

THINKERTOYS:
A HANDBOOK OF
CREATIVE-THINKING
TECHNIQUES
(SECOND EDITION)

by Michael Michalko

INSIGHTS BY:

Ivaylo Durmonski

FORMAT:

Deluxe PDF printable

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ABOUT:

This is a comprehensive book summary of the book *Thinkertoys: A Handbook of Creative-Thinking Techniques* (2nd Edition) by Michael Michalko. Covering the key ideas and proposing practical ways for achieving what's mentioned in the text. Written by book fanatic and online librarian Ivaylo Durmonski. (Printable available only for supporting members.)

HIGHLIGHTS:

- Reawaken your creativity by influencing what happens in your head.
- You can generate a lot of amazing new ideas by reversing already working great ideas.
- The ability to relate a problem in one field to seemingly different problems in unrelated fields is a superpower that one can master.

ABSTRACT:

Written by the world's most highly acclaimed creative expert, Michael Michalko – that's right, he's a creative grandmaster. Thinkertoys is an unusual book. It's like an encyclopedia encapsulating thinking techniques, allowing you to come up with genius ideas. Plus, also, an elixir that will give your creativity a living pulse. It's thought-provoking. Fun. Exciting. Extremely practical. And it will arm your brain with a wide variety of tools – called Thinkertoys – to battle the problems trying to sabotage your progress. With each new page and creative technique introduced, new original ideas will come to your mind almost involuntarily.

THE CORE IDEA:

Kill your unoriginality. That's the core idea. According to Michalko. Everyone has creative potential. The reason we're stuck in a swamp of uncreativity is how we perceive ourselves. We are negative. We think that we lack talent. We label ourselves as ordinary. All of these beliefs create a negative force field that prevents us from coming up with fresh solutions to our daily problems. Thinkertoys will cast a spell and break the self-imposed walls around your head keeping you stuck. If you take the time to practice the introduced exercises. You will undoubtedly enhance your creative thinking and start inventing innovative solutions to improve your personal and business life.

KEY LESSONS FROM THINKERTOYS:

- LESSON #1: CONTROL WHAT'S GOING ON IN YOUR HEAD
- LESSON #2: INFLUENCE YOUR BRAIN TO BECOME CREATIVE
- LESSON #3: COME UP WITH ORIGINAL IDEAS BY SOLVING CHALLENGES
- LESSON #4: REVERSE THE OBVIOUS
- LESSON #5: SLICE AND DICE CREATIVE STRATEGY
- LESSON #6: GENERATE IDEAS WITH ANALOGIES
- LESSON #7: THINK LIKE A CHILD AGAIN

LESSON #1:

CONTROL WHAT'S GOING ON IN YOUR HEAD

It's impossible to come up with innovative ideas. To be creative. If you don't think that you have what it takes. If you have a negative attitude.

Commonly, we adopt this limiting view because we are thought – as the author writes – “to be ‘me’, instead of ‘I’”.

The “me” part here represents an object. A lifeless object that others act upon. For instance, when you adopt the view about how others describe you – if they say that, “you are uncreative, you are ordinary, you are average”. If you don't do something about it. You stay stuck in this lake of thoughts. You start to believe that, indeed, “I am an ordinary person.”

Conversely, by focusing on your “I”. You become an active subject. You haven't been creative in the past. But that's not determinative of your future existence. You have the capacity to change. And

change happens when you realize something important about your thinking abilities: That you have full control over what's going on in your head.

The book starts with this distinction between creative and uncreative personalities for a good reason.

While surely hard, you have the power to choose to be creative.

Your behavior in relation to your attitude *affects* your attitude.

People who believe are creative, actually *are* creative. Oppositely, people who are convinced that they can't come up with original ideas are often the ones that are looking for reasons why things won't work and why things can't be done.

As the author writes, "They cannot deal with life as free and happy people; they are narrowed and enslaved by their attitude."

By changing your perspective. By forcefully bending your behavior towards positivity and creativity. You will start to see things that you were unable to see before. That is, you will start to see what is possible. Focus on figuring out what *can* be done instead of what can't happen.

