeup remover

Chicken breast, Sausage (2 pieces) Lamb chops, Pork chops, Spice salami

Slivovice, Wine, Beer, Whiskey, Vodka

Oregano, Salt, Basil, Rosemary, Pepper

Long-term Memory

Long-term memory is storage of unlimited information for a long period of time (forever).



Long-term Memory Like a Library

- ▶ To remember **well** means not only **to have** the information in your long-term memory but also **to find** it when you need it.
- ▶ There are A LOT of books in your „brain library“.
- ▶ Help your brain to store the important information the right way.

Remember Better

- ▶ Always connect the new information to some other things you already know.
- ▶ Mnemonics help you both to store and to recall the information.
- ▶ Support the information consciously by tastes, smells, sights, sounds, moods (sensory and emotional triggers).
- ▶ <https://www.youtube.com/watch?v=mgHxmAsINDk>



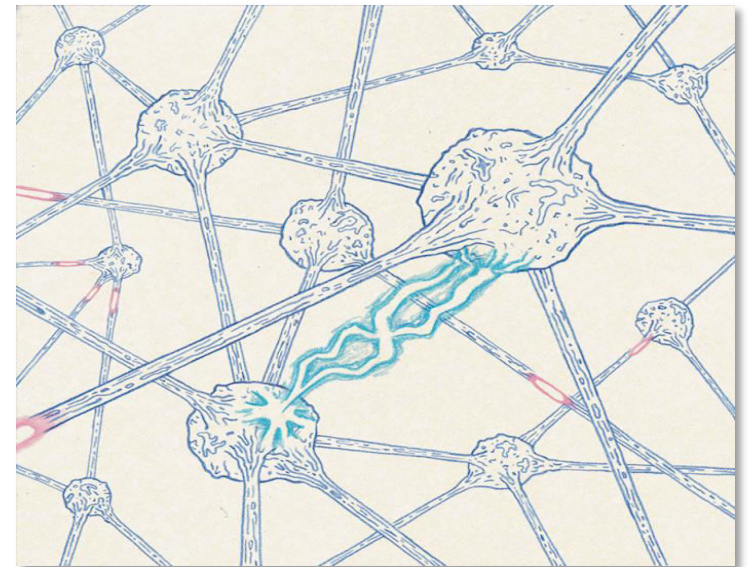
Emotional Trigger

Parts of Long-term Memory

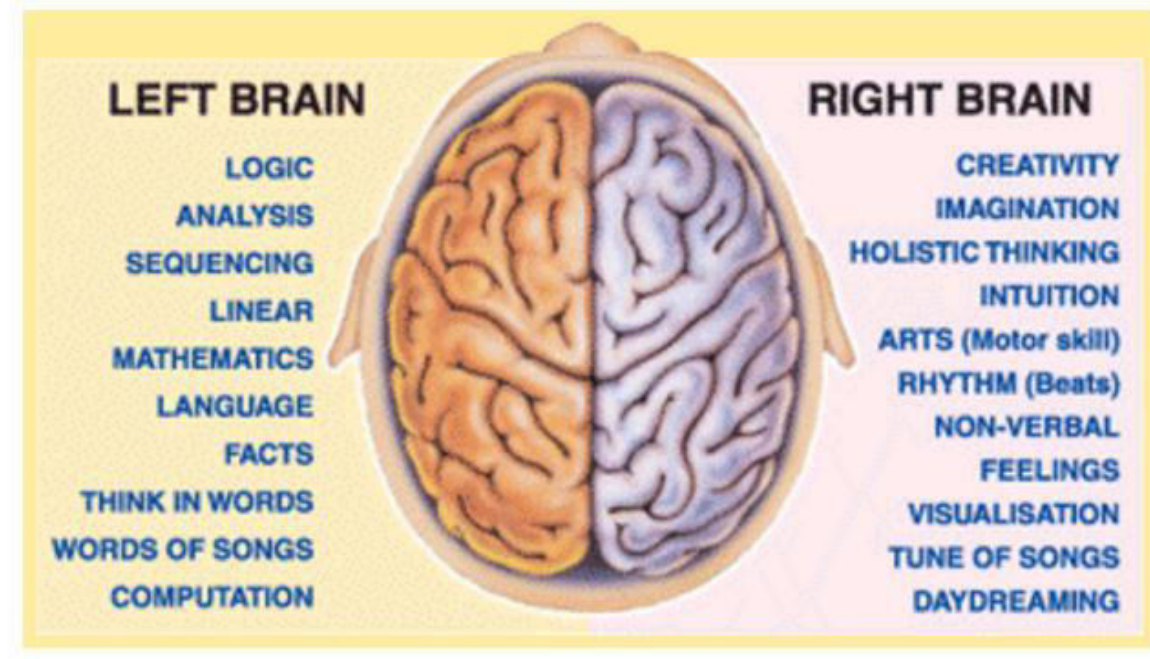
- ▶ **Explicit Memory: WHAT?**
 - ▶ Semantic (facts, knowledge)
 - ▶ Episodic (events you have experienced)
- ▶ **Implicit Memory: HOW?**
 - ▶ Procedural (motor and cognitive skills you use unconsciously like riding, walking up the stairs, speaking etc.)

