The SCAMPER Technique for Brainstorming

Idea Checklists are an easy way to improve your ideas during a brainstorming session. The acronym S.C.A.M.P.E.R. is designed to provide triggers for new ideas. Teach your team this technique, and they'll generate more creative ideas.

"Given the ideas we already have, is there a way to…"

S is for **Substitute**   To replace one person or thing with another. Can we make a substitution in one of our ideas to make a new idea? What to replace? What to replace it with? Some other place? Some other time?

C is for **Combine**   To bring together, add, or unite. Can we put solution features together? Can we blend ideas we already have? Combine goals? Combine items? Combine materials? Combine tasks?

A is for **Adapt**   To adjust or modify in order to fit to a particular condition or purpose. Can we adapt any of our ideas to new conditions or purposes?

M is for **Modify**   To alter in form or quality. Can we change the meaning, the color, the motion, the sound, the emotion, the shape, or the words, to get a new idea? Can we Magnify, to make it bigger or stronger? Minimize, to make it smaller or lighter or quicker? What can we add? What can we subtract?

P is for **Portion**   A part of the whole. Can we take a piece of some other idea, and use it separately? Are there portions of our solution that are not contributing to the goals?

E is for **Exchange**   To swap places or roles. Are there features in our solution that would work better if we swapped their positions, their roles, their colors, their order in the script?

R is for **Reverse**   To face or move in the opposite direction. Are there ideas that we can turn around, to get new ideas? Turn them upside down? Inside out? Do them **sdrawkcab**?

DIAMOND BRAINSTORMING METHOD:
A TOOL FOR IDEA GENERATION

Any group attempting to create great things must first start with small ideas and build upon them. Odyssey teams often need to learn how to brainstorm ideas, then how to discuss them, and, finally, how to narrow them down to ones that are practical. At the same time, they must learn to respect each other's ideas and be willing to give up individual ideas for the success of the group.

The Diamond Brainstorming Method is a visual method that encourages as many ideas as possible. Teams build one idea from another, and all ideas are listed as they "pop out" of the team members' heads, no matter how "impossible" they seem. Also, by building up ideas one at a time and narrowing them down one at time, the method encourages team members to relinquish ownership of ideas, so no one's feelings are hurt by rejection during later discussion. The visual quality of this appeals particularly to younger teams who can "see" their ideas taking shape.

MATERIALS: A large chart, newsprint pad, blackboard, or white board; markers or pens; and eager team members wanting to share ideas.

FORMAT: Team members sit in chairs or on the floor, with one person recording ideas. (The coach may record the ideas, but he/she must write down the teams' exact words.)

PROCEDURE:

1. Team members pose a question, such as, What would be the best way to do 'X', or, How can we make 'Y', or, What should 'Z' look like? Note: The team members must generate the questions themselves, and the questions should be general and open-ended. A coach may help the team determine exactly what it is they want to brainstorm by asking questions such as, What is the problem you are trying to figure out?

2. All the team members brainstorm answers to the question, and someone suggests his/her idea, and the recorder writes it down on the board or chart.

3. A second member gives an idea, and it is written down with the first one just below the first idea, so that the ideas begin to fill in the top half of the diamond shape (see Row A). Ideas are repeated on each line; the widest part of the diamond displays ALL the team's ideas.

4. After the team members come up with all possible ideas (as few as 4 or 5, or as many as 10 or 15) they then begin, through discussion, to narrow down the possibilities by eliminating one at a time as shown in Row B. They could even combine two or more separate ideas to determine the final one. Hopefully, they'll come to an agreement on their favorite idea without voting -- and without argument!