"We decide. We choose. In the end, our own creativity is decided by what we choose to do or what we refuse to do. And as we decide and choose, so are our destinies formed." Michael Michalko

LESSON #2:

INFLUENCE YOUR BRAIN TO BECOME CREATIVE

How to become a creative person if you are not a creative person?

The general executive of a large corporation was concerned about the lack of creativity in his staff. So, he spent quite a bit of money to hire a group of psychologists. Their task was to figure out what's the core quality that differentiates the creative personnel from the rest. The ones living in the gray area of unoriginality.

What the psychologists discovered after a year of testing was unimaginable at first.

As the author writes:

“The creative people believed they were creative and the less creative people believed they were not.”

So you simply adopt the belief that you are a creative person and

you become such an individual?

Yes, that's pretty much it.

But it's hard work to completely revamp your deeply rooted principles and tenets.

The psychologists who conducted the study created a two-part program designed to change the belief system of the people who thought are destined to stay forever on the side of not original thinkers.

Below is the gist of the two exercises you can practice on your own:

SELF-AFFIRMATION:

We are quick to forget about our successes. Our mind often leans toward what bad we've done and hugs these negative patterns like a child hugs a stuffed toy when upset.

Success is the foundation of more success.

To self-convince yourself that you are capable of coming up with original ideas. You should keep everything good you've done in the past close to mind.

The first exercise is to take a notebook and note down your positive qualities – your skills, traits that others praise you for, etc. Then, write down your major breakthroughs. What good

you've done in school? University? At home? In your relationships?
Once you're done with your past successes. Keep adding to the
list.

Acknowledging your abilities, talents, and achievements.
Reminding yourself that you are capable of coming up with
original ideas will encourage you to keep going.

CREATIVE AFFIRMATION:

This second exercise is a bit out-there.

The goal is to convince yourself that you are a creative person by
writing daily positive affirmations about your creativity.

You start with this:

“I am a creative person.”

Then, you take the above statement and write down twenty
variations using the first, second, and third persons.

It will look like this:

“I, Ivaylo, am a creative person. Ivaylo is probably the most
creative person I've seen in a while. Ivaylo, you are so damn
creative...”

Whenever you fall into the negative trap and you start to form
thoughts suggesting that you are no good. Write these negative

thoughts. Say, “Ivaylo hadn’t had a good idea in a long time. Ivaylo is just not creative enough.” These are your obstacle. Tackle them with another set of positive affirmations. “Ivaylo has new good ideas daily. You have to get to know Ivaylo to see how creative he is.”

The underlying goal is that you become the person you imagine. As you note down how creative you are – even if it initially feels like pretending. You will eventually become the person you describe on paper.

“Hold a given picture of yourself long and steadily enough in your mind’s eye and you will become that picture. Picture yourself vividly as defeated and that alone will make victory impossible. Picture yourself vividly as winning and that alone will contribute immeasurably to success.” Michael Michalko

LESSON #3:

COME UP WITH ORIGINAL IDEAS BY SOLVING CHALLENGES

Where do you begin with? What's the starting point of idea generation?

If you want to start a business. It will be hard to come up with a decent business idea if you don't first come up with some sort of problem to solve. But there are so many problems in the world. How to decide where exactly to focus?

One of the many thought-provoking chapters in the book introduces a starting point for coming up with business opportunities – and not only. By presenting challenges in the form of questions. Michael Michalko helps us pay attention to goals that are worth pursuing.

Consider the questions below. Take them. Mold them to fit your specific narrative and generate fresh creative ideas:

- *What would you like to have or to accomplish?*
- *What business idea would you like to work on?*
- *What would you like to do better?*
- *What do you wish you had more time to do?*
- *What are your unfulfilled goals?*
- *What excites you in your work?*
- *What angers you at your work?*
- *What changes for the worse do you see in the attitudes of others?*
- *What is too complicated?*
- *What wears you out?*
- *How can I cut costs and increase production?*
- *How can I become indispensable to my company?*

Let's take the "What do you wish you had more time to do?" question.

These days, most of us have trouble with time management. There is always a lot to do and never enough time to achieve everything we want. Part of the problem is that there is so much to do online. So many distractions.

