



Co-funded by the
Erasmus+ Programme
of the European Union



HOW TO LEARN CREATIVELY?

STUDENTS HANDBOOK

The contents of this publication are available under the Creative Commons Attribution-ShareAlike
4.0 International License (CC BY-SA 4.0).



Authors:

Zuhal Ayik Yildirim
Katarzyna Baca
Beata Duda
Małgorzata Grzonka
Justyna Jopek
Dionisia Koutsi
Marta Margiel
Renata Pajda

Substantive editing:

Beata Duda
Małgorzata Grzonka
Magdalena Lach

Visual creation:

Anna Zachurzok

Author of the character:

Esma Cobanoğlu

Technical editing:

Beata Duda, Anna Zachurzok, Roksana Bosak, Milena Giza, Emilia Kutyla, Aleksandra Stachowicz

Substantive development of exercises:

Zuhal Ayik Yildirim, Katarzyna Baca, Beata Duda, Małgorzata Grzonka, Justyna Jopek, Dionisia Koutsi

Graphic design of exercises:

Milena Giza, Emilia Kutyla, Aleksandra Stachowicz

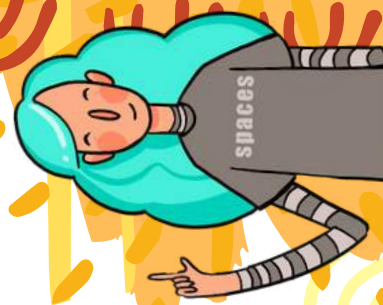
Proofreading:

Marian Tobin, Christine O Neill, Niamh Walsh

ISBN: 978-83-964664-1-9

The publication was created as part of the project “Creating spaces for creativity – SPACES”
This project has received funding from the European Union’s Erasmus+ Programme under Grant Agreement: 2020-1-PL01-KA227-
SCH-095376. The project is implemented by 6 partners: Foundation for the Development of Education SPATIA, IX Upper Secondary
School im. Wisława Szymborska in Sosnowiec, Malatya Bilim Ve Sanat Merkezi, Edmund Rice College Carrigaline, CulturePolis,
Escola Básica e Secundária Padre Manuel Álvares.

THE TABLE OF CONTENTS OF THE PUBLICATION



From the editorial team	6
Warming up - the power of your mind	8
<u>What is creative thinking? Can you improve creative skills?</u>	8
<u>Why is creative thinking important to you?</u>	8
Author: Katarzyna Baca	
Challenge 1 – Training Our Memory!	9
Block 1. How does our memory work? What makes us remember and then forget?	9
Topic 1. <u>Your memory versus computer memory</u>	9
Topic 2. <u>Seahorse in your head, or about the hippocampus</u>	10
Topic 3. <u>Types of memory</u>	11
Topic 4. <u>Myths about memory</u>	12
Authors: Małgorzata Grzonka, Renata Pajda	
Block 2. Styles of learning and memory	14
Topic 1. <u>Neuroscience – Train your brain like muscles</u>	14
Topic 2. <u>The power of mnemonics or how to remember things more efficiently</u>	15
Topic 3. <u>Exercises to improve your memory</u>	16
Topic 4. <u>Memory app and livehack</u>	17
Authors: Beata Duda, Małgorzata Grzonka	
Block 3. Super memory - you can get this!	18
Topic 1. <u>Memory – Outdoor Games</u>	18
Topic 2. <u>Healthy neurotransmitters. A good diet for brain power</u>	19
Topic 3. <u>Senses and memory</u>	20
Topic 4. <u>Stressed memory</u>	22
Authors: Beata Duda, Marta Margiel	
Challenge 2 – learn more effectively	23
Block 1. Meet Creativity! [...and yourself!]	23
Topic 1. <u>To Be [an artist] or not to be? Know yourself!</u>	23
Topic 2. <u>Creative brain or creative brainstorm?</u>	24
Topic 3. <u>Things to DO and Things to AVOID</u>	25
Authors: Katarzyna Baca, Justyna Jopek	

Block 2. Use Creativity! [...in your life!]	26
Topic 1. Power of visualisation – The big fight: Creativity vs. Stress	26
Topic 2. How to fulfil your dreams and goals? Mental simulation and visualisation	27
Topic 3. How to use creativity in our life - mind maps, sketchnoting, brainstorming	28
Topic 4. Six Thinking Hats	29

Authors: Katarzyna Baca, Justyna Jopek

Block 3. Train, train, train Creativity!	30
Topic 1. Creativity workout!	30
Topic 2. Lateral Thinking	31

Authors: Katarzyna Baca, Justyna Jopek

Challenge 3 – more creativity32

Block 1. Tips on how to create a dedicated work space at home	32
Topic 1. How to create a place to work and study at home?	32
Topic 2. Home Education – how to organize a friendly space for work and study at home?	34
Topic 3. A new way of working	35

Author: Zuhay Ayik Yildirim

Block 2. Changing the way of learning = more creativity	36
Topic 1. The digitally literate generation	36
Topic 2. Personalized learning	37
Topic 3. Reflective Learning	38

Author: Zuhay Ayik Yildirim

Block 3. Time Management for better performance	40
Topic 1. The Power of Time Management	40
Topic 2. Prepare Notes and to-do lists	41
Topic 3. The Power of Motivation	42
Topic 4. Planning your reading effectively	43

Author: Dionisia Koutsi

Challenge 4 – Creating space conducive to creativity44

Block 1. How to develop creative thinking skills?	44
Topic 1. Seek out different kinds of content	44
Topic 2. Keep up with the trends	45
Topic 3. Try to create something every day	46
Topic 4. Build a network for creativity	47

Author: Dionisia Koutsi

<u>Block 2. Art and creativity</u>	48
<u>Topic 1. The Relationship between art and creativity</u>	48
<u>Topic 2. Does art enhance creativity?</u>	49
<u>Topic 3. Critical Thinking through Art.</u>	50
<u>Topic 4. Design/Art Thinking</u>	51

Author: Zuhay Ayik Yildirim.

<u>Block 3. Tips for learning</u>	52
<u>Topic 1. Poetic Pathways</u>	52
<u>Topic 2. Drawings and Illustrations</u>	54
<u>Topic 3. Collaboration with arts providers – artists, writers, designers</u>	55

Author: Zuhay Ayik Yildirim

And now it's time to relax

<u>Block 1. The Art of Resting</u>	56
<u>Topic 1. Have you ever considered what resting actually means?</u>	56
<u>Topic 2. Why is it important to rest?</u>	56
<u>Topic 3. When to rest?</u>	57
<u>Topic 4. How to rest?</u>	57
<u>Topic 5. Tips for dealing with study stress</u>	58

Author: Dionisia Koutsi

<u>Block 2. Regeneration of the mind</u>	59
<u>Topic 1. Regeneration Techniques</u>	59
<u>Topic 2. The benefits of music</u>	60
<u>Topic 3. Puzzle Games</u>	60

Author: Dionisia Koutsi



FROM THE EDITORIAL TEAM

We invite you on a journey into the world of creativity. During this reading journey, you are sure to encounter many inspirations, tips, and tasks that will help you learn more easily and effectively, work more efficiently, and creatively take advantage of what the world around you has to offer. Where you start is entirely up to you. Take a look at the next page where - there you will find a list of topics of this handbook. Choose the challenge that interests you and take it up by going to the appropriate section, and then start exploring yourself and your creativity!

WHY DID WE DEVELOP THIS MANUAL?

When we talked to students from different countries, it became clear that the skill they particularly value in themselves and others is creativity. It enables them to look at problems in a different way and find completely different and unconventional ways of solving them. Despite the fact that creativity is a desirable feature on the labour market and in life, today still not many people know how to develop it - the following questions keep coming up: what to do to stimulate creativity in yourself? how to learn more effectively? what tasks are conducive to creative thinking? It turns out, however, that this is not an ability that is often developed at all, and few of the people we interviewed believe that they know how to develop this desirable ability. So the idea emerged to create an accessible manual for those who want to develop their creativity.

WHAT CAN YOU LEARN HERE?

We hope that the suggestions and hints we have prepared will be helpful to you and will show you the right path to develop your own creativity. On the pages of this publication you will find answers to questions such as: how memory works? what to do to quickly remember a list of vocabulary for a foreign language test? Why do we forget what we have learnt when stressed? How to use creativity in life and learning? What to do to make your dreams and goals come true? How to learn at home? Why does the environment matter? With us you will do an intensive memory training, learn how to manage your time and find out why colored paper and highlighters are so important in the learning process :)

Our textbook and its activities allow you to gain knowledge with many senses: listen to podcasts, watch lectures and photographs, touch art with your body and soul and feel nature. On the following pages you will find: interesting tidbits, amazing challenges, attractive videos, interesting tips, infographics, checklists, worksheets, charts and much more.

WHAT CAN YOU GAIN?

- you will learn applications to help you remember and organize your space and time,
- increase your ability to creatively solve everyday problems,
- you will learn to look at problems from different perspectives,
- more effectively and quickly remember what is important to you,
- create your own game,
- you will learn how to effectively plan your study, work and free time,
- create your own space to work and study,
- get to know myths about memory, brain and learning,
- free your mind from stereotypes,
- learn the art of note taking and planning,
- creating checklists and "to do" lists will become your daily routine,
- you will learn to think critically and projectively,
- learn the traps of the mind,
- write your own poem,
- in addition, you will learn:
 - why you should eat nuts and shrimp,
 - what the seahorse is doing in your head,
 - whether you're easily swayed by suggestion,
 - why we forget,
 - whether hypnosis can help you recover your memories,
 - whether it's possible to live without stress.

We wish you an enjoyable and rewarding journey!

Roll up your sleeves and set off on a journey to the land of creativity! We wish you a pleasant trip and satisfaction with the challenges you take on!

*Handbook editors
Beata Duda, Małgorzata Grzonka, Magdalena Lach*





WARMING UP - THE POWER OF YOUR MIND

Creativity is intelligence having fun.

Albert Einstein

In this chapter you will learn how to unlock your creative thinking. We will focus on why creativity is crucial for your success in life, education, relationships and future employment. You will develop skills on how to think creatively and learn how to use it in everyday situations!

Ready? Let's start!

WHAT IS CREATIVE THINKING? CAN YOU IMPROVE CREATIVE SKILLS?

Creative thinking is how we can view the world and problems differently. It is how you get out of the box and generate new ideas. What is the box? It is a boundary within your mind, between what you know and what you have yet to think about. It can be your thoughts or the learning environment around you. It can also be what other people have thought and discovered, and your own experience: your successes and failures. All of these things give you ideas about how things should be, and this is your box.

Now, you might be thinking: "But I'm not creative!" There is good news for you! Creative thinking is a skill that anyone can nurture and develop. It doesn't have to be hard. When you were little, creating new things was natural to you and brought you joy. As you grow up in a world which demands perfection, you can stifle your creativity. Perhaps you were worried about how your peers or adults would judge you. Still, the creative genius is inside you, waiting to be unleashed!

Creative thinking means using your mind, imagination and experiences to create something new. It is seeing what was invisible to you when you were in the box. There are five types of creative thinkers: the lateral thinker; the inspirational thinker; the divergent thinker; the systematic thinker; and the aesthetical thinker.

1. The Lateral Thinker



Click and watch the video

WHY IS CREATIVE THINKING IMPORTANT TO YOU?

If you could develop only one competence in your life, go for creativity, because it:

- Keeps your mind active and more productive,
- Promotes confidence,
- Reduces stress,
- Helps you create lasting relationships,
- Facilitates a different perspective on life and education,
- Allows for your self-expression.

Creativity is a key skill for the XXI century and the number one strategic priority for global organizations.

Uber, AirBnB, Apple, Instagram are just a few examples of Creative Thinking.

Think – if you go creative, you may make a positive change in your life and the life of many people all over the world!

References:

- N. Torres: *12 Reasons Why Creativity is All You Need in Life*, 2021, <https://www.imagined.com/mind/why-is-creativity-important/> (date of access: 10.12.2021).
G. Corazza: *Creative Thinking – how to get out of the box and generate ideas*, 2014, <https://youtu.be/bEusrD8g-dM> (date of access: 10.12.2021).



CHALLENGE 1 – TRAINING OUR MEMORY!

Do you sometimes forget the name of the person who just introduced themselves to you? Do you ever wonder why you can recall a particular historical date so clearly? It's all to do with your memory. Exploring how your memory works will help you develop skills to remember what you want effectively. Let's get started!

BLOCK 1. HOW DOES OUR MEMORY WORK? WHAT MAKES US REMEMBER AND THEN FORGET?

TOPIC 1. YOUR MEMORY VERSUS COMPUTER MEMORY

We often hear that the human brain works like a computer. But is this really the case? According to mind researcher Daphna Shohama, the computer metaphor is primarily a source of illusion. Psychologist Kurt Danziger goes a step further and claims that the computer metaphor is the opposite of how human memory really works. What is your opinion on this subject? Want to know why? Read on.

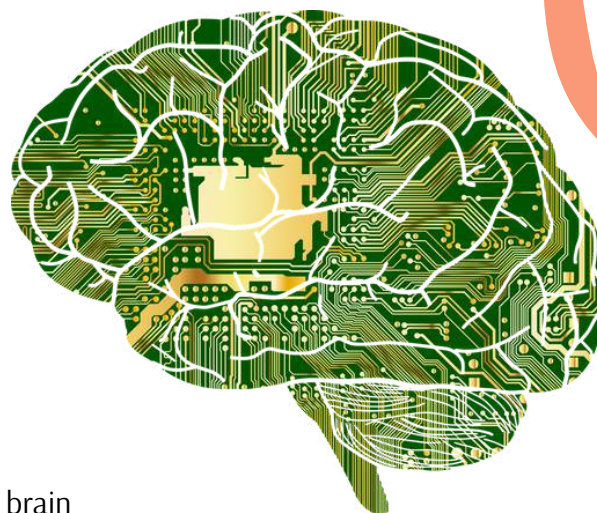
What are the similarities or differences between the human brain and a computer?

1. A computer works in **zero-one**: either there is a pulse – or there is no pulse. With the brain, it is not so simple. Neurons can have different states of activity.

2. When looking for similarities between the human **brain and a computer**, one can assume that both contain areas (modules) responsible for specific functions. However, it is not that simple. Yes, it is possible to determine which regions of the brain the centers of, for example, sight are located, but in fact all areas work closely together, and sometimes they can even take over their functions to some extent. It is not possible to draw strict boundaries in the brain, as for example, in the case of an integrated circuit on a main circuit board/motherboard.

3. The brain has no such thing as a **system clock**. Obviously signals can transmit through it, but their speed is not dependent on any particular pacemaker – unlike in computers.

4. **Short-term memory = RAM?** Biological memory has no capacity limit, while RAM is an area with a specific capacity, subject only to writing and reading.



5. It seems that humans use long-term memory to store information for extended periods of time in a similar way to a computer. However, in the case of a human, information is memories and/or acquired knowledge. Whereas for a machine, it is documents, applications, pictures. Information stored on a computer's hard drive remains constant (unless we modify it), while memories in human long-term memory are stored actively. This means that our memories can merge with others and/or are sometimes distorted by new information.

CONCLUSION? Long-term memory does **NOT work** the same way as a computer disk.

References:

Niezbędnik inteligenta: 100 pytań do nauki, „Polityka” 2021.

K. Czarczyńska: *Czym mózg różni się od komputera?*, <https://gadzetomania.pl/czym-mozg-rozni-sie-od-komputera,6704051320432257a> (date of access: 12.12.2021).

Image: microchip / Pixabay.com / author GDJ / CCO <https://pixabay.com/pl/vectors/anatomia-biologia-m%3%b3zg-my%5%9bl-umys%5%82-1751201/>

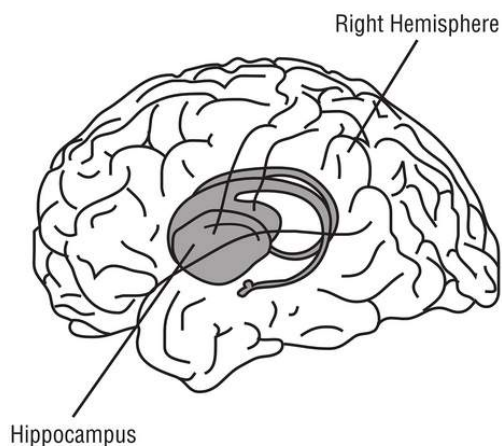
TOPIC 2. SEAHORSE IN YOUR HEAD, OR ABOUT THE HIPPOCAMPUS

Shine with knowledge! What is the hippocampus?

The hippocampus is a small but very important part, a part of your brain that looks like a seahorse. It is responsible for all memory processes, but not only that – thanks to the hippocampus you can also feel emotions. The word hippocampus first appeared in the 16th century and was coined by the Italian anatomist Arantius. He noticed the similarity of this part of the brain with an inhabitant of the deep sea. However, the word hippocampus is also known as "Ammon's horn". This name is associated with one of the Egyptian Gods.

Where does the hippocampus reside?

The hippocampus resides in the back of the medial surface of the temporal lobe, part of the limbic system of your brain.



Ensure a healthy sleep – your hippocampus will thank you!

While we sleep, our seahorse works intensively. It recreates our memories so that we can recall them easily the next day. Even a short nap can help us consolidate and strengthen memories. Test this knowledge before an exam, see if you are able to remember more thanks to a nap.

In case you are wondering is there only one seahorse living in our brain? I have a surprise for you. Humans and other mammals have two hippocampi. One resides in the right temporal lobe of the brain, the other in the left. Damage to either of these causes impaired memory and learning.

How does the hippocampus communicate with the rest of our brain?

Our seahorse has its connections with the entire limbic system and the new cerebral cortex through the vault and the sessile bodies. This means that it is connected to all centres of the brain. For this reason it is regarded as the "heart of the brain". The hippocampus has very responsible tasks – it is the nucleus of our memory. It is the command centre of all processes of memory organisation. The tasks of the hippocampus are many, including the transferring of information from short-term memory to long-term memory. But that's not all – it looks after our learning and ability and orientation in space. So is this little seahorse completely alone in this? Fortunately, not. The hippocampus is part of a larger structure called the hippocampal complex, which also includes the cingulate gyrus and the cingulate pad – their names perfectly reflect the shape of these parts of our brain. In recent years, scientists have also discovered that glial cells, or astrocytes, can also support the hippocampus in processing and storing memory. Their name comes from their starry shape.

References:

J.J. Lee, E.G. Johnson, S. Ghetti: *Hippocampal development: Structure, function and implications*. In: D.E. Hannula, M.C. Duff, ed., *The hippocampus from cells to systems: Structure, connectivity, and functional contributions to memory and flexible cognition*, 2017, s. 141–166.

TOPIC 3. TYPES OF MEMORY

Memory is a key skill in the cognitive system, it is essential for how we can learn new things.

What does our memory process look like?

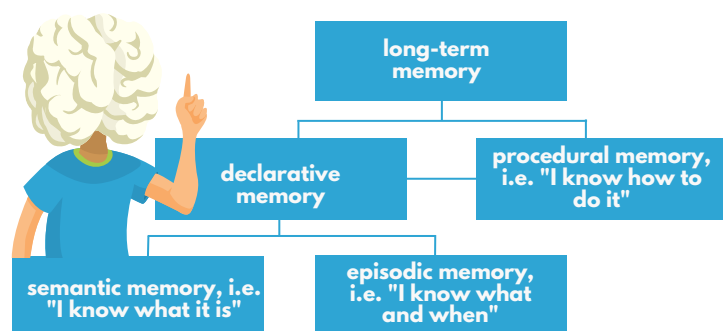
In the formation and storage of memory, phases can be distinguished:

- 1) Remembering all the information currently available.
- 2) Storing this information in the neurons responsible for storing it.
- 3) Finding/retrieving the information a little later and extracting it from storage when needed.
- 4) Proper recognition of the type of information extracted.

A classification of memory based on its duration:

- Ultrashort-term memory otherwise known as sensory memory,
- Short-term memory, also called fresh or working memory,
- Long-term memory.

In 1972, Endel Tulving made a distinction between long-term memory depending on the information being remembered.