Neural Network – Information Highway

- ▶ The **neural network** is the „brain’s information highway.“
- ▶ The neurons communicate with one another through **synapses**.
- ▶ The more experiences and learning, the more synapses and stronger network.



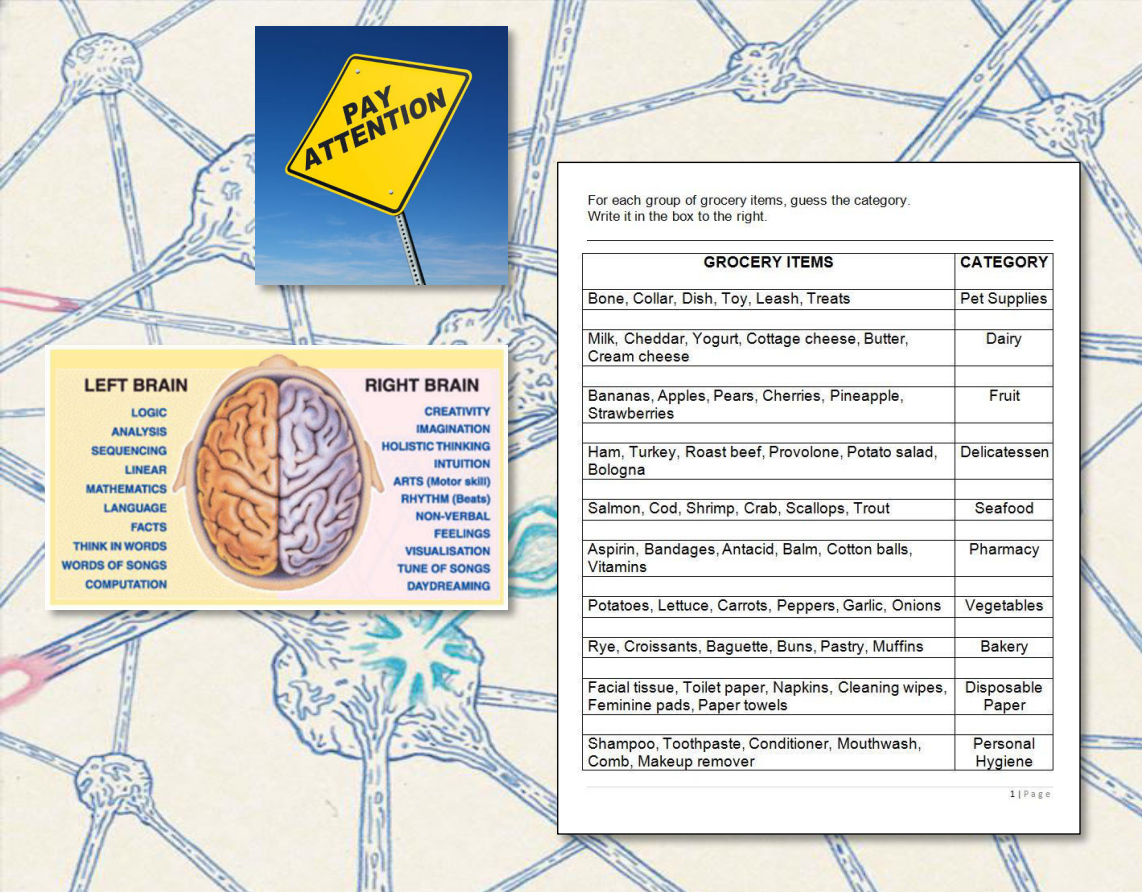
Brain Hemispheres in Process of Learning