We can come up with an app idea that disables your Wi-Fi with just a push of a button.

Or, let's say that you answer with: "I wish I had more time for exercising at home."

The main problem is that starting is hard. There are a lot of different workout regimes that make it look like you need

hours to do a single drill. Or basically, we can identify these two challenges in relation to exercising at home:

1. You probably don't know what workouts to perform.
2. You don't have the right gear to exercise at home.

To solve your problem, and probably also convert it into a business idea for people who want to get fit but don't know how to start. You can take one backpack and add inside a couple of essential pieces of equipment. Plus, note down 3 to 5 workout regimes that take around 10-15 minutes to complete. By doing this, you'll have within arm's reach an easy way to start exercising – a workout backpack.

“The mere act of writing a challenge may trigger your mind to create something meaningful to fill in the gaps and solve it.”

Michael Michalko

LESSON #4:

REVERSE THE OBVIOUS

Reversing, or questioning what we take for granted, will not only broaden your thinking. It will force you to come up with innovative solutions to common problems.

Now, we rarely buy new cars before we test them first. But it wasn't like that years ago. It was assumed that you had to first buy a car and then drive it. Alfred Sloan, when he took over General Motors, reversed this idea by allowing people to buy a car *while* driving it.

This idea is now everywhere we look.

You don't have to first purchase an account with a hosting provider to create a site. You can create a site first, and when it's ready, you can start paying.

Also, most online services give free access for a certain period of

time so you can test them and then decide if you want to commit or not.

One of the best examples from the book of how to reverse the obvious is in relation to a restaurant.

The common assumptions about restaurants are that:

- Restaurants have menus.
- Restaurants charge money for serving food.
- Restaurants are about serving food.

The suggested reversal would be:

- No menus in a restaurant.
- Free food in the restaurant.
- No food is served in the restaurant.

The next part of the idea is to ask yourself: How to accomplish each reversal?

The author provides us with a list of brilliant solutions.

Here they are:

No menus in a restaurant:

Idea: The chef informs each customer what he bought that day at the meat, fish, and vegetable markets. He asks the customer to select items that he or she finds appealing and creates a dish with

those items, specifically for that customer.

Free food in the restaurant:

Idea: An outdoor cafe where customers pay for time instead of food. Use a time stamp and charge by the minute. Selected food items and beverages are free or sold at cost.

No food is served in the restaurant:

Idea: Create a restaurant with a unique decor in an exotic environment and rent out the location. People bring their own food and beverages (picnic baskets, etc.) and pay a service charge for the location.

Lastly, you can take one of the ideas and create a full-flesh working model.

Think about the details. The marketing. How the day-to-day life of such a business will look like.

The reversal exercise shakes the ground underneath and allows you to come up with provocative ways of doing familiar things.

LESSON #5:

SLICE AND DICE CREATIVE STRATEGY

To improve a specific product. Or to come up with good new ideas to solve a specific problem. It's much easier – and potentially way better. If you slice the problem into separable parts.

Commonly, to increase sales of a product. Companies tend to lower the prices or provide more for the same price. While these work, everybody is doing them.

The slice and dice strategy is listing the main attributes of a product. Then, thinking about how you can improve each specific part of the product. By focusing your thinking on each individual piece at a time, you come up with elegant ways to differentiate yourself from the market.

For instance, the attributes of an ordinary screwdriver are the following:

- Round.
- Steel shank.
- Wooden handle.
- Wedge-shaped end.
- Manually operated. You have to twist it.
- Used for tightening and loosening screws.

To come up with a new and innovative screwdriver. You can focus on all the attributes one at a time.

By asking questions like:

- How this attribute can be improved?
- Why does this have to be this way?

You can find amazing ways to enhance a product.

For instance, let's focus on the handle. The handle of a screwdriver is usually large enough for one hand. However, AB Bacho Tools of Sweden discovered that most people use their two hands. After this observation, they created a screwdriver with a handle large enough for both hands and called it Bacho Ergo screwdriver.

Another component is that you have to manually twist the screwdriver to tighten a screw. Well, there are now tools that are with batteries and save you strength.

In a similar way. By describing all the functions and attributes of an object. You can find new solutions.