What do we need short-term memory for?

It provides a door to access long-term memory and allows us to retain information that we need at that moment, such as where we parked our car. Short-term memory "holds" processed information for a while, which either fades quickly or turns into long-term memory. This type of memory has two main properties – limited capacity and a finite duration. The capacity of short-term memory is determined to be about 7(+/- 2 elements).

What is long-term memory responsible for?

It represents a permanent store of theoretically unlimited capacity and storage time. Outside of our consciousness, information is grouped into different subgroups/categories, and continually adds to our store of knowledge. When we need certain information we can extract it from our memory, update it and use it in current situations. The extracted data enters our consciousness and enables us to function efficiently and react appropriately. Although we have a lot of memorized information in our head – and many people have quite a large memory store we often have problems with retrieving the information we need at the moment. It sometimes happens that we even forget that we know something.

And that's not all – apart from long-term and short-term memory, you also have memory associated with individual senses. i.e. the memory of each of your senses. This type of memory is divided into

SMELL - VISUAL - AUDITORY - GUSTATORY - TACTILE - PAIN - SENSORY.

More about sense memory on **page 19**.

References:

T.M. Domżał: *O neurologii – w historii, esejach i wykładach*. Lublin 2017.

TOPIC 4. MYTHS ABOUT MEMORY

Have you ever heard that learning by heart is the best way to retain information in your memory? Or has someone told you that people with amnesia remember parts of their lives? Do you think your memory works like a camera, faithfully recording images and sound? Which of this information do you think is fact and which is just myth? Find the answers below.

MYTH 1

Human memory works like a tape recorder or a camera and faithfully records our experiences. It is true that we are often able to recall some important events in great detail (these are called flash memories). However, even in such cases, memory fails and with time memories become distorted or weakened. The camera does not modify the experience:)

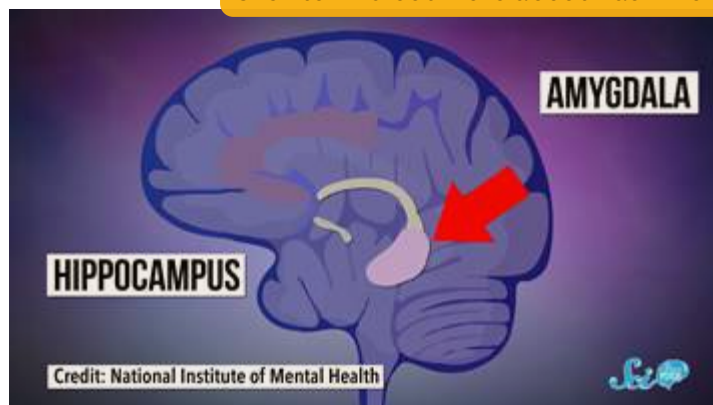
MYTH 2

Hypnosis allows you to recall previously repressed memories. How many movie villains have revealed all sorts of truths under hypnosis? This is not entirely true. Hypnosis tends to distort the memories recalled. However, it can be useful for treating addictions or pain.

MYTH 3

People with amnesia remember nothing of their lives. This is another Hollywood farce showing characters after waking up from a coma – they can't remember who they are or the faces of loved ones. The truth: people then have difficulty forming new memories, not losing the past.

Click to find out more about flash memories.



MYTH or TRUTH?

1. People repress traumatic memories.
2. Susceptibility to suggestion when recalling applies to all people.
3. Crossword puzzles keep our memory in good shape.
4. The modern human is getting dumber and dumber.

5. Learning by heart is the best way to retain information.
6. We can recall the first days of infancy.

Solution: 1. MYTH, 2. TRUE, 3. MYTH, 4. TRUE, 5. MYTH, 6. MYTH.

References:

- B. Boral, T. Boral: *Techniki zapamiętywania*. Warszawa 2013.
S. Lilienfeld, S. Lynn, J. Ruscio, B. Beyerstein: *50 wielkich mitów psychologii popularnej*. Warszawa 2011.
D. Schacter: *Siedem grzechów pamięci*. Warszawa 2003.

SINS OF MEMORY

Have you ever walked into a room and forgot why you went in there? Unable to remember your first mobile phone password, even though you really want to? Don't worry, it happens to everyone! Psychologist Daniel Schachter (2003) points out seven reasons why this happens.

The reasons for memory failure include **short-termism** (memories fade with time), **absent-mindedness** (we often don't pay enough attention to the activity we want to remember), **blocking** (when we desperately try to retrieve a memory), **faulty attribution** (we forget that we already told the person), **susceptibility to suggestion** (remembering false memories), **bias** and **persistence** (returning to memories we don't want to remember).

Why do we forget names?

Images are the language of our mind and anything we can visualise, we can remember it more easily. Imagine that you meet 3 people: Kate, Nicole and Peter. When you hear the names, no image appears in your head. A name is just a jumble of letters, which is why it is so difficult for us to remember it.



Did you know that forgetting is as important a phenomenon as remembering?

Not remembering relieves our brain of burdens, making room for new information, knowledge or memories. Why don't we remember where we put our keys, lock the door or turn off the light in the room? We forget things we do automatically – we don't pay attention to them because we've done them hundreds of times before. It is a defense mechanisms that allow us to remember the important and useful things and forget the unnecessary.



BLOCK 2. STYLES OF LEARNING AND MEMORY

TOPIC 1. NEUROSCIENCE – TRAIN YOUR BRAIN LIKE MUSCLES

Neuroentertainment: Train your brain and have fun. I have some creative challenges for you. Are you ready to take them all up?

Task 1. A MAP. Take a piece of paper and something to draw with. From your memory draw a map of your district/locality. Or you can create a map that includes buildings and objects which you pass on your way home or to school. Compare it with a real map of the area (e.g. on Google maps). Check which things you managed to remember and which you did not.

Task 2. UPSIDE DOWN. Turn items from your house such as a clock, calendar and photos upside down. Try to read them this way – thanks to this exercise, you activate the right hemisphere of the brain which is responsible for the interpretation of shapes and colours.

Task 3. PUZZLE. Do you remember when you were a child completing your favourite jigsaw puzzle? Go back to that time and do the 1000-piece jigsaw puzzle. You can also use the puzzle in a creative way. You will find inspirations here.

Task 4. DANCE. Learning new dance moves increases speed of processing things. Try salsa, hip hop or zumba. You will definitely find something for yourself here.



Find out what relations scientists have found between physical exercise and the effectiveness of your brain.

Create a network of light!

The brain works like a huge power grid. Scientists have done the math and this grid has **5 000 000 km!** That's 12 trips to the moon and back! Use the potential of this highway! When your brain processes new information, your neurons activate and make up completely new connection networks. As a result, the brain changes its structure each time and gains a greater ability to adapt and learn new things. This ability of the brain to form new connections is called **neuroplasticity**.

When you exercise your muscles for a long time in a systematic way, you increase their size and endurance. The same happens to your brain. Are you ready for training? Let's get started!



A TRAINING PLAN

DIET

Your brain uses a quarter of what you eat! Take care of the proper diet for your brain. The brain loves blue fruit, nuts and avocado. I bet you already have an idea which dishes add these tasty ingredients to!

SIESTA

Take care of a good night's sleep – a short nap is a great opportunity to invigorate your brain. The habit of constant change: try to do things differently than you usually do, e.g. if you always use your right hand start writing with your left hand.

INTELLECTUAL CHALLENGES

Take up intellectual challenges – try to play chess or solve a difficult logic puzzle.

PHYSICAL CHALLENGES

Find an item that you can juggle. Juggling improves neuroplasticity.

Show other people that the brain can be fit/active/healthy too - take a selfie while exercising your brain and tag it on IG #spacescreativity.

References:

R. Peters: *Ageing and the brain*. „Postgrad Med J.” 2006, 82(964), p. 84–88.

Ch.D. Wrann, J.P. White, J. Salogiannis, D. Laznik-Bogoslavski, J. Wu, D. Ma, J.D. Lin: *Exercise induces hippocampal BDNF through a PGC-1 α /FNDC5 pathway*. „Cell Metab.” 2013, 18(5), p. 649-659.

TOPIC 2. THE POWER OF MNEMONICS OR HOW TO REMEMBER THINGS MORE EFFICIENTLY

We remember 40% of what we hear, 50% of what we see, 70% of what we both see and hear and 90% of what we do. However, we can improve our memory by using appropriate techniques.

Mnemonics are methods of effective memorising. The most popular methods include: **chain techniques** (stories), **loci** (location/space), **associations** or **acronyms** and **acrostics** (puzzle).

How to learn foreign words?

1. Use colours, e.g. emotion words in red, animal words in green and food words in yellow. The right hemisphere of the brain is responsible for colours, so you activate both.

2. Say the words – hearing is another sense.

3. See the words in your imagination. You are trying to learn the Swahili word paka 'cat' – imagine a cat climbing on a big parcel, or simba 'lion' – here the association is quite simple:)

Use mind maps – remember there is always room for colour and pictures!

How to remember a list of words?

This is where the chain method comes to the rescue – create your own story. The more absurd, the better. Example: You have to remember to buy two bread rolls, mushrooms, sausage, tomatoes and toothpaste on your way home from school. Imagine, for example, that you wake up, enter the kitchen and see two buns dancing on the table, both of them eating mushrooms. After a while they snatch a sausage from each other. You walk further into the bathroom and there, in the sink, a tomato is brushing its teeth with the rest of the toothpaste – you have already run out.

The most important thing in training your memory is to be systematic. Find 5–15 minutes a day – make associations, exercise your imagination and play with creativity. Accuracy and efficiency when recalling information will come with time, so be systematic!

[Click and learn 10 tips to improve your memory quickly.](#)



References:

B. Boral, T. Boral: *Techniki zapamiętywania*. Warszawa 2013.

Strona o mnemotechnikach: <https://mnemotechnics.com/> (date of access: 15.12.2021).

CURIOSITY

Did you know that there is a forgetting curve? This shows the timeframe it takes after learning to forget what have you have learned. Repetition is key. According to research, as much as 75% of unrepeated content escapes from the head. When we repeat, we remember much more!

How to remember numbers?

1. Create your ten pictures – for each number, think of a picture (e.g. 5 is a hook, 8 is a snowman) and make up stories.

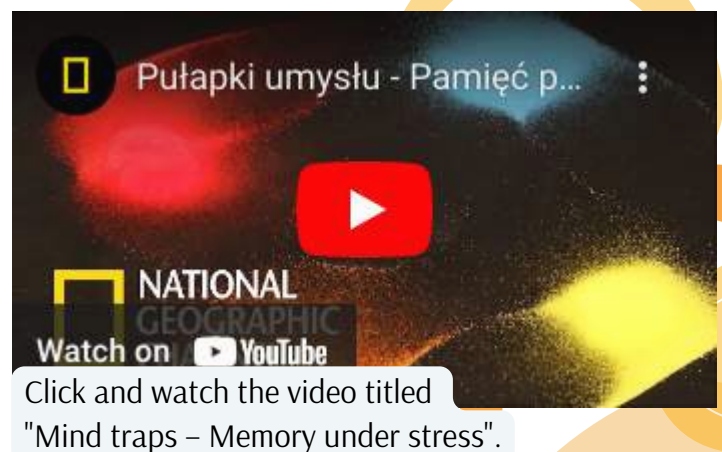
2. Familiarise yourself with the Memory Core System.

Have you heard what the world record for memorising digits in 5 minutes is? It is a sequence of as many as 500 digits! The record belongs to a Chinese man named Wang Feng.



CURIOSITY

Did you know that remembering under stress is difficult?



TOPIC 3. EXERCISES TO IMPROVE YOUR MEMORY



Try to remember the following 10 words in 30 seconds, making different associations or grouping the items together to make it easier

roof	mint	pear
chimney sweep	coal	almond
employee	compute	summary

Cover the words in this exercise and try to write them all down on a piece of paper.

Read aloud the shopping list presented below, then cover this part and answer the questions.

GRITS, TOMATO, CARROT
GREEN CUCUMBER, BANANAS
CANNED CORN, CANNED TUNA
HAIR SHAMPOO, TOOTHPASTE
WASHING-UP LIQUID

How many products are on the list?
.....

What types of products are listed?
.....

What hygiene products do I use?
.....

Write down the names of the ten products on the list below:
.....

References:

B. Boral, T. Boral: *Techniki zapamiętywania*. Warszawa 2013.
 Jak utrzymać umysł w dobrej formie? Red. D. Kassjanowicz. Ożarów Mazowiecki 2019.
 Wiedzieć, rozumieć, reagować. *Sprawny umysł*. Warszawa 2011.

What is fragmentation? Why do we forget certain information so quickly? How can I remember a phone number faster?

Are you easily swayed by suggestions?

1. Read the following text (extract from the manual *How to communicate in the digital era? The basics of good offline communication*) and then do something else for 10 minutes.

Stage fright is a phenomenon that you must learn to control. [...] In fact, most of the fear occurs before you step on-stage. [...] Try to think of stage fright in a positive way. Fear is your friend. It makes your reflexes sharper. It heightens your energy, adds a sparkle to your eye, and color to your cheeks. When you are nervous about speaking you are more conscious of your posture and breathing. With all those good side effects you will actually look healthier and more physically attractive. Many of the top performers in the world get stage fright so you are in good company.

2. Insert the missing letters in the following words:

p h _ _ _ _ e _ _ n c _ n _ r _ l

p _ s _ _ _ _ e n _ _ v _ _ _

c _ _ s _ _ o _ s w _ _ l _

Solution: phenomenon, control, positive, nervous, conscious, world.

You may have completed the underlined words faster than the others because you read them in the text. This phenomenon is called "perceptual processing" – unconscious recollection of previously read words helps to identify them faster, even though your task was not to train your memory or recall the remembered information.

Play the course of your day in your head. Think about how many people you have met today:

- people with blond hair,
- cats,
- men,
- people on scooters or bicycles.



How about using an app that will improve your memory? Here are some inspirations for you:

Livehack for better remembering

The power of humour: funny or ridiculous associations are easier to remember than normal ones. Use this to your advantage! The power of humor is supported by scientific research. Did you know that humor causes you to produce more dopamine? Dopamine is responsible for better memorization. And just think what happens when you start memorizing with humor!

Here you can find more apps to help you remember:

The key tool is order

Looking for something important in a messy room is a real torment! Therefore, it is better to not only keep order in your room but in your memory too. Divide things you have to remember into categories. You can use digital tools for this, e.g. Trello.



Repeat

Practice makes perfect! Repeat the material you want to remember. In this way, it will end up in your long-term memory. Do you want to have an app that helps you remember things always at hand? Try Ankiapp!



Training plan for your memory?

Stay motivated to train your memory. A proper exercise schedule and monitoring of your results is important. Peak is going to work perfectly here.

Peak.



References:

- K.P. Madore, D.R. Addis, D.L. Schacter: *Creativity and Memory: Effects of an Episodic-Specificity Induction on Divergent Thinking* „Psychological Science” 2015, 26(9), p. 1461–1468.
S. Hou Chang: *Memory Strategies Used By Teachers*, „Ohio Journal of Teacher Education” 2015, 29(1), p. 5–19.

BLOCK 3. SUPER MEMORY – YOU CAN GET THIS!

Do you want to boost your memory even more? It is possible! Test the tasks I have for you. Oxygenate your brain, strengthen your memory, and improve concentration by taking care of your health. It turns out that what you do, what you eat and how you move is of great importance for the smooth functioning of your memory. Here we go!

TOPIC 1. MEMORY – OUTDOOR GAMES

Outdoor tasks for better memory:

1. When out walking, try to remember as many details from the surrounding area in different types of categories. For example: red things or square-shaped items.
2. Create a map. For exaple of your local park, hide certain items in different parts of the map and let your friends find them thanks to the tips you provide. This game is addictive and it provides collaboration and integration!

3. While travelling or walking, carefully examine your surroundings with all your senses. Remember: What can you smell? What sounds do you hear? What can you touch? What do you see?

4. Use paper plates and create with your friends a huge Memory game you can play on the grass: [see how others did it – WOW!](#)



BRAIN ON A WALK



BREATHING FRESH AIR INCREASES MEMORY CAPACITY



VITAMIN D INCREASES COGNITIVE PROCESSES

JUST 10 MINUTES OF WALKING A DAY WILL IMPROVE YOUR MEMORY



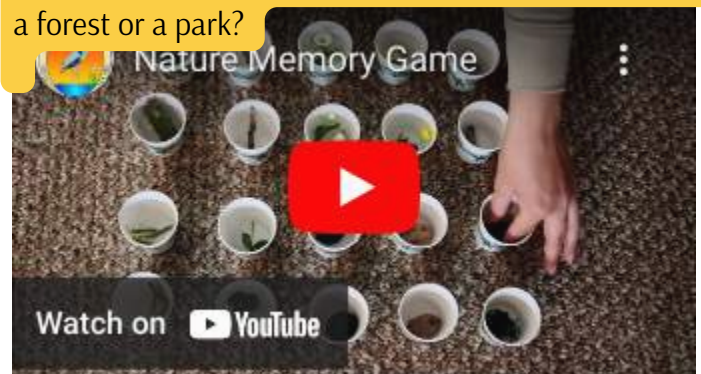
SENSORY CONTACT WITH NATURE CALMS THE MIND

1 HOUR WITH NATURE = 20% IMPROVEMENT IN SHORT-TERM MEMORY



MORE OUTDOOR EXERCISE = LARGER HIPPOCAMPUS

What about creating your own (Memory) game using the treasures you find while walking in a forest or a park?



You can exercise your memory and concentration also outside of your house. For example while walking.

Is the walk too boring for you? Take up a challenge and look for boxes while walking! Get in the game at **Geocaching** – remember places, practice your perceptiveness and discover gadget stashes. All you need is: a smartphone with GPS function, an application with a map (e.g. [C: geo](#)) and a willingness to discover treasures. Now are you interested? See how it works and look for treasures with us: See how it works and search with us!

References:

S. Kühn, A. Mascherek, E. Filevich, N. Lisofsky, M. Becker, O. Butler, M. Lochstet, J. Mårtensson, E. Wenger, U. Lindenberg & J. Gallinat: *Spend time outdoors for your brain – an in-depth longitudinal MRI study.* „The World Journal of Biological Psychiatry” 2021, p. 1-7 (online), <https://www.tandfonline.com/doi/full/10.1080/15622975.2021.1938670> (date of access: 15.12.2021).

S. Waite: *Teaching and learning outside the classroom: personal values, alternative pedagogies and standards.* „International Journal of primary, Elementary and Early Years Education” 2021, 39(1), p. 65–82.

How does food affect our brain?



Drink green tea!

Tea, especially green tea, is very good for proper brain functioning. This is thanks to the antioxidants it contains, which have anti-inflammatory effects and strengthen blood vessels. In turn this stimulates the central nervous system, helps to invigorate, reduces fatigue and improves concentration. It is absorbed by the body over a longer time period, therefore working longer than the caffeine contained in coffee. If you want green tea to have stimulating properties, it should be brewed for 2-3 minutes. However, do not exceed the recommended daily amount. 4/5 cups is the daily norm, which is good for your health.

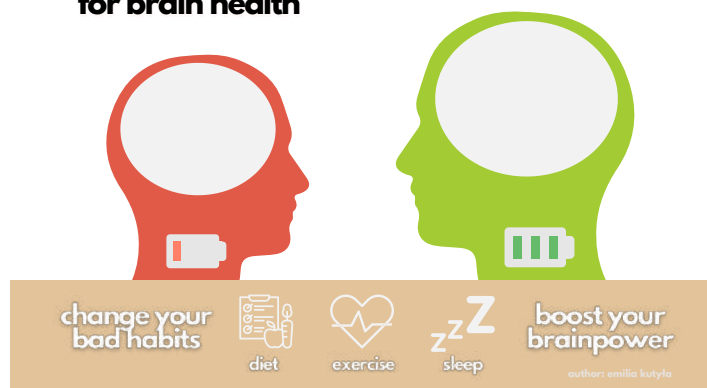
In order for our brain to work properly, we should provide it with the proper ingredients that allow it to regenerate and function properly. The brain needs **omega-3** fatty acids, contained in fatty marine fish, and components such as lutein, nitrates, vitamin K, and folate (which can be provided by green vegetables: such as spinach, asparagus, broccoli, brussels sprouts, parsley, and cabbage). Sugars are also an important fuel for the brain. These should come from fruit or wholemeal products, rather than sweets sweetened with white sugar. Highly processed foods containing saturated fats should also be avoided. Nuts, almonds, cocoa and dark chocolate, which support memory and concentration, will also enrich your diet for the brain.