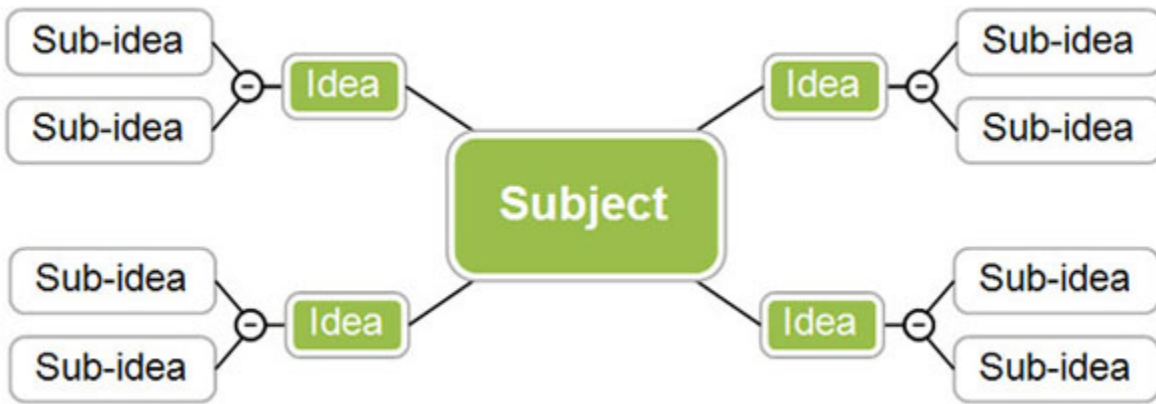**Remember: Only constructive criticism is ever allowed!**

Row A: Idea Generation
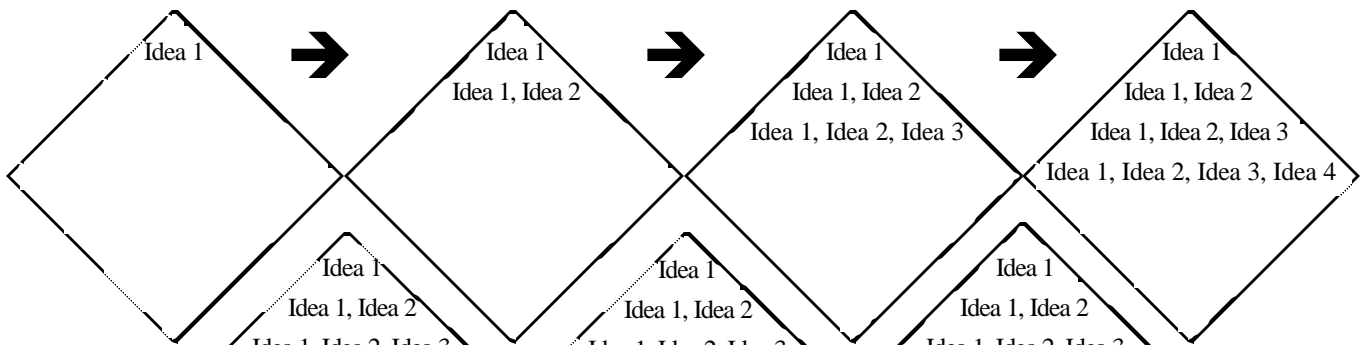
Row B: Idea Elimination

Final Idea = Idea 2
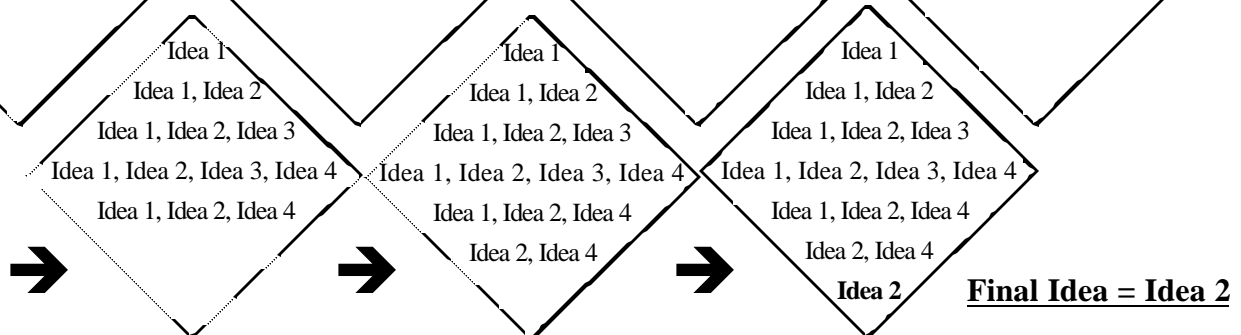
Mind Map

A **mind map** is a diagram for representing tasks, words, concepts, or items linked to and arranged around a central concept or subject.