Why is this important?

If you try to make a bicycle better, for example. And if you think about the bicycle as a whole. It will be easy to miss something worth changing. If, conversely, you list all the major components of a bicycle: frame, handlebars, pedals, tires, chain, etc. When you concentrate on each specific component. You can more easily come up with fresh new ideas to make the bicycle better one part at a time.

“Slice and Dice forces you to methodically rotate your attention to each attribute, one at a time. Even trivial attributes sometimes provide the clue to a solution... Tiny improvements in a thousand places can lead to an innovation in almost any product or service. When you pay attention to attributes and improve them one by one you build a wave of ideas, drop by drop.” Michael Michalko

LESSON #6:

GENERATE IDEAS WITH ANALOGIES

When we see an unfamiliar object. Our mind enters discovery mode. It tries to associate something you see for the first time with something you have seen a thousand times.

This is something we do unconsciously. And this human heuristic can be used to generate new ideas.

One great example shared in the book is about a nightclub trying to come up with a cool new idea for the grand opening of the club.

They started generating ideas with the following analogy: “An invitation like an aspirin.”

How can you make an aspirin relate to an invitation to a nightclub?

Well, they created a pill-like invitation. They placed a blue pill

inside a velvet ring box. Inside the box, besides the pill. There was a short message saying that you should drop the pill into hot water and stir. When immersed, a message appeared on the top of the glass stating the date, time, and location of the grand opening.

Looking for creative ideas in items totally unrelated to your field is by far one of the best ways to come up with something unique.

Here are a couple of examples to use this Thinkertoy based on analogies:

- **Personal analogy:** If you want to design a billboard, ask yourself: “How would I feel if I were a billboard? What would I want to do? What would my problems be? What would I worry about?” Obviously, your greatest worry will be – are others noticing me? Taking this into consideration, you can design a provocative billboard with a phone number. The personal analogy exercise will place you in the center of the problem. Helping you see things from the right perspective.
- **Direct analogy:** The direct analogy works in a very simple fashion. The thinking involved here goes like this: “If X works in a certain way. It should be possible for Y to work similarly, right?” For example, Joseph Monier created durable flowerpots by mixing a wire mesh and a mortar shell. This same technique was later adopted for building tall buildings. To use the direct analogy, you can take an object and think about the ways it will help you solve your problems. Look for similarities but try to combine distance elements. Say you want to sell more lumber. You can take the word “computers” – totally unrelated, at

first. One idea is to create software that allows you to design a wooden construction while calculating how much lumber you need to build it.

- **Fantasy analogy:** The fantasy analogy is about thinking without borders. Imagine a world where your problem is solved in the best possible way. There are no limitations. And if there are no limits, how would you solve the problem? A major obstacle in relation to generating ideas is our limiting beliefs. We know that we can't freely float because of the atmosphere. But artists are not constrained by physical laws. They can first imagine things and then think about how these imaginations can fit into the reality they are existing.

“Becoming an observer will permit you to stand back from your challenge and obtain both physical and psychological distance. How important does any problem seem, for example, when viewed from Mars?” Michael Michalko

LESSON #7:

THINK LIKE A CHILD AGAIN

Today, a common misconception when people discuss ideas is the notion that what you say should dominate. Should prevail in the conversation.

This is especially true in strong hierarchical organizations.

For instance, people tend to accept – without a lot of thinking. The ideas of the most senior person in the room. In contrast, if you are younger, a junior. What you say often doesn't matter.

Ancient Greeks did things differently. Some of the most acknowledged philosophers from the past – think Socrates – gathered frequently forming a fellowship. These ancient thinkers believed in the free exchange of ideas. Having a dialogue with others helped you shape your thinking. For the Greeks, though, the goal wasn't to change your thinking.

Greeks paid attention to what everyone said. But they weren't trying to win the conversation. Socrates and his friends created a set of principles known as "Koinonia", which means "spirit of fellowship." The created tenets were to establish a dialogue, be collegial, clarify your thinking, and be honest.

As kids, we are not afraid to speak up. To say what we think. As we grow up, however. We learn to obey older people. To follow the rules and don't ask a lot of questions.