It is further worth remembering **vitamin D**, which protects neurons. Correct levels prevent dementia and cognitive disorders. This is provided in egg yolks, liver, cheese and fish such as mackerel, tuna and salmon. This vitamin is activated in the skin under the influence of sunlight, hence in autumn and winter it is worth taking its supplements.

food to boost brain



BEST FOOD for brain health



Don't overeat!

An excessively caloric diet can accelerate the ageing process of the whole body, including the brain, and contributes to the death of neurons. Overeating slows down brain function, impairs cognitive function, restricts blood supply to the brain, and increases the risk of diseases such as Parkinson's and Alzheimer's.

References:

K. Jaroszewicz: *Ponad 100 sposobów na pamięć*. Warszawa 2015.
 11 Best Foods to Boost Your Brain and Memory, <https://www.healthline.com/nutrition/11-brain-foods#> (date of access: 26.12.2021).

TOPIC 3. SENSES AND MEMORY



If you want to remember things better – smell the rosemary!



To help you remember things, you must engage your senses!

EYE: assign shapes and colours to the concepts you are learning.

EAR: music activates both hemispheres of your brain to help with memory – use it!

NOSE: spray the same pleasant scent while studying and immediately before an important test. Scents have the power to trigger memories.

LIPS: if you chew gum while studying and during or before an exam, you'll remember what you've learned more easily.

HANDS: desire better concentration? Choose a memory gadget like a ball or slime.



Find out which sense is your strongest one – complete this short assessment. It will help you to discover which sense gives you the super power to remember things more quickly. Use this sense more than any other to help you recall, remember, and learn more efficiently.



Photographic (eidetic)

Photographic memory is a rare ability to remember images, details, even sounds and other impressions with great accuracy.

This type of memory can be observed in 2–10% of children, however, this feature disappears around the age of 6. It is rare in adults and usually accompanies diseases (cognitive deficits).

References:

M. Powell: *Potęga pamięci. Zagadki i triki, które poprawią twoją pamięć*. Ożarów Mazowiecki 2014.

Cognition (sensory memory), <http://byuipt.net/564/2013/08/23/cognition-sensory-memory/> (date of access: 26.12.2021).

Zapachy mogą wywoływać silne wspomnienia. Nowe badania tłumaczą dlaczego, <https://dzienniknaukowy.pl/zdrowie/zapachy-moga-wywolywac-silne-wspomnienia-nowe-badania-tlumacza-dlaczego> (date of access: 26.12.2021).



Sensory memory – this is an ultra short-term memory. It stores impressions formed from stimuli that we perceive with all our senses.

Visual (iconic) memory – thanks to this we are able to remember objects and details of a scene or situation in a few seconds.

Less than half a second

Tactile memory (haptic) – this is activated by contact, based on those stimuli that interact with our skin.

About 3 seconds

Auditory memory (echoic) – this enables us to consolidate and recall sound information. For example: words, song melodies.

About 10 seconds

Probably the sense of smell is the most closely linked to memory. Scents evoke specific memories – for example, a pine forest after a summer rain, or grandma's kitchen baking Christmas gingerbread. Sometimes a smell can recall a long-forgotten event. This is due to the olfactory memory, which, according to scientists, does not change throughout our lives. It determines our behaviour and emotions. We subconsciously remember smells, which makes them pleasant or unpleasant.

References:

M. Powell: Potęga pamięci. Zagadki i triki, które poprawią twoją pamięć. Ożarów Mazowiecki 2014.

Cognition (sensory memory), <http://byuipt.net/564/2013/08/23/cognition-sensory-memory/> (dostęp 26.12.2021).

Zapachy mogą wywoływać silne wspomnienia. Nowe badania tłumaczą dlaczego, <https://dzienniknaukowy.pl/zdrowie/zapachy-moga-wywolywac-silne-wspomnienia-nowe-badania-tlumacza-dlaczego> (dostęp 26.12.2021).

TOPIC 4. STRESSED MEMORY

A small dose of stress usually has a positive effect – it gives you energy and motivation. Stress can also increase performance. However, excessive and chronic stress reduces brain activity, and may even cause memory loss.

Nowadays, stress is very common, and it can cause various disorders. Therefore, you should effectively counteract its negative effects in order to protect your brain from memory problems.

When under stress, the brain begins to lose grey matter. The greatest loss occurs in the prefrontal cortex. This is the part of the brain responsible for cognitive functions (planning, emotions, decision-making). When we are stressed, we find it hard to concentrate and remember simple things. Our behaviour also changes (we stop controlling our emotions). Fortunately, most changes in the brain are reversible. With the correct and informed approach it is possible to prevent the negative impact that stress can cause.

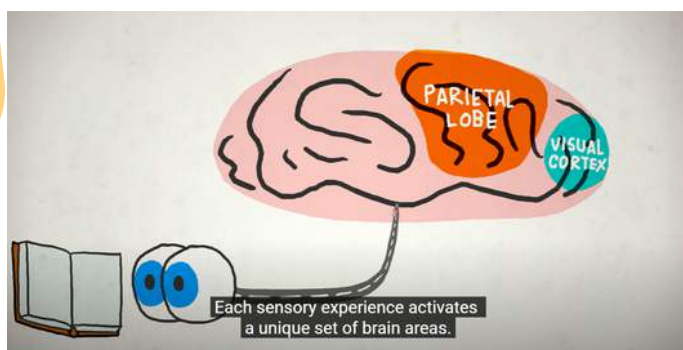
A "sound massage" will help with stressed memory – relaxation music. You can find a large selection of songs that have a positive effect on your brainwaves on the Internet for free.

In rare cases of very intense stressful moments and traumatic experiences, so-called **psychogenic amnesia** may appear. This is a state when we do not remember the event we witnessed at all. In a strange way, your body responds by protecting you against becoming aware of facts that we do not want to accept.

REMEMBER!

Maintaining or engaging with regular physical activity and **neurogenesis** (the process of making new neuron cells) are strongly linked with a decrease in stress. Every time we force our body to exercise (e.g. swimming or working out at the gym), we deliver oxygen to our brain.

Just 15–30 minutes of moderately intense exercise a day is enough to inhibit the secretion of the stress hormone (i.e. **cortisol**). Participating in activities such as: aerobics, yoga, or even walking will work! Doing so increases the levels of **endorphins**, known as the happy hormone. The best effects come from intense aerobic exercise that raise your heart rate for a longer period of time. These even include: running, cycling and swimming.



Severe stress can cause us to persistently recall an unpleasant or traumatic event that we witnessed. The memories are triggered by substances that are released under stress – including **nor-adrenaline**.



References:

K. Jaroszewicz: *Ponad 100 sposobów na pamięć*. Warszawa 2015.
www.verywellmind.com (dostęp 27.12.2021)



CHALLENGE 2 – LEARN MORE EFFECTIVELY

BLOCK 1. MEET CREATIVITY! [...AND YOURSELF!]

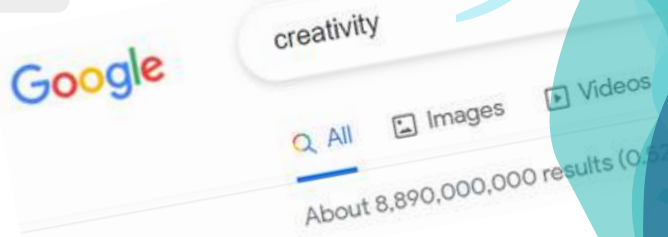
How can you explain CREATIVITY?

Hmm...it's strange and funny when you can see 8mld footnotes on the internet!

TOPIC 1. TO BE [AN ARTIST] OR NOT TO BE? KNOW YOURSELF!

When we think about creativity, we should know it's main core-ideation. It is the creative process of generating new ideas. Joy Paul Guilford first offered the theory of divergent thinking which based on ideation. He thought that we can measure creativity in four dimensions:

1. **Fluency** – the ability to produce great number of ideas or problem solutions in a short period of time;
2. **Flexibility** – the ability to simultaneously propose a variety of approaches to a specific problem;
3. **Originality** – the ability to produce new, original ideas;
4. **Elaboration** – the ability to systematise and organise the details of an idea in a head and carry it out.



How can you check your level of creativity? Test yourself!
<http://www.testmycreativity.com/>
And... what do you think about it?



Let's try!

Imagine you are a mug. Draw yourself as this mug and present your personality... of course – in a creative way.

Small dwarf, real chocoholic, wants to coat his finger with chocolate from your mug. Problem? He's one millimetre high... Your task: find the way to help our chocoholic! Cook it as much as you can!

Look at this picture. What do you see? Hm... is it: bird's-eye view or view from below? ice floes in Canada or sky in Poland? Painting or photo? What if it isn't important? Creativity gives us an opportunity to cross the mind-border! So maybe it's a cotton candy! :)



Creativity test – true or false?

1. Creativity is inherited and genetically determined.
2. We can't learn to be more creative.
3. People with higher psychotic (as personality trait) are more creative than common man.

Answers!

1. FALSE! Upbringing is equally important, especially being raised by parents which are open-minded about new people and challenges.
2. FALSE! Creativity may be perfected by mind-trainings.
3. TRUE! They are more resistant to other people. Moreover, they often go off script and think outside the box.

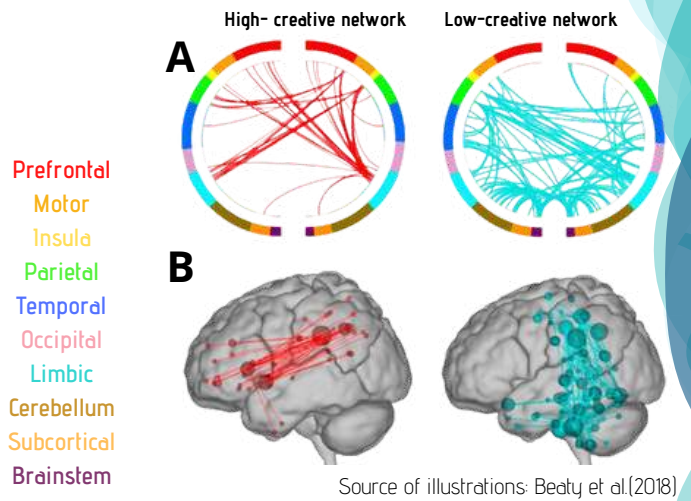
References:

The Creativity Test: <http://www.testmycreativity.com/> (date of access: 11.12.2021).

TOPIC 2. CREATIVE BRAIN OR CREATIVE BRAINSTORM?

How can we be calm when our brain has nervous cells?
Creativity doesn't exist? Maybe.

Research study: the researchers scanned 163 Australian participants, having them perform two different cognitive tasks. The one measuring divergent thinking is called an "Alternative Use Task" (AUT-creative task), and the comparison non-creative task is an "Object Characteristics Task" (OCT). They also completed a battery of questionnaires about their actual creativity.



Conclusion of this research: during the creative task, the most active areas were located in frontal and parietal areas as opposed to the non-creative task (mainly located in subcortical, deeper areas of the brain in the brainstem, the thalamus and cerebellum).

Train your neurons and the process of synaptogenesis between them!



This is Henry. Henry is irreplaceable in my office! He works as paper clip, earrings, safety pin, slide for ants...

Get to know each other and... find as much possibility of using/functions (of my dear Friend Henry) as possible.

Test yourself! True or false?

1. The right hemisphere of the brain is responsible for creative thinking (divergent thinking).
2. Neuroscience research into creativity is giving us more and more information about how the brain works during challenges.
3. Creative people have more connections.

Answers!

1. FALSE! The brain's right hemisphere is not a separate organ whose workings can be regarded in isolation from that of the left hemisphere in most human beings.
2. TRUE! The increasing availability of neuroimaging techniques enable us to discover the capacity of the brain.
3. FALSE! Creative people and non-creative people have the same amount of networks, but in different localisation.

References:

Biography of J.P. Guilford: https://en.wikipedia.org/wiki/J._P._Guilford (date of access: 11.12.2021).

R.E. Beaty, Y.N. Kenett, A.P. Christensen, M.D. Rosenberg, M. Benedek, Q. Chen, P.J. Silvia: *Robust prediction of individual creative ability from brain functional connectivity.* Proceedings of the National Academy of Sciences, 2018 (date of access: 30.03.2022).

TOPIC 3. THINGS TO DO AND THINGS TO AVOID



Creativity is a precious treasure which can be buried or boosted, depending on your choices. With this in mind, actively engage and search for practices in your life that can help you become more creative!

Watch this video about the light in Sweden, then go out for a walk or a bike ride and think about what you specifically like and appreciate in the nature close to your home. Share your impressions with us here.



**FREE YOUR MIND TO THINK
CREATIVELY!**

Don't:

- repeat uninterested and repeated works continuously;
- wait for inspiration – start working now, as Pablo Picasso said: “Inspiration exists, but it has to find you working”;
- complain about the problem, the challenges you face are your opportunities to learn;
- be afraid of taking risks;
- give up - you will have to imagine, and struggle, and re-imagine while working on a creative solution;
- be afraid to be different, think differently and do differently .

Meet creativity!

- Be ready to take risks and step out of your mental comfort zone – push yourself to unfamiliar places, do things you wouldn't normally do.
- Be curious – find something interesting and research to learn more about it.
- Take time to think, to play, to relax, to be happy.
- Allow yourself make mistakes. Learning what works is as important as learning what doesn't work.
- Trust yourself – you have all the potential needed to succeed and you will make it!
- Explore and enjoy nature – walk, run, cycle.
- Be an infinite learner – learn constantly through reading, watching educational videos, listening to educational podcasts, visiting museums or galleries.
- Look for a positive, inspiring and supportive environment.

Do you know Harry Potter?

I hope yes.

Boggart! This is a phantom which changes into the most scary thing in your life. This phantom lives in dark places (under your bed, in the closet). You can beat it by using the spell Ridiculous and imagining hilarious, clever disguise!

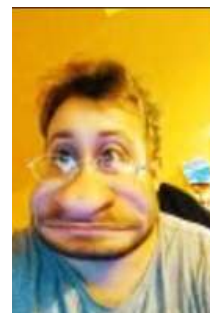


photo owner: Justyna Jopek

Try on!

Imagine and draw you Boggart and beat it in a funny way on paper!



Imagine you're 5 years old (Yes! Again!).

Did you have any imaginary friends?
What was your favourite fun/game?
When did you behave like this the last time?

WHY?!

References:

R. Alhalabi: *Creative Thinking: What is it, Why is it important, and How to Develop it?*, 2021, <https://www.potential.com/articles/creative-thinking/> (date of access:11.12.2021).

BLOCK 2. USE CREATIVITY! [...IN YOUR LIFE!]

TOPIC 1. POWER OF VISUALISATION – THE BIG FIGHT: CREATIVITY VS. STRESS

Is it possible to live without stress?

Definitely not! Every living creature on earth feels stress which allows for survival in a fast changing world. First, we have to acquaint ourselves with the nervous system. So let's start!



Is this a dangerous situation?



If you are afraid of dogs -> **YES!**

If you believe that dogs are dangerous and unpredictable -> **YES**

If you were attacked by a dog in the past -> **YES**

If you are dog maniac and love canines -> **NO!**

Read this article about stress effects on the body and challenge yourself!

<https://www.apa.org/topics/stress/body>



True or false?

Mental stress may cause...

- physical manifestations, e.g. stomach pain, migraine.
- an unnecessary increase or decrease in appetite.
- characteristic symptoms include physical weakness, disturbed sleep, decreased intellectual and mental abilities, and decreased immunity.

Every sentence is true!

And what with creativity in this topic of stress? The connection between stress and creativity may appear to be not obvious, but the link is mental visualisation. We are unaware of the power which we have in coping with stress! The main point is to calm down the sympathetic nervous system and to stimulate the parasympathetic, using both our imagination and creativity.

Rule 1: Do this exercise a few times before, because it will be more effective in a real stressful situation.

Rule 2: Focus on your breathing (in stressful situations we have a tendency to hyperventilate).

Rule 3: Try to use all your senses.

Step 1. Focus on your breathing!



Step 2. Create your safe place using your imagination. Describe it using each of your senses.



References:

C. Vivyan: *Relaxing 'Safe Place' Imagery*, <https://www.getselfhelp.co.uk/docs/SafePlace.pdf> (date access 12.12.2021).

Stress inute Mindful Breathing Meditation (Relieve Stress), <https://www.youtube.com/watch?v=SEfs5TJZ6Nk> (date of access: 23.03.20022).

5-minute breathing exercises – guided mindfulness meditation, <https://youtu.be/TXNECaJJPD1> (date of access: 23.03.20022).

2-Minute Neuroscience: Divisions of the Nervous System, <https://www.youtube.com/watch?v=q30ITaAZLNc> (date of access 12.12.2021).

TOPIC 2. HOW TO FULFIL YOUR DREAMS AND GOALS? MENTAL SIMULATION AND VISUALISATION.

I saw the angel in the marble and carved until I set him free.
– Michelangelo, sculptor and artist

Mental Simulation is our minds ability to imagine taking a specific action and simulating the probable result before acting. It is very similar to visualisation! But we use mental stimulation to:

- anticipate the results of our action;
- prepare ourselves for solving problems (we can try different scenarios using imagination);
- reduce the anxiety or fear of something in the future.



How does visualisation work?

5 steps to get you started:

- 1. Know what you want.** You may have many goals you want to achieve, but opt for one (if you don't know, try to do The wheel of life).
- 2. Describe your vision in detail.** If I had a magic wand to make anything happen, what would my life look like?
- 3. Start visualising and create the emotions.** What would I feel if all my visualisations came true?
- 4. Take daily actions.** What is one thing I could do today that would help me get closer to the life I want?
- 5. Have grit and persevere.** What would help me persevere when I am faced with a challenge?

Mental simulation in sport or brain' changes?

What do you think? [Read this!](#)



Ann, age 17, has a problem with establishing contacts with her peers. Yesterday she was invited to a birthday party. The party is on Friday. She is scared, but she wants to go...

Try to help Ann: explain what mental simulation is and create together different scenarios of knowing someone (as much as possible).

Let's try!

Maybe have you have been in a situation which is difficult for you? If yes – create minimum 6 solutions to this problem (both positive and negative). Use your imagination! How do you feel after this exercise?

Is this situation more comfortable than before?

Look at somebody...

Elon Musk – innovator, creator or weirdo?

[Click here Elon Musk: Person of the Year 2021 | Time](#)

[Elon Musk: Person of the Year 2021 | Time](#)



References:

B. Gill: *New To Visualization? Here Are 5 Steps To Get You Started*, <https://www.forbes.com/sites/bhaligill/2017/06/22/new-to-visualization-here-are-5-steps-to-get-you-started/?sh=2990f0846e3f> (date of access: 12.12.2021).

How to use the wheel of life to achieve balance, https://www.youtube.com/watch?time_continue=48&v=-1w37m67fV4&feature=emb_logo (date of access: 12.12.2021).

M. Ball, J. Kluger, A. de la Garza: *Elon Musk. The person of the year 2021*, <https://time.com/person-of-the-year-2021-elon-musk/> (date of access: 14.12.2021).

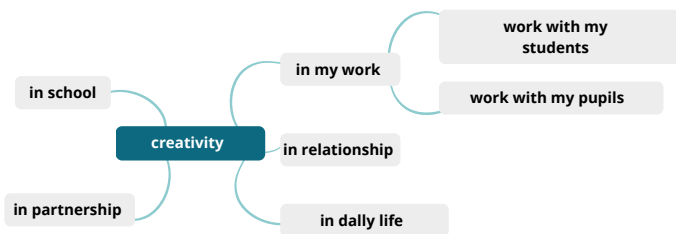
Brain games: how athletes' minds work, <https://www.science.org.au/curious/people-medicine/brain-games> (date of access: 14.12.2021).