A mind map uses a non-linear graphical layout that allows the user to build an intuitive framework around a central concept. A mind map can turn long list of monotonous information into a colorful, memorable and highly organized diagram that works in line with your brain's natural way of doing things.
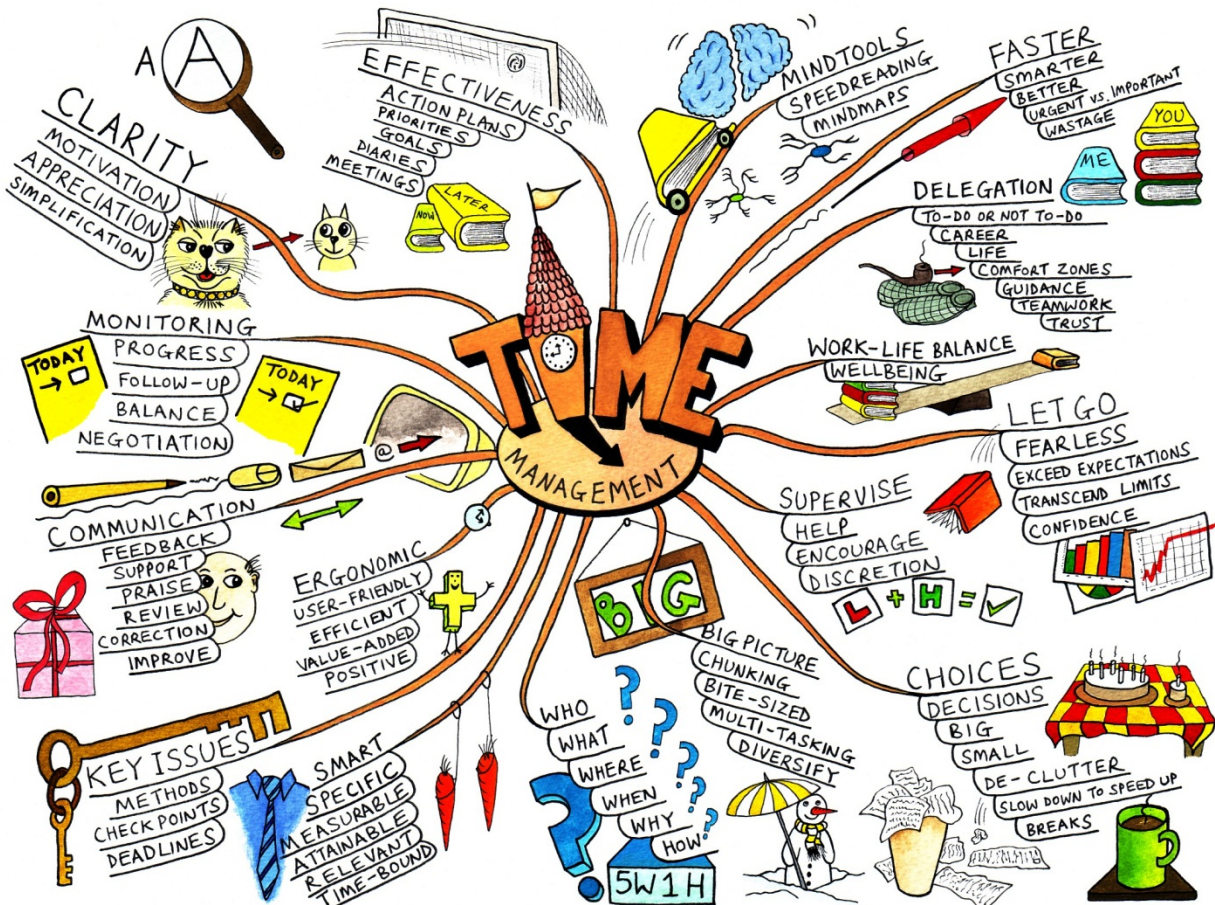
Random Word