As Pablo Picasso once said: "Every child is an artist. The problem is how to remain an artist once we grow up."

As an aid, besides the principles established by the Greeks.

A strategy shared in the book is called Raw Creativity.

The goal is to free your mind. To not let common constraints block you from using your brain. Constraints that are inherent in systems like our jobs, established designs, or the way we usually think.

An example to use this technique is based on how Martin Skalski, a transportation design director at Pratt Institute. Teaches his students to tackle problems.

If a new automobile design is needed, he doesn't tell his students to think about designing a car. This is too limiting. If the main objective is directly communicated - to design a car. Students will explore the designs of already existing automobiles, limiting their

imagination.

Instead, he focuses his students by approaching the task from an essential direction.

The instructions, therefore, are to design compositions of things in motion. Presented this way, you are no longer limited to *just* thinking about a car. You think about a moving object in general. As the students work, with time, the teacher makes things less abstract. Eventually, what is actually needed – a form of transportation – is discussed and worked as a final model.

The same approach uses a famous architect and designer – Arthur Ericson. For example, he asked his co-worker to generate a list of how to store things, a list of how to stack things, and a list of how to organize large objects. After these lists were ready, he presented the real problem: “Using the ideas from the three lists, how can we design a parking garage?”

“Suppose you want to improve the design of the umbrella. The essence of an umbrella is protection from the rain. When you examine the essence, you are likely to explore more creative possibilities for rain protection, such as a new kind of raincoat or even a new type of town design where there are arcades everywhere and umbrellas are no longer required.” Michael Michalko

ACTIONABLE NOTES:

- **Become a creative person:** It's not enough to just have the intention of becoming a creative person, a writer, a cyclist, or whatever. To transform into the person you want to be. You should act like an idea person. As you should write if you want to become a writer. Or cycle if you want to be a cyclist. You should generate ideas if you want to become a creative person. Here are three exercises to add to your daily routine that will empower your creativity:
 - **Idea quota:** Set a daily quota for coming up with new ideas. While you'll surely struggle the first few days. After that, as you generate ideas. You'll more easily come up with original solutions.
 - **Getting tone:** Throughout our days we look at tons of information, but we don't see. We just skim. Make it a habit to pay attention to the details. What are the repeating patterns? What is not so obvious?
 - **Brainbanks:** Collect interesting quotes, designs, questions, and basically everything you consider exciting in a specific file, note-taking app, or notebook. Then, when you are looking for new ideas. Simply open your brainbank.
- **Stay longer with problems:** Great ideas usually come to fruition when you stay with one specific problem for a long period of time. Otto Frederick Rohwedder was irritated that he had to slice his bread – by hand. That's why, he spent sixteen years of his life inventing what we now call the automatic bread slicer. No one was interested in his idea for years until 1930. Three years later,

about 80 percent of bread in stores was presliced. When you stay with a specific issue longer. Your mind gets laser focused and produces a bag of ideas that are aimed to make the situation better. Besides, there is no reason to believe that the first answer or solution you come up with for a particular problem is the best. So, pick one problem. Something that annoys you and stay with it for at least a month. Write down your solutions and see where this will take you.

- **Circle of opportunity:** The circle of opportunity Thinkertoy is a game-like way to generate new ideas. Here are the components: 1) State the challenge you want to solve. 2) Draw a circle resembling a clock – with numbers from 1 to 12. 3) Choose 12 different attributes – each attribute can be color, shape, density, function, etc. 4) Throw a die two times to see which attributes you will work with. 5) Consider the selection both separately and combined. 6) Think about how you can combine the components. For example, an airport shop wanted to increase sales. Using the Circle game, they ended up working with the words “round” and “elastic”. With this idea in mind, they cleared some space in the shop for a golf game where players hit the golf balls into an elastic net.
- **The “what if” game:** It’s nearly impossible to create great ideas if you’re not thinking on the verge of absurdity. Great innovations sprung from crazy, at first, concepts. That’s exactly what the “what if” game is. Trying to answer crazy questions. Questions like: “What if you could lose weight by writing down the number of pounds you want to lose?” The idea related to this question is about software motivating people to lose weight by showing them how they will look based on the desired entered weight. When you give yourself space to generate “crazy” ideas. You enter a special state of mind. You push the boundaries and your mind

starts to create all kinds of weird concepts. And precisely weird is what we need to find something new and original.