TOPIC 3. HOW TO USE CREATIVITY IN OUR LIFE - MIND MAPS, SKETCHNOTING, BRAINSTORMING...

Brainstorm strategy – the most popular method is a strategy used to generate a number of ideas to help solve a particular problem. Write everything that pops into your head (be creative!). Then choose a matching option. You can use app: <https://www.mindmeister.com/>.



Mind map! Is a powerful note-taking method which organises information, displays relationships amongst pieces of a whole article. You can put it in writing or use free apps . (e.g.. <https://www.mindmup.com/>).



Creativity in the recruitment process?

Nothing unusual! What do the biggest enterprises take into account during searching for employees?

- Saatchi & Saatchi – advertising agency -> achievements in Diablo III (IT specialist).
- Jung von Matt – advertising agency -> crossword in The Brief Magazine with QR code in password (copywriter).
- Luxsoft Poland – financial services -> free doughnuts with letters (job offer) which was handing out in rival companies (computer scientist).

How to study?

<https://learningcenter.unc.edu/tips-and-tools/studying-101-study-smarter-not-harder/>

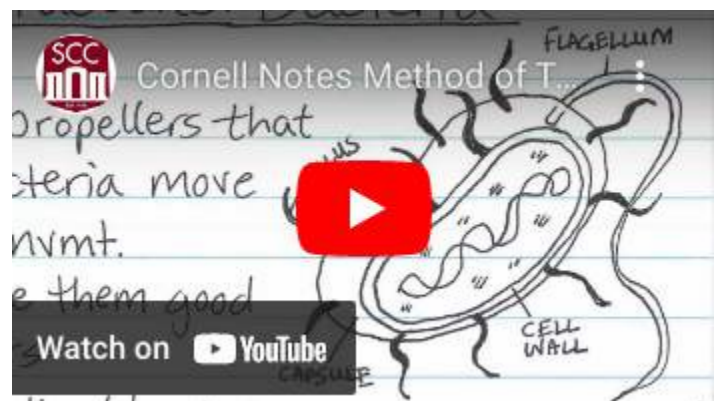


Cornell Notes Method of Taking Notes – the best method when you must prepare for your oral exam, abc-test or midterm.



Sketchnoting – is a form of note-taking, hence the “noting” part of it, but as you might have guessed it involves bringing more visuals into the process compared to typical note-taking, hence the “sketch” part.

P.S. I love you, Doug! :)



References:

D. Neill: *What is sketchnotings*, <https://www.verbaltovisual.com/what-is-sketchnoting/> (date of access: 12.12.2021).

K. Kowalski: *Top 10 tips on how to study smarter, not longer*, <https://www.sciencenewsforstudents.org/article/top-10-tips-study-smarter-not-longer-study-skills> (date of access: 12.12.2021).

Cornell Notes Method of Taking Notes, <https://www.youtube.com/watch?v=lsR-10piMp4> (date of access: 12.12.2021).

TOPIC 4. SIX THINKING HATS

Learn to use **Edward de Bono 6 Thinking Hats technique!** Hereinafter referred to as **6TH**.

When dealing with any problem in your life, work through the hats one at a time and make notes from each perspective.

Try to wear one hat at a time and avoid jumping from one hat to another. This helps you keep a focus on one perspective without it being influenced by another.



Read [this article](#) for 6TH and career decision.

Imagine you love your work but you got a job offer for a lot of money....

Check the chatting of hats – is it correct?

White: OMG! I love my job, it's so lovely! Happiness is here!

Black: This job – €1000, new job €2900... easy.

Red: My mom probably tells I'm crazy. What I keep asking myself?!

Green: My job gives me a lot of satisfaction despite a little money.

Yellow: ...and maybe the third option in the Bahamas... :D

Blue: Oh... it's more duties and so bossy boss!



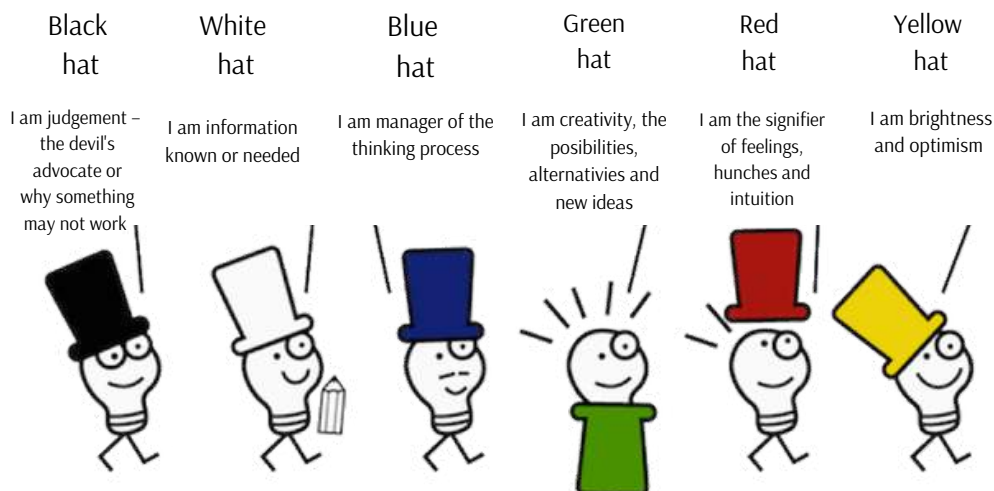
Watch a video about 6 thinking hats and problem solving.

Tips

Be careful not to stay only in the Red Hat thinking – if you need innovation, start with the Green Hat thinking and don't allow any Black Hat thinking in to kill the new ideas. Only after you get the brainstormed list, go through other hats to choose the winning idea.

World-known examples in private sector where 6TH has been used successfully, include: Motorola, IBM and Boeing. The German and Sri Lankan governments used 6TH to collaborate on post-tsunami reconstruction.

SIX THINKING HATS



References:

The Open University: *How to break the career decision deadlock*, 2019, <http://www.open.ac.uk/blogs/careers/?p=5079> (date of access: 12.12.2021).

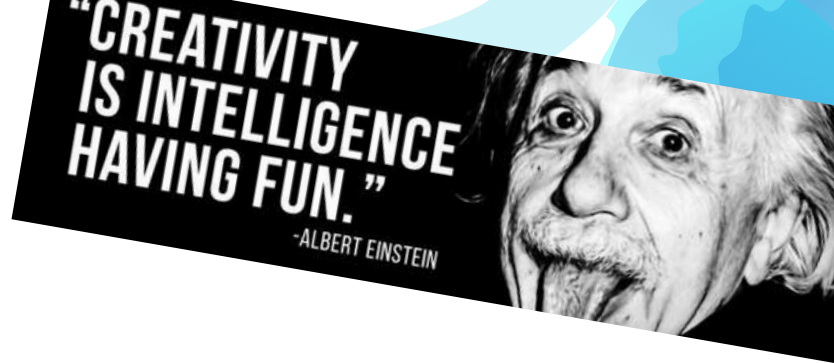
Y. Gyles: *Six Thinking Hats*, <https://www.managementcentre.co.uk/learning-development/six-thinking-hats/> (date of access: 12.12.2021).

Educators Technology: *Two Great Classroom Posters on The Six Thinking Hats*, 2014, <https://www.educatorstechnology.com/2014/07/two-great-classroom-posters-on-six.html> (date of access: 12.12.2021).

M. Channell: *The Six Thinking Hats: How to Improve Decision Making, with Examples*, 2021, <https://www.tsw.co.uk/blog/leadership-and-management/six-thinking-hats/> (date of access: 12.12.2021).

<https://omec.pl/blog/technika-6-kapeluszy/> (date of access: 13.01.2021).

BLOCK 3. TRAIN, TRAIN, TRAIN CREATIVITY!



TOPIC 1. CREATIVITY WORKOUT!

Rules of creativity working:

1. Write all ideas spinning in your head – rational ideas but also strange, half-baked, ridiculous, funny ideas.
2. Focus your attention on generating ideas, not verifying their sense.
3. Free yourself of things which can interrupt you in generating ideas/solving problems.
4. Read biographies of interesting people, for example, world-renowned scientists, innovators, artists – inspire others by their life.
5. Don't think about the future or past experiences – be here and now and be over the moon while coming up with ideas!

Let's start out with both guns blazing!

DeSpeakDeTheDeLanguDeAgeDeOfDeCompleDeTelyDeDiffeDeRentDePlanetDeToDeSomeDeBody!
Nooo...you're not strange. You train your brain!

Imagine that you love children and you get a job in the best preschool in the USA (for Washington's young elite). You earn a cosmic amount of money (of course)! Moreover, you pass for a prestigious teacher... and then suddenly, one of your small pupils comes to you with one question: "What does it mean to be discombobulated?"

Try to explain this word in an appropriate way to his age (4).

Challenge!

That's my scrawl. Draw the missing ridges so as to create the picture of two yelling kids.



Remember that... **sometimes creativity can be NOT PERFECT!**



Summary? Our brains love summaries!

Our life isn't trouble-free! (Every cloud has a silver lining?:))

You can develop your creativity! So exercise now!

Don't be THE BIGGEST virulent critic of yourself!

Don't be afraid of "what somebody says"!

And the last one on the right...

References:

Albert Einstein's statement on creativity: <https://www.bhwcares.com/einsteincreativity/#prettyPhoto/0/>
(date of access: 11.12.2021).

TOPIC 2. LATERAL THINKING

Lateral Thinking (a term first coined by Edward de Bono in 1967) challenges your current thinking. It is the ability to develop original answers to difficult questions by approaching the situation in a different way, with solutions that don't initially come to mind. With lateral thinking you can harness your own creativity so that it can work for you when you need it and consequently turn your problems into opportunities.

Practice Lateral Thinking with these puzzles:

<https://www.destination-innovation.com/the-top-ten-lateral-thinking-puzzles/>



Check! The list contains some of the most renowned and representative lateral thinking puzzles. What do you think about it?

Lateral Thinking techniques:

1. "Step into the shoes" – take on the role of someone else, such as a historical figure or a movie character. Look at the problem from that person's point of view.
2. Jump to the wrong answer – ask: what is the one thing I absolutely should not do in this situation? It will help you pave the way to new thinking about what is right.
3. Don't add – subtract. Ask "What would happen if I stopped doing – or asked others to stop doing something"?
4. Tell a different story. If you are in a crisis, you naturally follow the plot of a tragedy. Try reframing your struggles as "quest" or "overcoming a monster".

TRY, TRY, TRY... Which of these photos is more likely to be the best wedding picture? 😊

Number 1 (a wedding gift from my best friend)



Numer 2 (from real, professional photographer)



Number 3 (wedding picture of my parents)



Your task: Convince my parents that my wedding photos are brilliant (just as theirs is) using lateral thinking! 😊

The clue is– lateral thinking doesn't exist without sense of humor, distance towards the world and oneself. Every problem and the smallest real-life situation need to knock down schemas of thinking!

References:

M. Muxworthy: *50 Diverse and Extremely Powerful Lateral Thinking Examples*, <https://michaelmuxworthy.com/classic-lateral-thinking-examples/> (date of acces: 12.12.2021).

Cambridge Dictionary, hasło: *lateral thinking*, <https://dictionary.cambridge.org/pl/dictionary/english/lateral-thinking> (date of access 12.12.2021).

P. Lewis: *The most valuable skill in Difficult Times Is Lateral Thinking - Here's How To Do It*, 2020, <https://www.forbes.com/sites/forbes-personal-shopper/2021/12/10/best-laptop-deals/?sh=1439ef4a4624> (date of access: 12.12.2021).

CHALLENGE 3 – MORE CREATIVITY

DID YOU KNOW... The right place to learn is just as important as the right ability to learn? The environment in which you study is an important factor in a successful study session. The key is to create a space that is designed specifically for you! This space can also be your remote working and home education space.



BLOCK 1. TIPS ON HOW TO CREATE A DEDICATED WORK SPACE AT HOME

TOPIC 1. HOW TO CREATE A PLACE TO WORK AND STUDY AT HOME?

Let's write the traits of your ideal study spaces. Below you will find a link to the Padlet platform. When you get into the Padlet just click on the plus „+“ sign to write your ideas or maybe upload a picture of your ideal working place.

<https://padlet.com/projectcreatingspaces/ul0xi0dd97pzl79e>



How to create a perfect study/work space?

Whether you create your study/work space little by little or all at once, check off items as you complete them. Before you know it, you'll look forward to sitting down to study at your new, improved space.

Checklist

- I have a dedicated space to study in (i.e. desk, table, etc.).
- I have a chair that is comfortable, but not too comfortable.
- I am near a window to provide light or I have a good lamp.
- My space is distraction and clutter free.
- I have room to spread out.
- I only put the things I use daily on my study space, everything else has a spot elsewhere.
- I have storage boxes or containers for the things I don't use on a daily basis, but still need nearby.

Take it to the next level!

- I have a calendar nearby to ensure I am prepared for upcoming due dates.
- I have something to inspire me on my desk or in front of my desk (eg. inspirational quotes or a vision board).
- A timer to help me stay on task for a certain period of time.
- A to-do list of what I want to get accomplished.
- Fresh flowers or a live plant for oxygen and to bring life to my space.
- A snack and a drink.

Here is „How to Create a Space for Learning at Home?“.

It is your turn!

Visit the site [Floorplanner](#) to design your friendly learning space as it is in your imagination then export it to share with us: biuro@spatia.pl.



Students living at home may have to learn to agree with their parents and other family members – be sure to explain the importance of working creatively. Remember that you can't always be everything to everyone.

Checklist

CHECKPOINT EXERCISES
FOR EACH OF THE FOLLOWING STATEMENTS,
WRITE T FOR TRUE OR F FOR FALSE:

- Your bed is usually a good place to study if you can keep the room quiet.
- To study well, use the most drab, boring place you can find.
- An empty classroom can be a good place to get some studying done if you happen to have an hour free between classes.
- To maintain a clear focus while studying, limit the time you spend checking e-mails, text messages and notifications to every ten minutes or so. Put your cell phone on vibrate mode and keep it in your pocket where you can more easily ignore it.
- It's OK to have the television or radio on while you study as long as you don't give it your full attention.
- The key to avoiding interruptions and distractions from family members or roommates is to plan ahead for when and where you'll study.

Solution: 1. FALSE, 2. FALSE, 3. TRUE, 4. FALSE, 5. FALSE, 6. TRUE.

Online working/studying

The flexibility of working/studying online frees you from the constraints of a physical office/classroom and allows you to schedule work time around work and family commitments.

But all this convenience and flexibility leaves you with too many options for when, where and how to work/study. Since you may not have face-to-face contact, you'll have to keep yourself on track.

These organizational tips for online learning will help make sure you stay on top of everything and successfully balance your work, family and online classes.



5 ONLINE WORKING TIPS



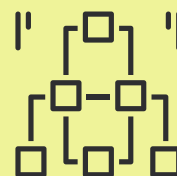
MAINTAIN REGULAR HOURS



- Keep a semester and a weekly calendar. On the first day of class, read the course syllabus and enter all due dates in your calendar.
- Prioritize your work. What due dates are coming up first? What information is the most important for you to learn?

STAY ORGANIZED AND BE THOROUGH

- Have a designated study space.
- Organize information by creating charts, outlines, study guides, flashcards, concept maps and chapter maps.
- Create practice exams to evaluate your mastery of the material.



REMAIN ENGAGED THROUGHOUT THE WHOLE WORK



Prepare and review for every lesson, attend in person/virtual class sessions and take active notes.

TAKE CARE OF YOURSELF

- Look inward for your motivation. Remembering the goal you are working toward will help you as you work through the challenges of being a student.
- Stay healthy by getting adequate rest, nutrition and exercise.



CONFIRM TECHNICAL REQUIREMENTS



Provide yourself with a place to work, a computer, and any other items you need, including a machine with the necessary technical requirements.

References:

Extended University: *The ways to organize your study space*, 2017, <https://www.utep.edu/extendeduniversity/utepconnect/blog/april-2017/7-ways-to-organize-your-study-space-for-success.html> (date of access: 16.12.2021).

TOPIC 2. HOME EDUCATION – HOW TO ORGANIZE A FRIENDLY SPACE FOR WORK AND STUDY AT HOME?


EXERCISE

15 minutes

Reflect on the advantages and disadvantages of home education and online learning?

Learn more about the potential of online education!

"Schools without classrooms: the potential of online education and how to fulfil" by George Greenbury.

[Click here.](#) 

"Of the many reasons our family chose to homeschool, creativity is my favorite. Unlike traditional classrooms, the homeschool environment is particularly conducive to encouraging and inspiring creativity. Just as in a greenhouse where tender plants are coaxed and nourished with the goal of bearing luscious fruit or beautiful flowers, our children's education is nurtured to bring out the hidden talents and skills within them". Words of a homeschool mum.

Listen the student talking on her home education experiences!



"Only one teaching practice had a positive relationship to creativity: the amount of time children worked independently. This relationship may hold because creative children are given more freedom to explore their interests" (Dacey, 1989).

Here are some tips for you to make your own learning more creative at home!

7 WAYS TO ENCOURAGE YOUR CREATIVITY



1 – LET YOURSELF FAIL

Let yourself make mistakes so that you can learn coping skills, develop self-confidence, and learn to take responsibility for your actions. Making mistakes lessens your fear of failure which helps you to be more willing to try new things.

2 – RETRY

A wise person once said, "If at first you don't succeed, try try again." So try again to come up with better solutions on your own.



3 – LIMITED RULES

Don't set too many parameters for all of your school subjects. Think outside of the box. Once you get used to being creative, you will probably come up with all sorts of ideas you've never even dreamed of.



4 – BRAINSTORM

Brainstorming, both alone and in a group, is such a great skill. Try to get in the habit of brainstorming at the start of many of your lessons. Even if your first idea for a project or a story is good, you will often be able to come up with something even better if you take some time to think up other ideas before starting.



5 – PRACTICE DIVERGENT THINKING

Divergent thinking is when the mind generates ideas beyond prescribed expectations and rote thinking. Come up with alternative ideas on your own rather than always having to do exactly as you are told.

6 – TIME FOR EXPLORATION

You need free time to be creative. Sometimes this starts by getting bored. Set up a scenario where you have time to do whatever you want that doesn't involve playing video games or being on your electronic devices.



7 – PROBLEM SOLVING

Work on a problem that has multiple answers and try to solve it. Search for alternative answers. Do more open-ended activities that don't have a specific answer.

References:

J.S. Dacey: *Discriminating characteristics of the families of highly creative adolescents*, "The Journal of Creative Behavior" 1989, no. 23(4), p. 263–271.

TOPIC 3. A NEW WAY OF WORKING

- How the pandemic has normalised remote work, and what that might mean?
- Will we go to the office in the future, and if so, how often?
- What impact will a "hybrid" way of working have on how we communicate, connect and create?

Watch a video entitled "The new jobs of the future and other insights on the changing workforce" by Ben Pring.



Many institutions, such as the OECD, have argued that hybrid work practices need to be more widely integrated into the business process and government planning. This creates opportunities that will help to achieve sustainable development goals.

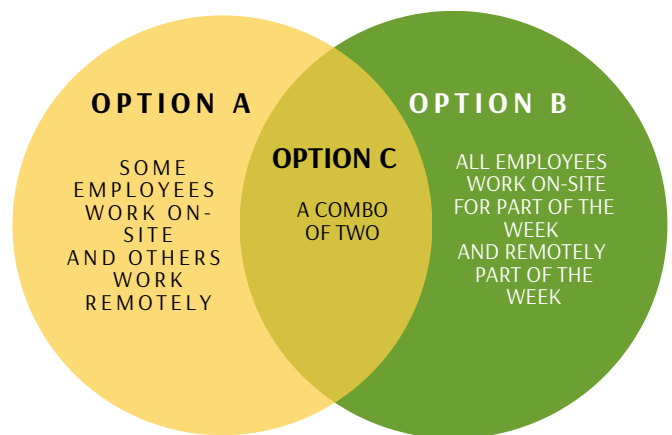
Hybrid work has made an important transition during the COVID-19 pandemic, from being spearheaded by a small number of early adopters to now seeing widespread and mainstream adoption among workers.