<http://ucmas.ca/our-programs/whole-brain-development/left-brain-vs-right-brain/>

What helps you to remember better?

- ▶ Concentration
- ▶ Association
- ▶ Logical system
- ▶ Visualization
- ▶ Imagination



For each group of grocery items, guess the category.
Write it in the box to the right.

GROCERY ITEMS	CATEGORY
Bone, Collar, Dish, Toy, Leash, Treats	Pet Supplies
Milk, Cheddar, Yogurt, Cottage cheese, Butter, Cream cheese	Dairy
Bananas, Apples, Pears, Cherries, Pineapple, Strawberries	Fruit
Ham, Turkey, Roast beef, Provolone, Potato salad, Bologna	Delicatessen
Salmon, Cod, Shrimp, Crab, Scallops, Trout	Seafood
Aspirin, Bandages, Antacid, Balm, Cotton balls, Vitamins	Pharmacy
Potatoes, Lettuce, Carrots, Peppers, Garlic, Onions	Vegetables
Rye, Croissants, Baguette, Buns, Pastry, Muffins	Bakery
Facial tissue, Toilet paper, Napkins, Cleaning wipes, Feminine pads, Paper towels	Disposable Paper
Shampoo, Toothpaste, Conditioner, Mouthwash, Comb, Makeup remover	Personal Hygiene

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And what else?

- ▶ Sleep enough
- ▶ Keep your mind clear
- ▶ Manage your time
- ▶ Develop both the left and the right sides of your brain

Normal versus Pathological Aging



- ▶ It is very important to know **when to tell the doctor** about memory concerns.
- ▶ It is equally important to know that forgetting someone's name **does not necessarily mean dementia**.

FreeDem Video

[Watch the video](#)



<http://freedemliving.com>

Normal versus Pathological Aging

„Normally“ aging seniors

- ▶ Unable to remember details of conversation or events from the **past**
- ▶ Unable to remember names of **acquaintances**
- ▶ Forget things and events **occasionally**
- ▶ Difficulty finding words **occasionally**
- ▶ They worry about their own memory, but **relatives do not**

Seniors with dementia

- ▶ Unable to remember from a **few minutes** before
- ▶ Unable to remember names of **family members**
- ▶ Forget things and events **frequently**
- ▶ Difficulty finding words **often**, use many **wrong** words
- ▶ They do not worry about their own memory, but **relatives DO**

Benefits of Group Memory Training

- ▶ Support from a social network
 - ▶ Sharing common interests
 - ▶ Making friends, having fun
 - ▶ Increased self-confidence
 - ▶ More participation in group discussion
- ▶ Feel support from a lecturer



When you train memory with the elderly

- ▶ **Respect their dignity.** They may be old but they can be experts in some areas.
- ▶ Involve their **life experiences** in your lesson.
- ▶ **Avoid embarrassing** situations.
- ▶ **Appreciate** every little success.
- ▶ Realize and accept that they need **more time** to think about the problem.