- **Ask a crab:** A Japanese perfume company wanted to prepare for potential poor economic times. To come up with interesting ideas, the CEO gave his executives a picture of a king crab and instructed them to generate ideas based on the picture that can be applied to their business. Some connections were: “A crab can rejuvenate lost claws. We must develop backup product lines in case our primary line falters; A crab can see 360 degrees. We must improve our market intelligence; A crab has distinct features. We need to develop a distinctive package that differentiates our perfume more clearly.” The goal of the “Ask a crab” technique can be applied with pictures of other things. The point is to brainstorm ideas by letting your imagination make unobvious connections and thinking about how they can be applied in the real world.

COMMENTARY

It's hard to define this book.

Is it a business book? Yes, it's full of ways to generate new business ideas along with insights on how to improve already working ones.

Is it a creative book? Yes. It's full of ways to poke your creative spirit and make it more alive.

Essentially, though, it's a book about thinking.

The author offers endless exercises to stretch your limited imagination. To find new avenues and explore what previously seemed unexplorable.

All of this, empowering your thinking and making you more imaginative.

It's not a book you should simply read. It's a book you should practice.

There are thirty-nine chapters in the book. Each offering a unique set of creative ways to generate new ideas. New ways to think differently about the everyday problems we are facing.

As you go through the pages, ideas will appear almost involuntarily. The more you generate. The more you will expand the boundaries of what is possible.

Thinkertoys will literally stretch and flex your mental muscles, allowing you to view challenges in a new light.

I highly recommend the book, not only to people who want to pour a dose of originality into their unoriginal minds. But also for people who want to alter their thinking in a good way.

Key takeaway:

Don't limit yourself to your first idea. It's a disaster for your imagination – and bank account. The best way to reach a great idea is to generate as many ideas as possible.

NOTABLE QUOTES:

“Many people carry that idiom over into creative thinking. As soon as they have an answer, they stop thinking. They are satisfied with the first answer that comes along. Reality, though, is different from arithmetic. Some answers are better than others: They cost less, afford more status, are made better, easier to use, more aesthetic, are easier to install, or whatever. There is no reason for supposing that the first answer is the best one.” Michael Michalko

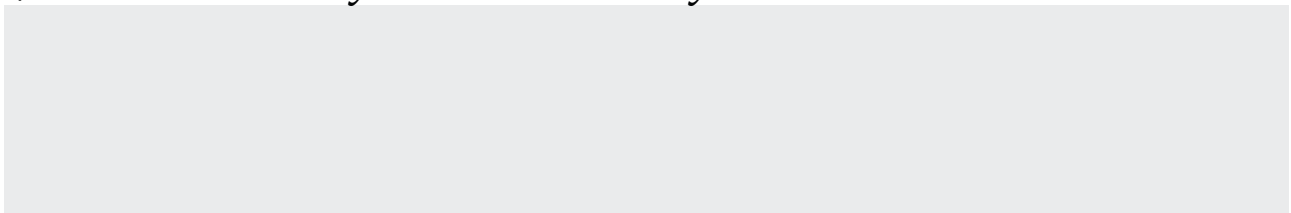
“Think of your business as a pot with two handles. One handle represents the nature of your business today, the other represents what your business will be in the future. To hold the pot steady, you have to grasp both handles by asking: ‘What is the nature of my business?’ and ‘What should my business be?’” Michael Michalko

*“We have a raw natural talent to interpret the essences of things. This raw talent is why we’re all creative as children. A box could be a fort, a car, a tank, a cave, a house, something to draw on, and even a spaceship. When we were kids, our imaginations were not structured or restrained by rules and constraints of logic. We did not strive to eliminate possibilities – we strove to expand them.”
Michael Michalko*