What is hybrid work?

Hybrid work has many variations. Some companies might allow every employee the flexibility to work on-site and remotely part of the week. Other companies might have employees working either full-time remote or full-time on-site. And others might allow a combo of the two.

The COVID-19 pandemic has already led to improvements in certain sustainability outcomes, including reduced greenhouse gas emissions and improved air quality. Hybrid work has been proposed as an integral part of a green recovery after the pandemic.

HYBRID WORK HAS VARIATIONS



References:

- M. Moglia, J.L. Hopkins, A. Bardoe: *Telework, Hybrid Work and the United Nation's Sustainable Development Goals: Towards Policy Coherence*, 2021, https://www.researchgate.net/publication/353958683_Telework_Hybrid_Work_and_the_United_Nation's_Sustainable_Development_Goals_Towards_Policy_Coherence (date of access: 10.12.2021).
- B. Wang, Y. Liu, J. Qian, S.K. Parker: *Achieving Effective Remote Working During the COVID-19 Pandemic: A Work Design Perspective*, 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7675760/> (date of access: 10.12.2021).

BLOCK 2. CHANGING THE WAY OF LEARNING = MORE CREATIVITY

TOPIC 1. THE DIGITALLY LITERATE GENERATION

Digital creativity is about using digital tools and technologies to explore creative ideas and new ways of displaying your ideas, research, or work.

Understand your digital footprint!

You can think of your digital footprint as the trail you leave behind as you begin using websites and apps, and begin putting yourself out there online. Everything you post can be traced, and it never goes away. Understanding how the things you say or post online can impact the rest of your life is a key component of digital literacy; the more you use websites and apps, the better you understand the trail you're leaving for others to see. Depending on your values, priorities, age, life stage, school, family expectations and other factors, you'll want to set and keep boundaries that work for you. Knowing what your digital footprint is, is part of staying safe and healthy.

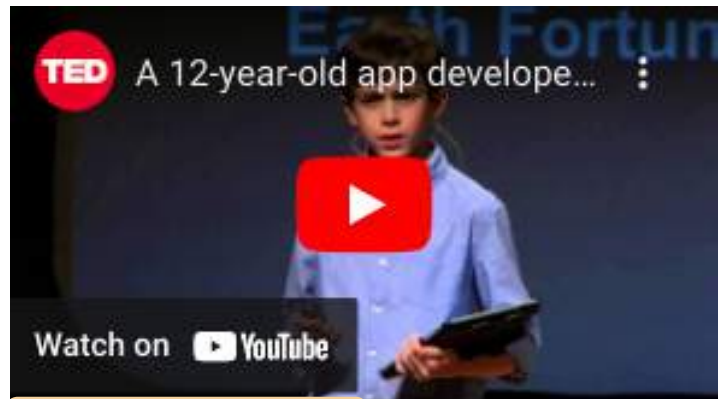
Download workset ["My Digital Footprint"](#).



Now explore your own online presence. Look at all the social media sites they use (Snapchat, Instagram, Facebook, LinkedIn, Twitter, etc.) and also do an internet search of your names.

Think about:

1. What do you find?
2. What do you think about that? Are there things you would like to change?
3. Has anyone tagged you in something that makes you uncomfortable or gotten access to your accounts and posted about you?



Be inspired by this speech!

Time to do some exploration of digital footprints!

#1 Make an online search for famous people. Is it easy to find content about individuals?

#2 Make lists of words, that describe the type of content you find when you search for those famous people. Make different lists for each person.

#3 Think about these: Are these words mostly positive? Negative? How do you think these people feel about their online presence? How would you feel if all of this information was out there about you?

References:

Your Digital Footprint, 2021, <https://learnenglishteens.britishcouncil.org/skills/reading/upper-intermediate-b2-reading/your-digital-footprint> (date of access: 10.12.2021).

What is personalized learning?

Personalized learning covers many activities that address the different aspects of you as a person, like:

- several interests,
- strengths,
- aspirations,
- cultural backgrounds.

It is a way of thinking but also a practice that aims to change the way you learn. In personalised learning, you are at the centre of your education. You can make a choice and gain more control over your learning experience.

How to learn personally?

1. Choice boards – Thanks to choice boards you can choose one among the series of activities that focus on your specific learning needs, interests, and abilities. You can decide which activity you are most comfortable completing first, and once you master it, you can move on to more challenging activities.

Below there is a sample choice board for a reading activity.

[Choice board for a reading activity.](#)

2. Writing – helps personalize learning. Reading or listening to materials carefully, finding information that will help you think through ideas, and then writing briefly about what you have learned or what you think about a particular topic will teach you a lot.

3. Technologies supporting personalized learning – Technology provides so many opportunities for you to engage with the material you're learning at your own pace, both inside and outside the classroom. It can also be a lot of fun! For instance, you can find look for some websites and interesting articles or videos to explore your area of interest at your own pace.

To learn more about the technological tools supporting personalized learning click [here](#).

4. YouTube reflections – It's no secret that the young nowadays love YouTube. Some of them even have their own channel – sure, they may use YouTube primarily for entertainment, but at least it's a platform that makes them happy and willing to share content. **Why not leverage that to get your writing?**

There are lots of really cool and inspiring YouTube videos out there that have positive messages for students. Here is one: „Motivational Speech | Which student are you?“

Simply play the video and write a response. It's amazing how passionate you may get about these clips when you relate to them! You may then read your response to one of your friends to give feedback to each other.



References:

- Y. Akyuz: *Effects of Intelligent Tutoring Systems (ITS) on Personalized Learning (PL)*. *Creative Education*, 2020, https://www.scirp.org/pdf/ce_2020062916523839.pdf (date of access 3.12.2021).
- S. Redding: *Through the Student's Eyes: A Perspective on Personalized Learning and Practice Guide for Teachers*, 2013, <https://files.eric.ed.gov/fulltext/ED558042.pdf> (date of access: 2.12.2021).

TOPIC 3. REFLECTIVE LEARNING

What is reflective learning?

Being a reflective learner allows you to step back from what you are learning and develop your critical thinking skills by analysing your experience and improving on your future performance.

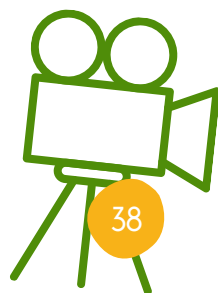
Watch a video entitled "Learning from the self, for the self: a process of self-reflection" by Emma MacDonald.



There are many levels of reflection. As you progress through your studies, you will develop your reflective practice and gradually learn to reflect at a deeper, more critical level. It is useful to keep in mind that reflecting critically is an extension of creativity.

The 3-2-1 strategy – is simply a format that can be used for almost anything. The most common use of 3-2-1 is in response to a reading or lesson – usually 3 things you learned, 2 things that made you curious or confused, and 1 most important thing you learned or should do with what you've learned.

3	Things I Learned Today ...
2	Things I Found Interesting ...
1	Question I Still Have ...



"WE DO NOT LEARN FROM EXPERIENCE
WE LEARN FROM REFLECTING ON
EXPERIENCE."
- JOHN DEWEY

Benefits of reflecting on your learning:

- #1 Examine what you have learned and how you have learned it.
- #2 Demonstrate how your creativity grows and develops over time.
- #3 Assist with making connections between what you already know and what you are learning.
- #4 Help you learn from mistakes by identifying how you would do things differently next time.
- #5 Encourage you to become a reflective practitioner in your future career.

Below you will find some reflection strategies on your learning:



- 6HQW/QFH6VWP
EDVHG UHMSRQMV
- 3DLW6KDUH
- /D\ HUHG7H\ W
- 7Z HHW

- ([LV6QSV
- 6NHVFK
- 3RGFDWW
- %LDLQWRUP LJ

- 3UH\ L
- &RQDJH
- 9QRJ
- -LVDZ LQJ
- -RXLQDQJ



vèÓ áy 'é³'éþ

:p' ð!Éý 'é³'éþ é 'èÓ³È äī ðá³þ³Ééé?
* Óä 'èÓð? äī ðáé³þī é³ Ó! ð³ é!
=³?! ³ý þáīÉÓÓ' Ó! þ³éÓ}

\$> ð!Éý 'é³'éþ È! =èÓÈý ððá³³!ö
ÓèÈÈðá³ ÈÓ³é ÈÓ³*!Ó ä *!èÓÈ*!Ó
!*È³! ³< éðá *þéýÓ' ÓÈðá³ Ó³ix
Óáð íÓ' ÓÈÓá íá³íÓ}

9 =ī Óý 'é³'éþ³æÉ! *!Ó' ð þðá~
M 'é³'éþ íÓÓýðÓ 'èÓ! ÓÈÈ á³ð ' =³ ī
=èÈ Ó ð!' éÓ=èÓèÓ =Ó³ Ó ÓÓ ðá '
ð' ð!É Ó' ð!Éý 'é³'éþ!é³'éþ!, 'é*xé
³æÉ! 'èÓÈ ÈÓ? * ý³öÓ³þī 'èÓá³ð? * !Ó}
M 'é³'éþ Èþ ðÈÓ!Ó!*!Ó'!•éÓ! Ó' þ
³³!ö³þī é³ð³þéý '³þ' æÈ ³æÉðá'èÓé
ð þðá³þī ³ÈÓÓÓ'!'³*!} M 'é³'éþ³ð
Óè³þÈÓ ÈáþééÓ ÈÓ!ðá}

þ 'ä áÓ' Ó³ī? * !Óæ
mÓ³ī? * !Óæ=èÓÓÓ? * ÓÈÈ³þéý '³þ'
ýéÓ' þÓ ³ÈÓÓ³ ! ÓÈÈ á³ð 9³<ðá
! ýÓèðá ' ø ö ä =³ ī ' x ðÈÓ!Ó? *
ý 'é³'éþ³þī ý³öÓ é Ó!é' äð =? * '³!ö!
=èéé é 'èÓÈÓ' =³?' öÓ? * ý 'é³'éþ³'
³ èèè ÓÓ}

qÓžý 'é³'éþ

qÓžý 'é³'éþ é³þéý '³þ' !öé! ' é 'èÓ³Èéé?
' äþī =³?! ' ý 'é³'Ó? * !Óæ ' 'èÓ!³ýÓ'éÓé
é³ öÓ'í éÓ 'é³' èÓ! Ó ðý <ðá ä =³ ī ð
'èÓéÓ}

vé! ä ÓÓ ðáqÓžM 'é³'éþw
5þī ð 'èÓäð=ðáð! ýÓ*!Óð'é!' È !'
? * !Óžý 'é³'éþ!'³*!}
|> v³öÓ'èÓ'éÓ' 'èðö³È* ' =è³ ý 'é³'Ó
? * 'èÓý !}'
|?Ž * ý*!'!³? !ééÓ
|@ ý³Ó? * !Óæ' ? * !ÓæÓÈī³?³þī þ '
=èè 'èÓ!}
|A <ÓÈðÓ³þī <é³³ðÓ? * ð'Ó'èþ!} 6éðá
³ ä ý ' =è³ =Ó Óð =³þ' '³öÓ *! þÓ!'Ó
È!Ó' ³Èý èèðáé}
|B Ž * !* *þīðá! ý³''Ó}
|C yþīÓ!'³þī 'è³' ý 'é³'éþ é īæÓÓ' ä
ÓÓ? þÓæ³ ý 'é³'Ó³ Ó! þ é Ó' ÓÓ
īæÓÓ' ³ý þá Ó ð³þī é³ð È³þáÓ³þī
ÓæÓ <Ó'éÓ



qÓÓ'èÓæ* ÓÓ'èÓ' = '
ÓÈýÓM ÓM 'é³'Ó-É

OE3' e ÓÄÉÓ Óİfå 3pİ =è? e é
é '3p~
mÓİfå Èp ÉÓf ý3p? È!Óx3p <Ó=eÓy få
!é*3'ép È* '3' 'èÓ!3ý Óé ÓpÓÓ!3 ?ä ý *ðéó
Ó! p! 3pİ * !Ó !*È 3!w Óp?ý Ó'x
ä ý *ð'få é Ó!x' ä = İÉÉÉp!x' ! Ó3
ÉÓy x' 3!! Ó3ý!x' İÓÓ pÓ= f'ÓÓ!
3pİ !ö}

\$ÄÉÓ Óİfå é 3 ÉÓ! =èÓÓ? * Èp3È*3
*pİ Ó!'3pİ =è3 ? * 3 Ó Óİfå 3pİ 3' 'èÓ3pİ ÉÓ
3ÉÓ' *!Ó=e3 ? * è3 <ÓÓ pÓ f 3 !ý3 ' =3?z
Ópå 3ÉÓ' Óİ ÓÄÉÓ é 3p f <ð Èó!ö
'è3 ÈpÉÓ!*Ó 'è *äè *'3 Ó! p! ö

v? Ó ä Óİfå
vèÓ ÉÓ! ä Óİfå İÉÓ! 3ý pā Ó ó3pİ
ÓÈ ä *! è3! p ' ð! ' èÓfèè =p!ÈÖ *Ó'ÉÓ
È* '3ð èè =p *pé *Ó=3? ä ÉÓ!få ä'èÓ
È p'Ó' } 9 =ÓÓx3È İfå ' !'İÓx @ Óİfå
3ÈÉÓ 3 Ó'èÓy !' Ó'få) N3ý Ów

- qöý ý få OE'èÓ'ÓÈpé *ÓÈ? =èÈ 3 ÓİÓ
<Ó? * ÈÓ Ó'3ÈèÉÓ 3 *äè *'få ä3'Ó'
3È *' =èÈ 'èÓ'è3 <Ó'ó'p =ó äÓ
- qÈ p'få ÈÈ p!é'få ä * ÈÈ È <Ófå 3è'èÓ
ý3'Óèðpİ '3öfå p'Ó ä'èÓy 3f f!}
- N'Ó'3öfå OE'èÓ ý !' ÓÄÉÓ pÓ ä
Ó'få =è3 ? * è3 <Ó Óİz

BOE?! ' mÓİ 53! Ó 3pİ qý3 ' Ó
>Fp =è3 ? * Ó Óİfå Èpİ =è? }
? :İ Ó' È ÖÓ få ý3'ép }
@ :pÈÓ!Ó? * *pİ Ó!'3pİ få }
A) mÓÈ 3pİ ÓÄ 'èÓ'Ó' OE'Ó'èÓ
qI @n'Èpé *Ó
B) p' ð? * Óİfå Ó'è pý Ó' }



OE'È 3 <Ó Ó'èÓ € p' öž * mÓİfå
\$p<é pý Ó' €

mÓİfåq 3' ÓÄ É vé!
|>qÈÖ *Ó'ÉÓ' Óİ}mÓİfå é 3p Ó!?'èfå' *' äÈÈ*!Ó'èÓÓ
é äÓp Ó3Èİ*Óİ3'Ó
|?qÓ? * !ÓÄ* ä !*ÈÓ!}j È3 ðÈ'ép'è3 é È pİ *ÈÓ' Óİfå }
|@è !Ó3pİ *!Ó3 ! ÈÈ Óİfå! '3'Ó? }
|AM pé ? * Èý ÓÓ!ép }
|Bv3öÓp 'Ó3! ? * Óİ }
|CÈ ý * ? * ý fİ ÉÄ Ó Óİfå }
|D !ö * Ó'ép! }
|EH öä 3p! =Ó! }
|F mÓÄ ? * p'Ó pÓý Ó'ÉÓ3pİ Ó ð Ó =è3' İ ? * Ó
*pİ Ó!'3pİ ä =è3 ? * è3 <Ó'Ó' Óİ }

vèÓqI @nvÈpé * Ó
qym \$Z
I y\$qr:SN
m\$
n\$:v\$
m\$:\$OE

mÓÓÓÈÓw
Mfİ v ðnnÓİfåq 3' ÓÄ xè' !vf==}ý fİ' ðÈÉý fİ! '3'äèý ðè3'Ó ä3ÈÈ!wÈ?}?=?\$
ÈÈÓ İ'È'èpnv9\$ql 7mM\$V9S xè' !vf==}=ÈÈÖ *f=!*é3äÓf<Ó! =3 İÈ *pİ fç*İ ?qöfçql @ý Óè İ } İ ä%ä'Ó ä3ÈÈ!w
È?}?=?\$



&+\$/ (1* (85(\$7,1* 63\$& &21' 8&,9(

72 85(\$7,9,7<

:è³<Óø'!ý Óφ! é³'ép ä ? *z äË<Ó'èÓ =Ó ä
ËÓ'έÓË p'Ó' ³ø³ *pī ? *)H'Óx Ó'xÓ ÓφËÓáÓ
φ! éõ ³pī }}}ËÓ'Ó9ÓÓ=Óä }

%2& +2: 72' (9(/23 85(\$7,9(7+,1.,1* 6. ,//6"

723,& 6((. 287' ,))(5(177<3(6 2) &217(17

q'æ= pī Óφä è = ' İÓÓ ËÓ'έÓ!öæ~

Ž * Ëp Ó!æ !'³ ' =èè 'èÓË p'Ó' 'è³ ? *
³Ë ËÓÓ?İ³?³!'èè Ëp!' pæËÓæ ? *
ËÓ'έÓ'èφöφä) ! ³ æ!' !'Óx? * Ëp ý³öÓ
*!Ó ä 'èÓ φ'ÓpÓ™<³!' !ÓËép ä Ëp'Ó'
'? Ó !*Ë ³!wËä!x<Ó Ë³ppÓx İË'!x
ÓË ö!x pφÓÓ'!³! =Ó³!! Ëóy Öè}

è !ÓË p'Ó' 'è³ Ëp!'é *ø'Ó? * ËÓ'έé?
³pī èÓ ? * 'èφö *!éÓ'èÓË >z v ³ËÓÓ
'èèx' ?' áÓ äýæ φÖ =èè Ëp'Ó' 'è³ ? *
³ Óp ' *!Ó ' ³pī ' ?' ËÓ'έÓË ËýËÓ'èÓ
φä ý³'ép ? * ³Ë ËmÓŽ * !Óé φ!ÓÓ³ø
=³?!' äpī φp <³'έÓ! ø'ép!}

9 = ' Ëè !Ó!*é³ËÓË p'Ó' ' Ë !' ? *
ËÓ'έÓ'èφö~

æÓé ËýÓ ' ËÓ'έÓ'èφöφäx pÓ ä'èÓý !'
!*é³ËÓË p'Ó' Ë ËÓ é Ó'Ö ' ³'x³! ³ ä ý
ä ýÓ!³áÓ ' ³p!ýé!ép φ ³ <Ó? Ó! ? =³?}
ËË İφä ' ? * Ó! p³æ? ? * äpī İæÓÓ'
öφ! ä³ ' ý Ó!*é³ËÓ' =è³ ? * Óæ Óó?
!*Ë³!ý*!æx ³φ'φäx è ' á³ è?xÓË

è !Ó³ ' ? Ó ä³ ' ËÓ'ép 'è³ ? * ³ Óp '
äýæ =èè} ææø öφä³' ³φ'φä!x!Ëø* Ó
!'³*Óx è ' á³ è! ³pī 'èÓ³' ä ý!x' ?'
Ó øφ ³pī *pī Ó!'³pī =è³ ? * !Óx'èÓ=³? é é
!' *Ë* Ö ³pī =è³ éý³öÓ ? *'èφö ä

9 = İ ? * ÓË * ³áÓËÓ'έé? p³ İ³æË!è~
>mÓİ³!ËÓËÓæépËË }
?}H'Ó' ý*!Ë
@<éé³p³ '!ý*!Óý}
A}j³φ}
B<é*³æÓ? * 'è *æè!'è *æè φä ä³ èË}
C}M³ó³ :Ž}
D ³Ëø* ýéφäË³æφäÓ
E}æéÓ³!' ?}
F}v?' ø?³ý*!Ëφ!' *ýÓ'}
>} ³pË

watch
[Click here](#) to visit the page.