When you train memory with the elderly

- ▶ Expect some **sensory difficulties** and adjust (bigger letters, good acoustics, well-lit room, etc.).
- ▶ Make your memory training **colorful**, train different parts of memory.
- ▶ Make it **not too easy** and not **too difficult**.
- ▶ **Pay attention** to all of the group members, not only the „active“ ones.
- ▶ **Be friendly, be kind, be creative but mainly be yourself.**

Some tips for your daily memory training

- ▶ **Use your „weaker“ hand** for unlocking the door etc. mixing dough, typing, brushing teeth, drawing, writing
- ▶ Look at familiar places in a new way, like a tourist. **Pay attention** to the individual buildings, bushes, trees.
- ▶ **Support your sensory memory**. Pay attention how you feel things when you touch them, how they smell, look.

Daily Memory Training

- ▶ **Read actively** with understanding. Tell your friends about the stories.
- ▶ **Include mnemonics** in your daily life (e.g. try to remember the shopping list)
- ▶ **Make your daily plans.** Be happy with each step.

And what is very important...

Focus more on the positive things. There are always some things in your life you can be grateful for.



What does not belong to...and why?

- ▶ An example of how to support sémantic memory

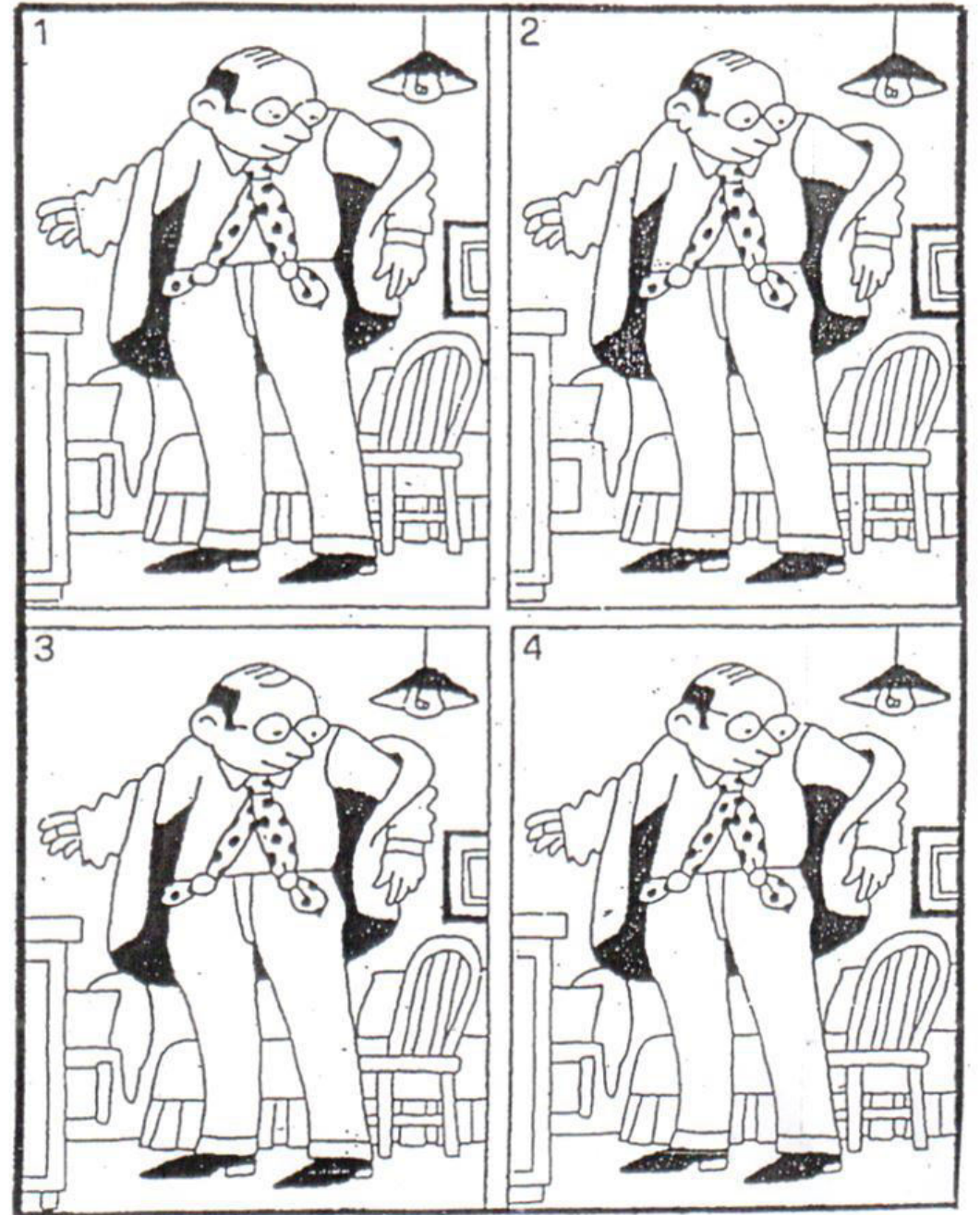
Walk, Run, Swim, Stretch, Jog	
Sports, Opinion, News, Business, Babies	
Pork, Rice, Bananas, Lettuce, Carrots	
Red, Black, Orange, Purple, Lemon	
Balloons, Candles, Pencils, Confetti, Presents	
Valentine's Day, Tuesday, Christmas, Easter, Halloween	
Bicycle, Truck, Motorcycle, Car, Bus	
February, December, Autumn, March, July	
Bear, Tiger, Cougar, Lion, Leopard	