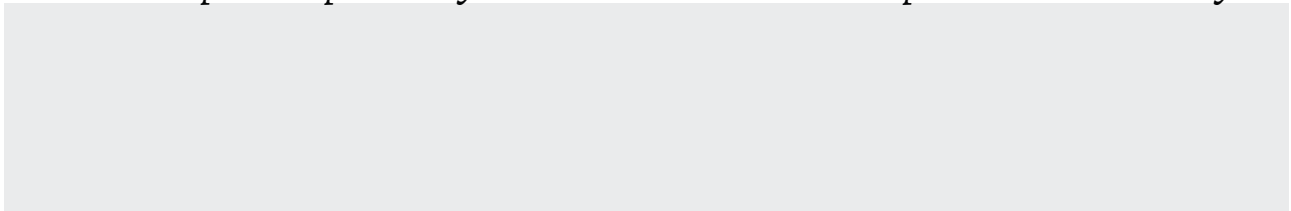
WORKSHEET

Reading alone won't help you understand the actionable notes. You need to engage with the content. Answer the question below to plan your next steps:

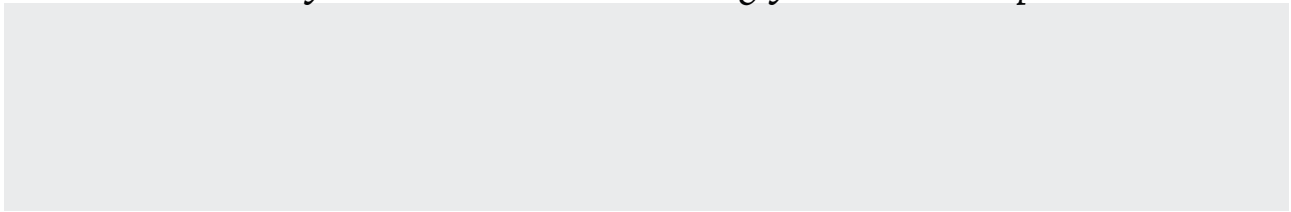
1/ Look around. What you haven't noticed in your current environment?



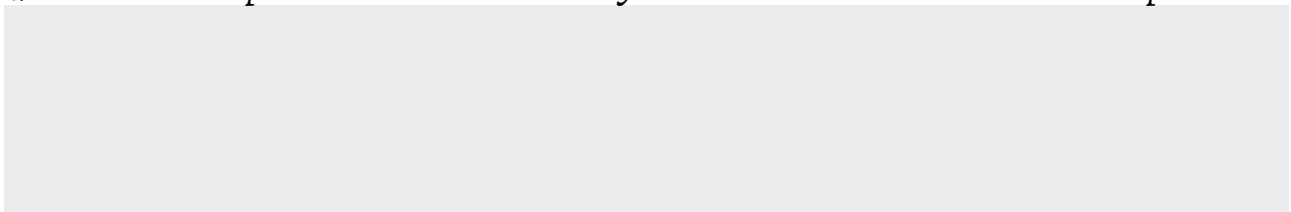
2/ List an important problem you want to solve and come up with solutions daily:



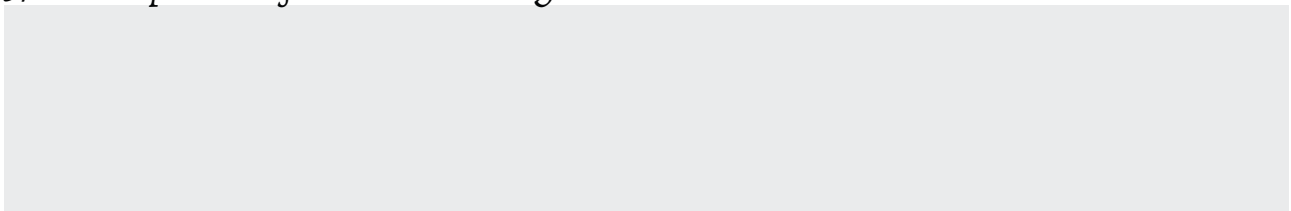
3/ Think about how you can combine two seemingly unrelated components/ideas:



4/ You need rain protection - not necessarily a novel umbrella. What's the core problem?



5/ Take a picture of an animal and generate ideas based on its characteristics:



THANKS FOR READING!

Ivaylo Durmonski