æ³'Ë³ <Ó Ó'èó -N*ýÓ³Ë? ä'èÓ '!}+



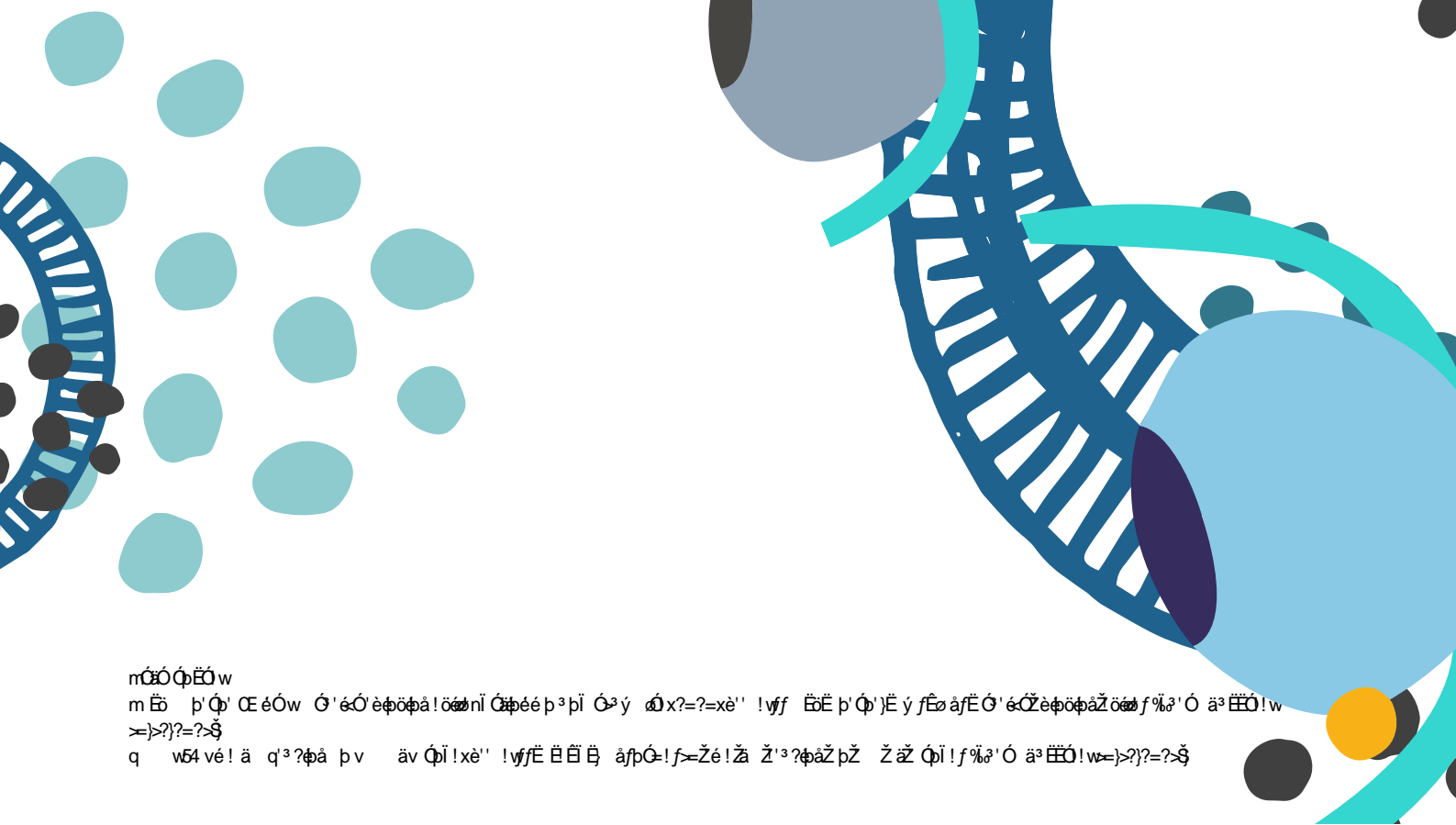
723,& .((3 83 : ,7+ 75(1' 6

S* ! Éó? è³! ³ =é Ó³ < @Éé? äpä ý³'épx³ý !' ' ý* È} véè é <Ó? È³ äpä ä ³ æ ä*! ' öóó * =èx³pí ' ìéó' ³ æ'èÓpä ý³'ép'è³' =ÓáÓ):' é ý '³p' ' ìé'pä*èè =è³' öpí ä pä ý³'épè³! 'èÓ 'Ó'èø' á <è³ø p'}! ø'pä'èè öpí äpä ý³'ép' Ópí! Èp'pä'ÓÉÓ? * ÈÓ'éÓ'èø'päxý³'öpä³p'ý ³È p? * È' Ó'³pí ä* Ó³ÈééÓ³pí ÓÉÓ'ép!}FÓÓ pä* =éè ' Ópí! é p' ³æ³?! ³p Ó!?'³!ö} ! ø³ È³øpÉÓ³pí èÓøè? =³?} 5pí ÉÓ = ! ý Ó*! Óæ ø' é! pè = ' ì é ý ÓáÉéÓz



vé! ä öóó pä* =éè' Ópí!w

|>q*í?!'³!é'É}
|?NÓ= ö}
|@y!Ó! Èøý Ó è á * !%éÓzš
|Ay!Ó³ !'è³' æÓ pä ý³'ép³È ìpä' ? * Ó! p³ø ø'ÓÓ!'³pí ³! é³'ép!}



mÓÓÓÉÓw
mÈ p'Ó' CEéÓw Ó'éÓ'èø'pä!öäní Óp'èé³pí Ó³ý äx?=?=xè' !vf ÈÈ p'Ó'È ý fÈø äfÈÓ'éÓ'èø'päZöä f%ä' Ó ä³ÈÓ!w
x->?}?=?>š
q w64 vé! ä q³?pä pv äv Ópí!xè' !vfÈ ÈÈ È äpÓ!f=>Žé!ž ž'³?päž pž žž Ópí!f%ä' Ó ä³ÈÓ!w=>?}?=?>š

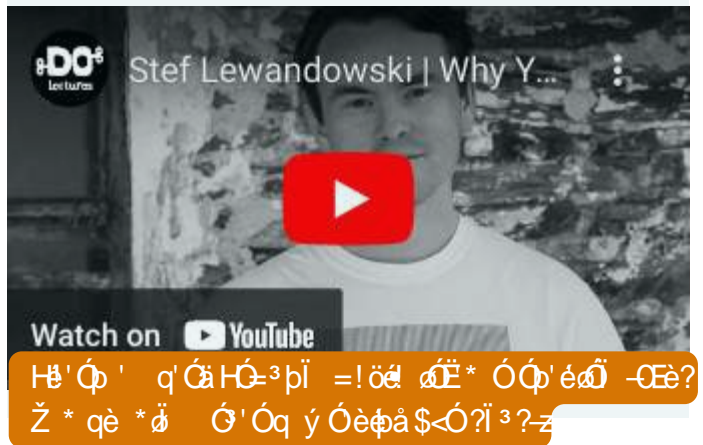
723,& 75< 72 85(\$7(620(7+,1* (9(5<' \$<

Ó'ée?ý³''Ó!tN 'š!' ä ? *oÊ*' ä 'èÓ!o' t
f Np³ NÓt p

vèÓÉpÓä! äÓÓ?İ³?ÈÓ'ée?

OEÓp ? * Óp³áÓ ? * ÈÓ'ée? ÓÓ? İ³?x é
ÈÉýÓ Ó!ó ' İ éxÓÓp ä? * 'è *âè' ? *
=ÓÓp™ÈÓ'áo -nÓ Óéép-é 'èÓM 'èÓ ä ø
HÓ pφáz j ³ÈÈpáÈÓ'ée?³pİ ' ?pá' Óp³áÓ
=ée! ýÓèpáÈÓ'áoÓÓ?İ³?p ' pø = ö! ³!
³ È !' ä ? * ÈÓ'áo!'³!*! È' é ³ø è!
!ÓÓ³ø 'èÓ ÈpÓä!}vèÓÓpÈİÓv

}>ÉÓ'Ó Óä ý³pÈÓp Èóý! <φáx
?}pÈÓ!Ó ? * ä È! óÓx
@!* '! ÉÓ'Ó!Óž=³ ÓÓ!}



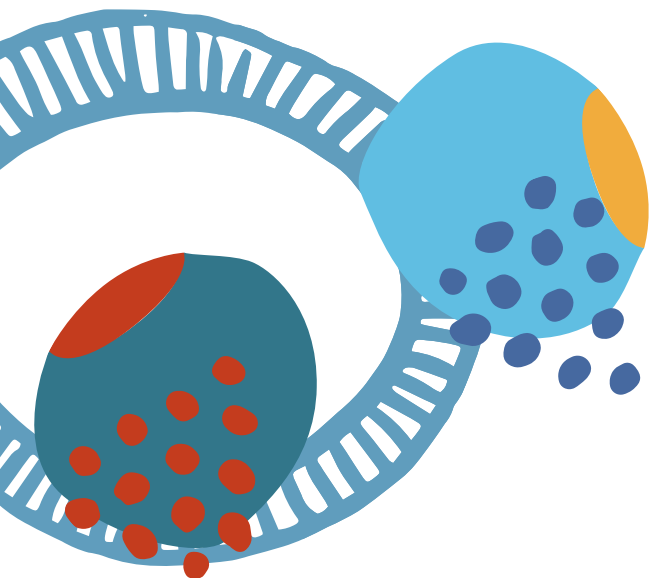
:İÓ! p=e³'' ÈÓ'Ó

6Ó φ! éÖ È?ýé!ép! ³øÓİ? *pppá p! Èø ø
ýÖ èz

vèÓýé!é p ä-³è ³=-é ' İ³=! ýÓèpá
ÓÓ?İ³?x=eÓèÓ=ÓÓáÓÓpáφ! éÖ p ' } Ž *
Èp !' è ³ ' ÈÈ³Ó³pİ È ppÈ =ée 'èÓ Ó ó
İ pá ³è ³ = p :p!³áýx=eè 'èÓè³!è³á
|İ³èİ ³=x=eèèè³! pÓ ø B== !!İ³è}

6éÓ ? * !Óä ³p '*pé? ' Ó Óéý Ó' =ée
İèÓÓp' ÈÓ'áo³ÈèéÓ ³pİ ' ?' è³Ó³ !ý³ø
Èp' È*'ép Ó İ³?}q ýÓèÓ! ' !³ ' ³ Ó'èÓ
ä ø =φáw

- > OEéÓpá}İ³é?x³ 'ÈÓÈø áxp <Óž
- ?} M³öÓ<Ó!}
- @ nÓÈ İ³ İÈ!'
- A} v³öÓ è ' !}
- B} ³=}
- C} j³φ'}
- D} M³öÓý *!È ø?³ pÓ! páÓÓ?İ³?}
- E} v?' = éÓ³! pá}
- F} *è! ýÓèpáOE :ŽÓÓÈÓ}
- >} Ó'Ó³p pφÓÈýé
- >} Ó'Ó³ý <Ó Ó' ³ pÓ! Èèä * }



nÓÓpÈÓw

N}NÓp pv8 ÓÓä! ä ³è Ó'ée?x?=>Axè' !v}f===}'èÓ ' äé øpÓfÈÓ'ÓÓÓ?Ž³?f%ä'Ó ä³ÈÈÓ!wø?>?=?>ž
> } è³øóv Ó'Óq ýÓèpá\$<Ó? ³?x?=?=xe' !v}f===}È ppéý ÓÈø áfÈÓ'ÓÓÓ?Ž³?f%ä'Ó ä³ÈÈÓ!wø?>?=?>ž



OEè³ ð³ ÈÓ'έÓρÓ= ö~
NÓ= ö!³ Ó³ ð³ È *' ý ÓÓφάρÓ= Ó κ!è³ φά
Ë ý ý ρ φ'ÓÓ!x Ó'Óρīφά ? * Óé'φά
öρ = κ!áÓ³ πī äφīφά ρÓ= éÓ! ä ý 'èÓ!
Ó ÓφρÈÓ Ó'έÓ ρÓ= ö!³ Ó äπī³ ý Óρ³ ð³
³È *' <é'φά Ó κ=èè³ <Ó*Ó ä Ìé' È *' φά
Ë ρ'Ó' Ó'Ó' ÈÓ'έÓ äÓ! ,³ È ý ý ρ!³ ÈÓ
ä È ý ý *ρÈ'φά φρ <³'έÓ³ πī ÈÓ'έÓ éÓ!x
!è³ φά Ó ÓφρÈÓ}

OEè?ρ ' äφī È ðÈ ³' ! ρ? * ρÓ' äËz

vé! ä Èè !φάφī ÓÓ φά
'èÓ!*é³ ÈÓρÓ= öw

|> Ó'Ó³ ρÓ= ö ä Ó κ=èè'èÓ!³ ý Óá³ ð³ }
j*³ ðèÓÓ'έ! φ³ Èéρ³!³ ä * }
|?:' é ÓÓ ÈÓ'Ó =èÓρ 'èÓÓ Ó κ³ Ó³ ð³
ÈÓ'έÓž Ó'Ó³ πī È ρ' È *'Ó' äφ³ ðéÓ!
³!³ ρÓ= ö }
|@ ÓÈ Óä ρ' ' !* *πī ? * !Óä=èè Ó κ
'è³ 'èφö³ πī ÈÓ'ÓÓ³ È ð äÓ? * } qÓÓ³! ý * Èè
ÌéÓ!é?³! ? * Èρ =èèÈÓ'φά'èé ρÓ= ö }
ðèè <³ κ? Èρ ÈÓèèèè ÈÓρÈèèè ÓÓ? ρÓ^M
éÓ! }
|Ay!Ó'èÓ =Ó ä! Èè ý Óè }N =³!³?! Ó κ
³ Ó *!φά 'èÓ φ'ÓρÓ φ ÌÓ ' !è³ Ó 'èÓè
³ ÈéÓÓ'φ!³ πī éÓ! φ ÌÓ ' áÓ äÓÈ ÈÈ
ä ý 'èÓ! }

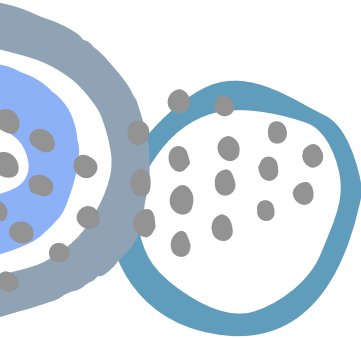
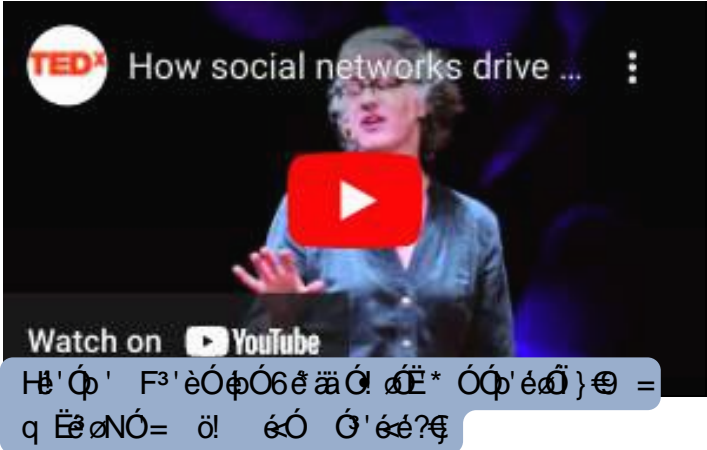
nÓÌ ÈÓ= ä ý Ó'έ! ρ'èé' äËz

ÓρÈè! äö φφά³ ÈÓ'έÓρÓ= öw
>ž * Èρ áÓ èÓ ä ý 'èÓ! ' öÓ ? * ÈÓ'έÓ
'èφöφά φ È ρ!³ π' ÌÓÓÓ ý Óρ }HÓ ρè = 'èÓ!
ÌÓ=èèÈÓ'έé? ÌÓÓÓ ý Óρ³ πī áÓ φ! éÓz
?}:ρ'Ó³ Èéρ =èè 'èÓ! é³ ä Ó' ÓÓÈÓä ? *
ÈÓ'έé?³ πī³ !äρÈÈρ! * ÈÓä φ! é³'éρ }
@ž * Èρ äφī !* ' φ ÌÓ' ÌÓÓÓ ä Ó'Ó
äË! }

A\NÓ= ö! Èρ³ ð èÓ ? * !Èè* ? * φéèð
éÓ³ πī³ !ý³ ðÓÓ? Ì³? *'φÓè³ Èè Èρ ÈÓ
'³ π!ä ý Ó φ 'èÓÈäÓ' éÓ 'è³ Èρ³ ð è³ <Ó
³ ρé³ È³' ð ÈèÓÓ }

5 Ó³ ý κè ? *³ Ó φ' Ì³ =φáx é³ äφÓ³ ρ
³ 'é'Èφ!³ ð'éρ =èèÈÈ *ð Ó Óρ? * = ö }
B\ Ó'έé? ÌÓÓÓ ý Óρ³ ð Ó *éÓ È ρ!³ π'
'³ φφά³ πī * !öφá } vé * àè ÈÓ'έÓρÓ= ö!
? * Èρ ÓÈ³ ρáÓéÓ!³ È *' 'èÓéý <Óρ' ä
? * = ö } HÓ ρ ä ý 'èÓ! Ó ÓφρÈÓ³ πī
öρ = κ!áÓ }

NÓ= öφά³ πī ! Èè ý Óè
y!Óè³!è³ á! }ÈqÓ È Óé'φά ä * ! }Èq³ '³ ρÓ
ä * }Èy!ÓèÓ= Ì! ρ? * !Ó Èè }ÈÓ φ! éÓ
ä ý Ó κ³ ðÓ Ì³?³ ÈéÓφ? * äÓ äφ'ÓÓ' }



%2& \$57\$1' &5(\$7,9,7<

723,& 7+(5(/\$7,216+,3 %7: ((1 \$57\$1' &5(\$7,9,7<

vèÓý !' ÊÓ *' ä' ø' èpà = ÓË p Ó Ó Ó Æ Ó ä ' èÓý ?!' Ó é *!t
:' é 'èÓ! * ÊÓ ä³ ø' * Ó³ ' ³ pī ! Ê Ó Æ Ó
f æ Ó' \$p! ' Óp

œ³' ĩ = Óý Ó p Ê? -³ '!—
vèÓ³ '! Ó Æ ý ³ !!' èÓ < ä³ ø' ' ä ý! ä ĩ ³ = p ä x
³ p' p ä x ! Ê' ø' * Ó ³ Ê é Ó Ê * Ó è ' ä³ è?x
Ó Æ p Ê ý Ó è x ĩ Ó è p x ³ pī < ä Ó ³! = Ó³! ' èÓ
Ó ä ý p ä ³ '!x = è è Æ p Ê ĩ Ó ĩ ³ p Ê Ó !' ? Ó p ä x
Ó ?xý *! Ê ä ä x³ pī ' èÓ' Ó)

vèÓ '! ĩ Óý p!' ³' Ó ³ pī !è = 'è³' è*ý³p
³ æ' é p ³ pī è?! Ê' ø' Ó Ó! é p Ê p Ê Ó! è = p p
³ Ê Ó' é Ó = ³?} vè è ä * pī p è*ý³p Ê' ø' Ó ³ pī
! Ê Ó Ó ' è * ä è ! è x ý ³ ä p³ é p x Ó < é p ý Ó!
³ pī Ó Ó Ó Æ Ó }

:' é ä Ó !³ è 'è³' ³ 'è!' è³ < Ó ä ' ³ Ê p ! è Ó³ Ê Ó
*! Ó ä ý ³ ä p³ é p ³ pī è Ó Æ Ó' è Ó³ Ó ý Ó Æ Ó' é Ó
'è³ p 'èÓ Ó Ó 9 = Ó Ó x! Ó Ó³ ø' Ê Ó' é !' ³ * pī
'èÓ = ø !' ³' Ó' è³' ³ ' è³! p 'èpà ' ĩ = è è
Ê Ó' é é?} vèÓ ³ Ê *³ ø' Ê ä ý 'è³' ! Ê Ó' é !' ³ Ó³!
Ê Ó' é Ó³! ³ 'è!} ! ³ ý ³' Ó ä ä Ê x' è Ó < ø' Ó ä
Ê Ó' é é? è³! ä = p p ý p Ó Æ Ó