What doesn't belong to...a key

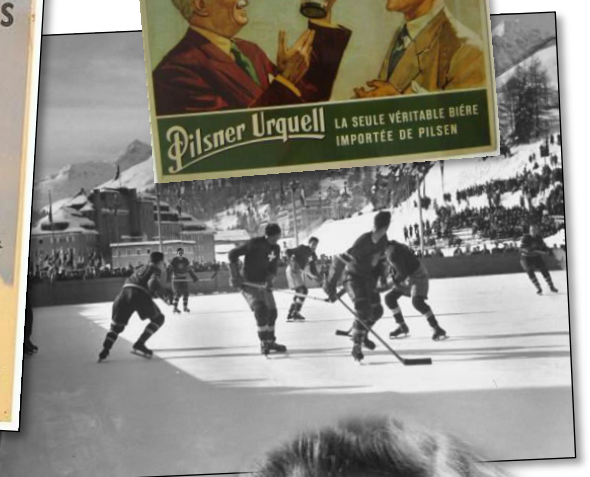
Group of words	Doesn't Belong	Concept
Walk, Run, Swim, Jog, Limp	Swim	Moving on land
Sports, Opinion, News, Business, Babies	Babies	Read in a newspaper
Pork, Rice, Bananas, Lettuce, Carrots	Pork	Vegetarian foods
Red, Black, Orange, Purple, Lemon	Lemon	Colors
Balloons, Candles, Pencils, Confetti, Presents	Pencils	Things for a party
Valentine's Day, Tuesday, Christmas, Easter, Halloween	Tuesday	Holidays
Bicycle, Truck, Motorcycle, Car, Bus	Bicycle	Motor vehicles
February, December, Autumn, March, July	Autumn	Months
Bear, Tiger, Cougar, Lion, Leopard	Bear	Cats

Concentration

- ▶ The artist made the first picture. Then he tried to make copies.
- ▶ He was not successful. Each copy (2,3,4) committed three serious mistakes.
- ▶ Discover them.



Do you remember? (reminiscence)



Some other tips for exercises...

- ▶ **Concentration:** Editor's reading (in one paragraph count all letters A, TE)
- ▶ **Association:** What things are yellow? What green plants can you eat?
- ▶ **Visualization:** You are looking up at the branches full of green leaves. What do you see?
- ▶ **Imagination:** For what can you use an empty milk bottle or a walnut shell? The more creative the better!
- ▶ **Procedural memory:** Write your favorite recipe from memory. What's important to keep your clothes looking good for a long time? (a good activity for residents of nursing homes who no longer cook or wash clothes for themselves.)

You can use whatever to train memory



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