œ³' è ³ 'xæp ' 'èÓ Ó³ Ê ý Ó' ä ĩ é Ó! é?~

ø 'x = è Ó è Ó' è Ó < ä³ ø' '!x! ö Ó!' é x 'è Ó
ä³ Ê Ó ä ĩ³ p Ê Ó Ó Ó! 'èÓ è è < ø? ä
³ *' è Ó Æ? ä Ê' ø' Ó < ³ '³ Ó' ? ä è*ý³p é?
³ ø Ó ĩ? ³ p' Ó ä * Ó Ó ' Ó ĩ ³! !? ý Ê ø³ pī
* pī Ó! '³ pī = è è * è Ó !}

-œ ö è Ó ä ý 'èÓ ! * ø³ pī x *! p ä Ê Ó' é Ó
ý ³ ä p³ é p x! Ê' ø' ! * ä' * Ó— Ó' é é? ³' œ ö
ä * pī Ó H p ĩ³ N³ ý³ p!³ è p³ ý³ ä³ F p Ó p Ó < é }

- ³' é p! 'è³' * pī Ó! '³ pī 'èÓ è*ý³p ! é é™
Ê Ó' é Ó ý * ø Ó = è Ê Ó' ý = !™ Ó ĩ Ó! €

:' èpö ä³ ' ³! 'èÓ è è Ó' Ó Ó ä Ê Ó' é é? t
v ý Ó é è p Ó ä 'èÓ ä Ó' Ó' ! * Ê Ó ä
Ó ô ? ý Ó' t

œ ³ < ä m Ê Ó Ó Ó



vèÓË ý Ê p³ é p ä³ ' ³ pī Ê Ó' é é? * Ê p! Ó Ó p
'è é < ä Ó w è Ó Ê p! Ó -M? Ê Ó' é p! œ³ p Ó- ä ý
ä æ Ó)-

:p' èÓ ³! 'xè*ý³p Ê Ó p ä = Ó Ó p ' ³ Ê Ó' Ê' ø' Ó ý ð Ê ý ý * p Ê' Ó = è è Ó Ê 'èÓ} v ĩ³ ?x! Ê Ó' é !' ³ Ó
Ê ³ Ê Ó ä ĩ é é p ä 'èÓ³' ý ³ pī Ê' ø' p ä Ó ý *! Ê Ó! 'è³' Ê p ä ' 'èÓý p } :pī Ō x v è Ó '! è³ < Ó
ø? Ó ³ Ê * Ê ø ð p' è Ó ĩ Ó Ó ý Ó' ä Ê Ó' é é? : ' è ³ Ê *³ ø' ĩ * Ó' ³ ' 'è³' Ê < Ó Ó Ê * ø' ³ p' p
'Ó ý ð ³ pī ĩ Ó Ó ³ = ³? ' Ê ý ý * p Ê' Ó : p ä Ê x v è Ó ' ! è Ó è *ý³p Ê Ó p ä ' è³ < Ó³ p Ó ý p ĩ ³ pī
'èpö *! 'è Ó' è Ó Ê > : ' è v è Ó '! 'è³' è³ < Ó ý 'è³' Ó p *ý Ó *! Ó ð Ê Ó' Ó
N Ó Ó' è Ó Ó !x³ '! è³ < Ó = è è * ³ ĩ * Ê x Ó p³ p Ê Ó Ê Ó' é é? }

n Ó Ó Æ Ó w
q È ø! ' È v Ó p p ä v è * ä è 'èÓ ' !xè' ! v f = == } È ø! ' Ê Ê ý ý f Ó Ê Ó! f ' è Ó f Ó Ê p ä Ê p' Ó f ä p p ä z è * ä è z ' ! f % ä' Ó ä ä Ê Ó! w
??) > = ? > §
) * ä Ó w Ó' é é? ø é³ p³ pī ³ ' n È ø ä è ø pī p Ó ø ä è ø È p! è Ó³' é p! x? => x è' ! v f ĩ è ä f >) @ f f ä è *ý? => A) = œ f % ä' Ó ä
³ Ê Ó! w A) > = ? > §



vèÓ '!!'é*ø'ÓÉ³φá = 'è}

vèÓÓ>Éφá É³φ-pó! é 'è³' ³'ÉÉ³'φá φ³ 'xý*!Éxý <Óφ'x³πī '!' ?Óφá³ÉÉÓ p' pø
İÓó ! øpá³áÓý³'èÓ³'Éx!ÉóÉÓ³πī ! Éø!öøxÉ*' 'èÓÓ³ÉÉÓ³ø !' Ópà'èÓ'èÓ!?'p³ !Ó
ÉÓ=Óφ É³φÉó}

nÓÓ É!è =! 'è³' 'èÓÓ!?'p³ !Ó á =!' páÓ 'è *àè³ÉÉÓ³ 'ÉÉ³'ép φ 'èÓ³ !}vèÓÓÓ!Ó'èø
³ÉÉÓ³'³pÓ ø³áÓÉ³É³*øÉÓ'Ópó= pÓ³ø³'è=³?!³πī ä 'æ?'è!Óè³'³ Ó³øÓİ? Óφ'z
5 Ó³ý øpó !ÉóÉó !è =! 'è³' 'èÓÉýÉφÓ³ !*!Ó φ è?'èýÉý <Óφ'³ÉÉÓ % İ!³πī
ý*!ÉÉ³pèó ? *páÉ³φ! İÓó ' é! øø'É³ÉÉ? ' φøpÉ³ÉÉè³!³øèÓ!?'p³ !Ó pÓÓ Ó'
! Óø³p?øpá³áÓ' ø p³πī³ ÉÉ'Óý*!É³πī ý <Óφ'x³πī ' ÉÓ'Ó-è³ø³' }}}É*' 'èÓÓ!?'p³ !Ó
ý*!'ÉÓ*!Ó φ İÓ' ÉÓİÓó Ó}

Ó'Éó Ó ø è³<Ó'èÓ³ÉÉ? ' !Óó ý*øéø
! ø'ép!xÓý ø? Éφ³ø'è *àè!x³πī *!Ó'èÓé
é³áφ³'ép} '!' ý 'Ó'èÓÓ!öøxÓÉ*³áφá
*pé*Ó Ó p!Ó³πī İÉÓ!Ó=³?! ä ø öφá³'
'èφá!}}

Ó'Éé? é *πī *ÉÓø Óè³pÉÓ É?³ '!' φ 'è ÓÓ
İÉÓÓ' =³?!w
>³ '!' áéÓ'èÓ '*pé?' äπī ý*øéø
! ø'ép!'³İÓæpÉÓ Éóýx
?'èÓÓé³ á Ó'Ó*!Ó äé³áφ³'ép φ 'èÓ= ø
ä³ '!x
@³ '!' ÓÉ *³áÓý 'é³'ép}

j áó! qÓý é •Óé%==Áš=è è ø!'èÓÉ³é ä
pó³Ó'èÓÉ³'ypéÓ!é? øÓÓHπī px=è
Éπī*ÉÓ'èÓÓ Óéφ'x!³éw-ÉÓ=³p'Ó' !ÓÓ
=è³' è³ Óφ! φ 'èÓ É³φ =èÓ ? * ø ö³'
ÉÓ*!æø³φ'φá!}ÉÉ³' =Óä *πī é =èÓ ? * ø ö
³'³' É=èÓèÓ é é³ øπī!É Ó³ '!ææÓ³p
³É'³É³ '³é ÉèÓÓé!' pá³ÉÉé?φ'è³'
³' ä'èÓÉ³φ Ó'Ó' ø!* ÓÉÓ* ' Ó ø
φ³!É³pó³πī !è =Ó'èÓý³!Óó ä³φ'φá!
ÓÓ?≠!ÉÉπī!}vèÓ ÓÉép=³! éýÓé'Ó-

vèé ý 'é³'ép³é! Ó ø' ÉÓÉÓ'ÉÓ³πī ý³óó
'èÓéÓ! ÓýÓáÓ
-ÉéÓ ? * ÉÍÓ<Ó³ ä *πī ÉÓ ä³ ' ? *³ Ó
'Ó'èø æφá'èÓ!³ýÓpó p!³!'èÓ³ 'é'İé
=èÓ 'èÓ ÉÓ'Ó é 'è*! ý³öφá pó= pÓ³ø
³'è=³?!³πī!'é*ø'φá³!'³'Ó äφ! é³'ép}vèé
!Ó!Ó ä ÉÓpá İ³=p φ'³³φ'φá é Éø
'ÓýÉİÉ Éápéé p'-%Ó³pÓx?=>š

%2. 7,36)25 / (\$51,1*

723,& 32(7,&3\$7+: \$<6

móï ó ?

³φ ÓÓ Èó! Óý è³! Èóè = éý '³p' é é ' =éÓφ pÓ ³ø ³'è=³?! =èè <³ Ó? ³pī ÈèpÓ! ä
øpã³³áÓφ'Ó³Èépl}:p 'èÓ = Ì! 'èÓý Ó? * Óĭx'èÓý Ó? * È³φ=øã =} -y!Óé ø!Óé+Óý!
' ÈÓ'èÓ ³øpã È? ä È³φ ĩÓÓó ýÓ' ĩ* φã 'èÓæ!' ?Ó ! äø³pī Èóè 'è³' æÓ' áÓèÓ =éÓ
' áÓèÓ-% =Óx>FF?§

Ž * Èp *!Ó Ó ? ' ÓÈ * ³áÓ ? * Èóý
! øpã³pī ' ³!ø=è³' é Èý φãpÓ}
:pī Óx Ó ? Èp ÈÓ*!Ó φ ³øí é Èè φÓ ÈÈ*!Ó
é é ³ ' *ø éý ³áφ³'èÓ ³pī ÈÓ'èÓ ³Èéé?
%§!' =Óx?==?, OE''!x?==>Š

gÓÓ^M³ ÈèøpãÓ ' '³óó * OE=è? p ' ' ?
Èý Èèpã Ó ? =èè ? * !ÈÓÈÓ á³ý!~ OEÓ
Èè³ ³È* ' 'èÓ !ééÓéý ³È 'èè è³! p ø pã
³pī ³È* ' è = 'èè Èp ÈÓĭ pÓ =èè q³ý
:øpã= 'èx ³ qÓé HÈ* Ó φ !ÈÓÈÓ
Èýý*pe'èp ³ ' 'èÓ ypeÓ!é? ä OEÓÓp
*' ³ø}HÈ'Ó' 'èÓ ĩÈ!''



q ýÓ ÓÈÓ pã!' ³'Óáów
|> È !'È

È !'È ³ Ó³p ÓÈÓp' ' øã !'ĭÓp!' ³ÈÈÓ'èÓè pÓ < ÈÈ*ø ?} Óø=x? * =øãpī ³!³ý ó'
ó pè = ' = éÓφ pãèè³p³È !'È *!pã!ÈÓÈÓ< ÈÈ*ø ?z

qÈÓ'èÈ³È !'È φ \$pãèè

\$³È Ó! pÈ p!Ó<φã Óá?
!!é'φãφ 'Èèã * øpÓ
mÓ * Èpãx Ó!φã³pī ÓÈÈpã
v áÓèÓ =ÓÈp!³<Ó'èÓÓ 'è
gÓφã' èÓø * = ø}

M³óó >' é ³ *pī Ó 'è³È 'è
ÓÓ??Fĭ³?!
S Èé! Ó 'è
Sp'èÓý p'èÓÓ³ Óp øp!
³péý³ø
N ³ý ! èÓÓ

q³pè á Ó' =èè Ó' ³ã³p' æè'
j øpÓ! Èè³pī È ø ! φpãÈ ø
!'Ó é!xÈý Ó!x øpÓ!x!³ !x
! ø !?!'Óý! ³pī ãø>Ó³ Óφ
* *péÓ!Ó
ýÓ! È p!è' ä!³pī xÈÓ³pī
È È pīé>èÓ
\$> ø ³'èp! p! ³ÈÓè³<ÓÈÓp
ĭ pÓã ý³p??Ó !

9 H\$N6\$
v ?? * è³pī ³pī ÈÓ'Ó? * =p³È !'È

mÓÓÓÈÓw
j}\$!' =Óý Ó ?m ĩĭpã ³!èp' 'èÓÈÓÈÈ È øý}-qÈÓÈÓĭ*È'èp-?==?)
M)OE''!wÈÓÈÓpī Ó ?m ³!èp< ÓÈé'èpφ!È øÈÓÈÓ-pÓp³'èp³øE* p³ø äqÈÓÈÓ?==>
q)H =ÓqÓÈÈèp äp' φ!È9 ø p³ø ppÈèp! φ'èÓ'è³³ø 'ÓÈ? Ó'Ó NÓ p³ø Èéé?-qÈÓÈÓM³ã³pÓ>FF?x }?=FOE?}

SpÓj æ* Óæ = 'è³ 'è *!³pī = Ì!t
f 5 Ō Ōæm} ³ p³ Ì

vèÓè*ý³p è³pī =³! ý³ìÓ' Ì³=}
mÓŌ ÈÓ! ³pī ³ÈÈØÓ Ó! %b' ³ 'è!ŠãáŌŌ
'è³' Ì³=φá è ³ äpī³ýŌ'³ØÈý pŌ' ä'èÓ
Ō pφá³pī Èýý*pe'épŌ ÓŌÈŌ vèŌÈ pÈŌ'
ä-ì³=φá³! ³ '-è³! ÈŌŌŌä' 'èÓ äŌ!ép³Ø
³pī è ÈÈ?è! =èè '³Ōp' } 9 =ŌŌxŌÈ ä*! è³!
È p'φ*Ō Ì³=φáφ!ý³Ø=³?!w

Ō=Ōì ÌŌφ'èŌý³ äφ!x
Ō=Ōì ³= *' φ!' *Èép!x
Ō=Ō!ŌŌÈŌŌ pφá ÈŌ! Ìèä³ý! p *
p'ŌÈ ò!}

vèŌŌì³=φá! ³ Ó ³ ' ä * è*ý³p Ō ŌŌÈŌx
³pī ŌÈ pŌ è ³ ýŌè Ì ä'ŌÈφá *!ŌxŌ}
N pŌ ä*!xè =ŌŌxÈ p!èŌ 'è !ŌŌ³ý Ō ³ '
ä ý!-ŌÈŌÈ*!Ō'èŌ³ Ōp ' } *' é è Ì³=φá}

q ýŌä ý! äì³=φáw
ÌφáŌÈ'èŌ³È äÈŌ'φáì³=φá! φ³p*pÈ p!ÈÈ*! *páÈ!Ō ý³pŌŌ} :! è³! ý³p?ÈŌŌä! ä 'èŌ
È³φx=èÈÈ³è! φ'èŌŌŌ pφá ÈŌ! ä !*!ŌŌ!}5 Ō³ý Ōé èŌ! È pÈŌ'³'épxφ! éŌ ÈŌ'èé?x
éŷ <Ō ŌŌ'ép³pī!* '! <è³³'èφŌŌ!} !q*pbé =p!³?! φèŌ v\$ '³Ōx !!Ō ÈŌ=x'èŌŌè³!
ØpáÈŌŌ³ =ŌäØÈ³Ø*³Øp ý³ä³φ!' Ì Ìφáφ!Ō'φá! =èŌŌ=Ō³ Ō!* !Ō' Ō p! ýŌèφáx-
È* Ì Ìφá <³pī é! ý Ōä ý³ØÈ*!φ! !ŌŌÈp'φáx<è³³Øp'Ō³Ōφá³pī -ýφì ý³ φá-ý èè'
φ!'Ōì ÈŌÈ p!èŌŌ =ŌäØpī φ'ŌŌ'φá=³?!' -èŌ ? *!Ōä'èφŌ-}

Ō'èé? è ³ =è ŌÈ³φ ÈŌ!x³pī ³ 'è! ³pī
!ÈŌp'è! *!Ō'èŌ!³ýŌ ³ '! ä'èŌÈ È³φ! ' Ì
Èý Ōx ÈŌ'èŌ '³!ö! %pī Ō!Ō
È mý È³pī ³pš

9*ý³p! ³ Ō<è³³ØÈŌ'* Ō, * È ³ÈÈ?' ÈŌ!
φá ý³'ép <è³³Ø ŌÈŌ! 'èŌÈ ³ÈÈ? ä 'èŌ
!Ō!Ō} :p * Ō pφá ÈŌ!Ōx<è³³Øý ÌŌ ä
Ō ŌŌ'³'ép ³ Ō ÈŌÈýφá ý Ō =èŌ Ōìx
ì èŌ ³Ø È? 'èŌìŌŌŌ ýŌ' φ Ìèè³Ø= Ōφá
Ō<é pýŌ! ³pī ŌŌ'³'ép 'ŌÈp ØáŌ}
9 =ŌŌx 'èŌ ÈŌ! ä ÌŌŌŌ φá È èØ
ŌŌ'³'ép! è³! '³ìéép³Ø ÈŌŌ <Ō-Ō ýŌŌŌ
³! ³ pŌŌ!³ ?!ŌŌ!Ō φ = ö Ō'Ō ' ÌŌÈp
%* ÈŌÈÈŌŌ x>FFÈš



Ìφáx!ŌŌÈφá³pī ýφì ý³ φá³! ' Ø
ä Ō pφáŌÈŌŌÈ* Ō

HŌ! ÌŌ
|>y!Ō=è³'ŌŌ ³ Ō? * è³<Ō³pī ³ Ō ŌÈŌ
|?ŌÈŌ? * Ōì ³ ³!!³äŌä ý³ È Ōx ŌýxŌÈ
Ō! Ì ÌŌ=èè? * Ōì} p™ä äŌ 'è³ ? *
ì ÌŌ=èè' ÈŌä³ìŌ³pī ³ Ō pØ ä ? * *!Ō
|@p!Ōì äÈ*?φá φ'φá !'Ō!'è³' Ōpá ÈŌ
Ō pφáŌÈŌ'Ōý³ !xì è ä³ý!}!





\$1' 12: ,76 7,0(72 5(/;\$;

ä Ó ³ ð' è Ó Æ Ó ' é Ó Æ ³ ð' ä Ó x è ! ' é Ó ä ! ý Ó ý * Æ ð Æ Æ Æ Ó > ' é p z
Ž * Æ Æ Ó ý Ó Æ Ó ' è è x ³ p ĩ ä p ' x : ý ð ! ' Ó Æ ĩ Æ ä ? * w Ó > ' é p é
³ < Ó ? é ' ³ p ' ³ ' ä ĩ Ó Ó Æ ä Ó ' é é ? } q : Æ < Ó ? * ' ' è Ó = ð ä
Ó > ' é p x = è Ó Ó ? * = ä ĩ ý ³ p ? = ³ ? ! ' Ó Æ ð Æ Ó ? * Æ Ó ' é é ? ³ p ĩ
Ë ' Æ ? * Æ Ó ' è }

%2& 7+(\$572) 5(67,1*

723,& +\$9(<28 (9(5 &216,' (5(' : +\$75(67,1* \$&78\$//< 0(\$16"

Ó Æ é é p | >
Ë ĩ Æ ä ' ' è Ó ³ ý Æ ä ä Ó Æ é p ³ ? ĩ Ó Æ é é p x
m Ó ' Æ ä é ' è Ó ! ' ³ ! * ! ä % Æ ! Ó ! ý Ó p Ó
! ý Ó è Æ ä ' Š ! ' Æ ä ĩ Æ ä ³ ³ ' Æ ð ³ Æ é é ?
! ' Æ Ó Æ ä ³ Æ é Ó ä ³ Ó é ĩ ä ' é Ó Æ ĩ Ó '
Ó > ³ p ĩ ä Ó Æ Æ ? * ! ' Ó Æ ä è }

Ó Æ é é p | ?
m Ó ' ĩ Ó p ᵀ ᵀ Ó p ! ä z M * Æ è ³ ! Æ Ó p = é ' Ó
³ Æ * ! ä x Æ * ' Ó ' é ĩ ä Ó p ' , é é è = = Ó
* p = Æ ĩ x Æ é * ý Æ ĩ ! ³ p ĩ Æ è ³ ä Ó * Æ ĩ Ó }

Ī ĩ é é p ³ Æ Ó Æ é é p ! ³ Æ * ' - Ó ' Æ ä w
| @ ä Ó Ó ' Æ ? Æ Æ ä ĩ = p Ó Æ è w ä Ó ,
| A ' Æ Ó ! Ó ä ý ³ Æ é p ý ' é p ,
| B ' Æ Ó ä Ó ä ý ³ p > Ó ? ĩ ä * Æ p Æ Ó
| C ' ! é ä ä Ó ! * ' Ó ,
| D ' Ó ³ Æ Æ p ä Ó }

m Ó ' Æ ä < ! } ! ä Ó Æ ä
ä Ó é ³ Æ ĩ ? Ž Æ ĩ ! ' ³ Ó Æ = è Æ = Ó Ó Ó Æ Ó
! Ó ! ? ĩ Ó ³ Æ ý Ó ' ä ý * ! * * p ĩ Æ ä } m Ó '
è Ó ! * ! Æ < Ó ä ý è ? ! Æ ð ³ p ĩ ý Ó ð Ó ä '
³ p ĩ Æ p Æ Ó Ó è Ó ³ Æ é Ó ³ ! ! é Ó



v è Ó ³ ' ä Ó ' é Æ ĩ * Æ Ó Æ ? ð * ĩ è 9 ³ ý ý p ĩ
Æ è Ó Æ ö w - v è Ó ' ä n Ó ' w 9 = ' 5 Æ ĩ m Ó é Ó
Æ ' è Ó M ĩ Ó p ä Ó }
Ë ' Æ è ' è Ó ä w = Æ ä < Ó ä ý Ó ĩ Ó ³ ä
Æ ä ý ³ é p ³ Æ * ' è Ó ³ ³ Æ z

723,& : +< ,6 ,7 ,0 3257\$1772 5(67"

v è Ó Æ Ó Æ ä ! ä Ó ' Æ ä }
m Ó * Æ Ó ! ' Ó ! ³ p ĩ ³ p > Ó ? Æ é < Ó ý ĩ ³ p ĩ ĩ * Æ é é ? Æ é < Ó ý Ó ? Æ ĩ Ó Ó ³ ! Ó Ó ä ? Æ ! ! Æ
Ë ! ! Ó ä ý ³ p Æ Ó ³ p ĩ Æ Ó ' é é ? Æ Æ Æ p Æ Ó ĩ Æ é p ý ³ Æ Æ ä Ó p ! * Ó Æ p Æ Ó ' ³ é p Æ Ó ĩ Æ ä ý Ó Æ ĩ é p
Ë ĩ é Ó ä Ó ' è Æ Æ ä ĩ Æ Ó ! Ó Æ ĩ Ó ! * Ó Æ Æ p Æ ³ Æ Ó ä Æ é < Ó é ý * p Ó ! ? ! ' Ó ! Æ ! ' Ó Æ ä é Ó
Ë ĩ é < ! Æ ð ! ? ! ' Ó Æ ĩ é ý * ð ' Ó = Ó è ' ý ³ p ³ ä Ó Ó }

j ĩ Æ ! ' ä z - ä Ó x Ó p Æ ä ³ p ĩ ! Ó ä
Ë Ó Æ ? ' è Ó Æ Ó é ý Ó v * ! }

Ë ' Æ è ³ < é Ó Ó p ' é Ó m Ó Æ Æ ä Ó '
Ë è = Æ ä ĩ = p ' ! ä * z Æ ? Æ
9 Ó Æ Æ }

m Ó Ó Æ Ó w
³ ý Æ ä ä Ó Æ é p ³ x è ! ü w Ó ' x è ' ! v ĩ Æ é p ³ ? Æ ý Æ ä ä Ó ä ĩ Æ é p ³ ? Æ ä ä é f Ó ' Æ ä % ä ' Ó ä ³ Æ Ó ! w Ó > } ? = ? Š
ä Ó } ä n n Ó ' Æ ä < t ä Ó Æ ä x ? = ? x è ' ! v ĩ = = ! ä Ó } ä f Ó ' Æ ä ž ž ä Ó Æ ä % ä ' Ó ä ³ Æ Ó ! w Ó > } ? = ? Š



723,& : +(1 72 5(67'

jθp? * Ó'fá *'fó
 nÓ'fáé³É *' '3öfá'ýÓ *' ä ý ï fá'èfá!
 'è³ äó- ï*ÉéÓ,žÓxéýæ' äóæÓáÓ'fá
³èÓ' p É!!Ó³pí !Éè ø Ó'ý!³pí
 È'p'f* *' f'fá³pí'ý <Ó'p'žÉ*' Óæx
 ? * *p'èÓ éö äÉ* p'fá *' ä? *' ï'p' '3öÓ
³ÉÓö)9³<fá³ÉÓö³pí ä³p'fá³ÉééÓ
 p³ï³ÉÉ!è'è³èÓ? *' ï'è' '3É ä ý ? *
 ï³æ *'fó!è *'ð³ð ÉÓ³' ä? *' ï³æ
 !ÉèÓ *'æjÓ æ³<Ó'æÓ'è³Éé! pè =ÉÓ'
 ' Ó'}ž * pÓ' äpí 'èÓÉÓ' =³? 'è³! *'é!
 ? * =p Ó! p³æ?³pí Ó'ä³áÓ=èèé}

yp!* éfáæx!æó é³ Óæý '3p' '3' ä
 Ó'fá} Ó'fá !ééÓ³pí È'p!è'Ó'!æó
 è³Éé! é ÉÓ'æææ Ó Óææ ä !'ï'Ó'!}
 9Óèè? è³Éé! æÓ!æó x è?!æè ÓÓÉÓ³pí
 *'fó³ Óý '3p' ä ? *'3!3!'ï'Ó' } p'
 !éè? * Éè *'!!æó}

mÓ'fáï* fáÉ!! É Óöw
 >q Éæfó
 ?} <é!'³ fá? *' ý Éæ è pÓ
 @E f³p³'èóÉ³Ééé?
 A,v?É³f ÓÓÉÓ OE *fæá³ý Ó}
 B,v³öÓ³=³æ)
 C,\$pá³áÓ=èè ÉÓ'èÓ³ÉééÓ}
 D,mÓ'ï³É ö}
 E,j =Ó p³ ž
 >æ=ý f*'Ó³ ÓÓ' *'æèz

ÓÉ Óæ ø ä'èÓä æ =fá!æp!w
 >ž * Ó'fáèÓ 'ž³Óé ÓÓ³Ó}
 ?}ž *'•Ó'éÓ}
 @ž *'•Óý ï?}
 A,ž *'•Ó!æó)
 C,ž *'æpí éïææè' È'pÉÓ' '3Ó
 D,ž * È³!f³Ó p³ Óæè È!è}
 E,ä? * äóèè³? * pÓ³ Ó'ï³?
 vè³' ýÓp! 'è³' ? * pÓ' '
 fÈ³'ÓýÓ'p'fáæø Ó' f' ? *
 ï³æ *'fó

723,& +2: 72 5(67'

é ÓæÉ éÓ'æ'è!w
 |>6 ä³=³æ)
 |?MÓ'è³Ó
 |@* p äæ? * è pÓ
 |A\$>ÓÉÓ'æ * fíæ³ð! '!š
 |BS ä³p'fó? * 'ý Ó³pí !³ÉÓ
 |CH'Ó' ý*!æ}

6Ó ääq ÉæøMÓ'è}OEè?~
 }ž * È³fí ÓpTMÓ'
 }ž * áÓý Ó!' Ó!Ó'
 }q Éæý Ó'è öÓ! ? *³=³öÓ
 }ž * áÓÉ Ó'
 \$}5 È!fá p=è³? * ÓææÓÉÉ'ý Ó'ïææè'è}

véy Óä ý Ó'è³'épx!'Ó É?!'Ó z
 B ø!Ó? * ÓÓ'
 B HÉ'Ó? *³ý! p? * ø !}
 B v³öÓ'í Ó ÉÓ'è!³pí æ'Ó' ? * ÉÓ'èfá}
 B pÉÓ' '3Ó? * ýfí ' ÉÓ'èfá}
 B *'p'? * ÉÓ'èä³<é'fá? * ýfí ä ý !æ fá³=³?)

mÓ'fáÉw
 :}j³pí³wè = ' nÓ' \$æÉéÓn<j³ÉÉèvé!x?=>xè' !vffé? ³pí³)Éý fÉææè =ž žÓ'žæÉéÓ'æ'Ó ä³ÉÓ!w>?}?=>š
 5ø é³ q³'ÓypéÓ!é?nÓ' é \$!f'èææ HÓ'p'fá³pí j ï*Ééé?x?=>xè' !vff ÓÉæææ*)Ó *f'è!f?=>f=f=f?f Ó'žžÓ!f'èææ žÓ'p'fáž
 ï*Ééé?f'æ'Ó ä³ÉÓ!w>?}?=>š

%2& 5(* (1(5\$7,21 2) 7+(0,1'

723,& 5(* (1(5\$7,21 7(&+1,48(6

ÈéÓpá ³ èÓøè? !'³!*! ä pÓ Ê³φ é p ' ³æ³?! ³p Ó!?' ³!ö) mÓÓÓ³'ép ä'èÓýφī é Ê!Ö p!ÓÓ³øæÈ ! Ó'Ö ' * ĩ³æ³Éé!} ý³Fpáx=Ó³ ÓÈ ³Éó äÈ !'fá * Ê³φ 'è *æ³ =èÓ ³páÓ äÈ ÈÖ} èÖö *! ! ýÓ 'Öépé*Ó 'è³' ? * Èp φ'Ó³'Óφ' ? * ĩ³æ !ÈÖ *ó'è³' =èèÓ Ö! * Ó'è³' ? * Ê³φ é φ<æ ³'Ö }

9 = ' !è³ Ó? * ý³áφ³'ép φ!Èè ø mÓiz mÓifá Èp Ó³ pÓ= ð φ 'èÓ Ó óτó ÓφÉÓ³pī 'è *æè!}FÓÓ Óifá³pī é =æ Ó? * ýφī}Ž * Èp ÈÓ'Ó³ = ð φ =èÈ³p?èfáé !!ÈÖ è *æè? * ý³áφ³'ép} q ÈæFÓZ \$>È³páfá èÓ!x Ê³φ!' ýφáx È ýý *pÈ'fá³pī è³ <fá!'ý *ø'fáÈp<Ó³'ép! =èè ? * Èö!!ý³'Ó Èp èÖ ? * !'ý *ø'Ó? * =p ý³áφ³'ép}

P HQDOZ RUNXW

SKV MEDOH FHUJLVH

IRRGV DQGVXSSOP HQW Z

VDHS

QAMQVRVWHPXMF

!öz * é!é?ý³?è³ <Ööæö 'èÓÈ'xÈ' φ ĪÓ ' ! ³ ö ? * ý³áφ³'ép ? * !è *ð ³æ³?! ÉÓ ³!öfá *Ó'ép!} Öè?~ ÖèÓÓ- Öè ~ Öè³~ pī ý !' ý '³p'øvè =~

Ó'Ó Öè³ Èp ÈÓý Óý³áφ³'épž' é fá'è³p ÈÓ'fá! ýÓèfá pÓ= ÈÓ'èÓ è !Óè³pī!Ž p Ó ÓφÉÓ φ ĪÓ ' Óä ý ÈÓ'Ó φ Èö!! ³pī áéÓ!è³ Ó' ? * èÓ!}

SpÓ ä 'èÓ ý !' ý '³p' ÖÖp' ĩèÈ <Óó φī È'Ó'è³' Ê³φ ÈÖ S m\$6\$N\$m v\$ 'è *æ ? * Ó'èÓæÓ NÓ áÓÓé ÖÖä)'èÓä ý³'ép äpÓ= Ê³φ ÈÖ Öè p ' pø !!ÈÖ èè³ Ó! \$<\$mŽ Ž}

qè³ Óq *pī ää? * èÓ! =èè ? * Èö!!ý³'Ó ³pī 'ÓÈÓ!}5φī *' =è³ 'èÓ'èφö ³pī p 'ÈÓ è = 'èÓ' ÓÈ} vèè Èp èÖ ? * Ó'Ópī ? * 'èφöfá ³pī <æ³'Ó? * =p èÓ! p! ÖèÈ !*ÈÖ!}

veÓ!³?fá~!Óé ø!Óé~³ ó ' 'èÓÈ³φ³! é Ī Ó ' ý*!Èö} p? Ê³φ ÈÖ pÓ ³ø È ppÖép! 'è³' ³ Óp ' Ó*ø ø*!Ó³ Ó³ø=Ö ' =èèÓ ³pī ĪÓ' ³ ÈÓ! Èö !?p³ 'È *pφáz\ ↗

\$pò ? ý*!Èz H'Ó' pÓ= ý*!È³pī ó é φ! éÓ ? *}

véy Óä ³ Ê³φ ÓÓÈÓ véÓèÓ ÈýÓ ä ý H pī p'³>éī éÓ!x=e ý*!' ýÓ FÓ³ ý³ äH pī p < ³ äÓ' öp =p³! -veÓ Fp =ó áÓ<φÈ'fá @= ý³φ *'Óx?B<=== !' ÓÓ!x³pī 'èÓø È'ép ä?<x=== øpīý³ ö!} !³ Ó*xx 'èÓèé Èý *! Öè³ ' ä'èÓÈ³φ Ó p!ÈÖ ä ó pfa³pī ýÓ ? Öè ä³ H pī p'³>éī éÓ é !èpèÈ'p'øø áÓ'è³p³<Ó³áÓNÓ' 'ý'Ó' ?' *'³=³?? * 6jq' ÓÓÈÓ? * ýÓ'³ø³ <æ³'ép!öæ} y!fá? * ýÓ ?φ!'ÓĪ ä Ófá pý³ ! 6jq=èèÖ φÈÓ!Ó? * ýÓ ?È³ Èè?' }

v:j H\$mvz Öè³ ý³öÓ ³p³Èéé?³ m :N \$• \$m :q\$~ qè³öÓ * ? * ĩ³æ *'φÓ} ³φ ³ÈééÓ !è *ð ÈÓ È'èp <Ó³pī Èý ó}



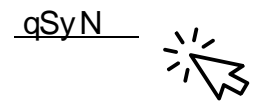
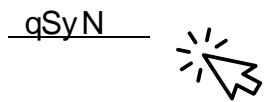
M*!Ěā 'èÓ³ Ó'Ěx

Ě ĭpā' !*ĭóxy*!ĚĚp ÓĚ * ³áÓĚÓ'ésé?
³pĭ èŃ *! ĚĚ ýÓ ý Ó ĭ*ĚéÓ vè *àè
ÓÓpā áÓpā! ä! ' Ó! é èŃ! *! Ě pĚŃ' ³'Ó
ĚÓ'Ó } :p āĚ ý*!Ě!M'èÓ³ Ó'Ě Ě ÓĚ é!
=Óā'è³' é Ěp èŃ p Ó³é pāĚ³p ĭ³ý³áÓ
j³'Ě! =èè ĚĚĚÓĚ³p ĭ³ý³áÓ=è Ěp p
pāÓ! Óö³ Ó áÓ³Ěó' !pā = ĭ!x āŃ
=èè *' ' *Ěó ' ³p pā}

vèÓÓ³ Ó'èÓ C v? Ó ä M*!Ě Fp =p'
qāpāĚp'p'p'ý <Ń ĭ*Ěésé?w
>ĚĚ!é!Ěóy*!ĚĚÓ p³Ě *' 'èÓM F'!™
\$āĚx
?Sp³* Óy*!ĚĚ ÓÓ!ý 'è! *pĭ! ĚÓ=³'Ó
³pāx
ĚĚÓy³'Ěý*!ĚĚĚ !Óp! é pāy*!Ě! *pĭ!x
AĚ-é Ó āý Óy*!ĚĚp āý Ó ý*!Ěé *!Ń'
Ńp³pĚŃ p'Ó!Ń ÓĚĚÓ³pĭ èŃ 'èÓy ä Ě!x
BŃy*!ĚĚÓ=Ńp B=³pĭ E=ĚÓ'! Óý p*'ÓĚ
<Ń' Ńp³pĚŃpĭ !'é *p'ŃÓĚÓ'ésé?³pĭ
Ě p pāx
CŃ? * ā< éÓy*!ĚĚ? * p = ĚÓ'z

9 = ĭ Ó ý*!ĚèŃ èŃ'èÓĚ³p~
M*!Ěĭ Ó ý Ó'è³p Ń! *' *! p³ ā ĭ ý ĭ}
:!'³ = pĭŃĭ *ā'è³! Ó!³ p' ä'èpā! Ěè'w'
ŃpāāÓ? * ý pĭxŃ!Ń! ' Ó!xŃ öŃ Óý 'ép!
³pĭ! 'èÓ? *! *p
mÓŃ Ě è³! !è =p 'è³' Ě'Ńpā' ý*!Ě Ěp
Ń*ĚŃp>ŃxĚ ĭ Ó! * Ó³pĭ ³p³! =Ń³!
é <Ń!ŃŃ *³p'x ý ĭx ýŃ³p'³p'pÓ!x
Ě pĚŃ' ³'é p³pĭ ý Óý ?}

Ě ? * p = 'è³' 'èÓÓ³ Ó! ŃĚĚ pĭ! ä! *pĭ! 'è³' ³Ě³p'!é *p'ŃÓ
Ě pĚŃ' ³'é p~
v?' Ě'Ń' 'èÓā p = pā! *pĭ = èŃ! *ĭ? pā³pĭ pĭ = èĚ pÓāè! ? * ĚÓ'z



*Fāáý Ó ý 'é³' Ó * Ě³p!~
jŃ?pāāý Ó! *Ě³! *Fāáý Óx= ĭ!Ń Ěx
Ě !! = ĭ!xýé³pĭ ý³'Ěpāx!Ě³ĚĚÓÓĚ³ Ó
Ě³p ý 'é³' pā Ěó! 'è³' 'Ó' pŃ
ĚÓ'ésé?} vèÓÓ āý Ó pĚŃ!Ó Ě³p =Ń
=èĚ ý³ŃÓ 'èÓ³ Ó Ě ĚÓ ä *!Ńp
Ń*Ě'ép³p * !Ó ĚÓéÓ Ń! <é pāý ÓŃ
Ń'Ó³pý Ń'}

6 Ó' ³p 6³ý Ó
>qy SFy
?}Hý !é?
@ !! = ĭ!
Aý ŃÓý pĭ
Bj Ěóy ŃĚ pā6³ý Ó
Cj qĚ³ý Ěó
Dm ĚĚ! *ĚÓ

mŃŃŃŃŃ
jŃ³ýý pĭw Ó Ě'pā! M F' ŃĚĚ !? * Ě³p =Ńuk?=>@è' !vff===)ĚĚĚý fā'* Ń³'ĚŃ?=>@=>Ěpž F'ž 'ž³p =Ń%Ń'Ó
ā³ĚĚ!w?>?>?>Ń
j}³'ŃvèÓŃ: v? Ó äM*!Ě ÓFp =p' ³ý³'Ěp'ý <Ń ĭ*Ěésé?>=>Fxè' !vff===)Ń' Ó ŃŃ ĬÉý f' Ěóy@BAF? %Ń'Ó ā³ĚĚ!w
A>?>?>Ń
M}q'ĚĚw=6 Ó' ³p 6³ý Ó³pĭ ³p v³p pāĚĚĚéÓx?=>xè' !vff===)Ń=Ńý pĭ ĬÉéÓžpĭžāý Ńž ž³pžŃŃŃŃ??A-A= %Ń'Ó ā
³ĚĚ!w>?>?>Ń



Co-funded by the
Erasmus+ Programme
of the European Union



Creating
Spaces
for Creativity
Erasmus+