Welcome to the Random Word technique, the most basic and obviously creative technique where you use a random word (hence the name!) to generate new ideas. By getting a random word as a prompt and forcing yourself to use it to solve your problem, you are practically guaranteed to attack the problem from a different direction to normal. You take a word from a random word generator, extract its underlying principles and then apply them to your problem to see how they can help. The skill is stopping your mind from (a) thinking this is silly and (b) directly using the actual principles behind the word to your problem without changing them to ones which are easier to apply.

The first thing you need is the random word itself which is classed as the **initial stimulus**. Next, you establish a **bridging idea**, which is an idea based on the stimulus. This is used, as the name implies, as a bridge between the stimulus and an idea which you could actually use on your problem.

Quick example 1:

Using the random word "**Balloon**" in the context of new ideas about **cars**.

A bridging idea could be that you inflate the balloon under the car. The advantages of this would be that the car jack would not puncture rusty cars and that cars could be raised on soft ground.

The resulting final idea could be to have a car jack which spreads its force more evenly under the car and onto the ground.

Quick example 2:

Using a random word of "**Spacecraft**" in the context of new ideas about **kitchens**.

A bridging idea would be to consider what would happen if the kitchen was in space and what would happen because of gravity.

The resulting idea could lead to the fact that you would need to stop the pans from floating off the cooker/hob. This could lead to using magnets to hold the pans on (back on the earth's surface). This would stop small children from accidentally pulling the hot pans onto themselves. Or how about using a magnetic field to heat the pan?

Where you get the random word is up to you. The quickest and most random way to get one is by using computer software. If you don't have that, flip though a dictionary and stop randomly, or pick a random page, paragraph and word from a general interest magazine.

Escapism

With Escapism you can propose the wildest, most outrageous and preposterous things you can imagine. You use true escapism where there are no morals, rules, etiquette, laws or standards. You escape the physical limitations of the world to see what your ultimate solution would be. You should not limit yourself by anything except your own imagination, and even this you should push.

Your mission in this technique is to write down the wildest, most ridiculous, stupid, wacky ideas you can come up with to solve the problem. They do not have to be practical, possible, or even sensible.

Once you have done this, and only when you have finished, should you look back at the ideas you have generated. Then you should look for ways in which all or part of these ideas could be made practical. Think of the benefits you could gain by using the idea and work out how you can achieve the same thing in reality. How could you modify the suggested solution to make it work? How could you get the same effect? What changes in the world would you need to make the idea possible and how can you make those changes happen?

Example of using Escapism:

The problem is: Preventing burglary

Stimulus: Use bananas

Bridging Idea: Banana skins are very slippery and hard to hold (in theory).

> **Potential solution:** Make a door lock that rotates freely except with a special holding device unique to each door. Only by using a special device can you unlock the door.

Bridging Idea: Bananas shoot out of their skins when you squeeze them too hard.

> **Potential solution:** Make a burglar alarm which shoots a sign up and down on top of the roof to attract attention. You could even make it say which side of the house is being burgled so that people walking in front of the house know that the house has been broken into from the back where they cannot see it.

Stimulus: Have a crossbow which shoots intruders in the head when they come through the front door.

Bridging idea: Have something at the front door which stops them when they enter.

> **Potential solution:** Have an electronic camera which takes photos of everyone that enters the house and either stores it on a disk in the loft or sends all photos directly to the police (who only look at them as necessary).

Brainwriting

As in traditional brainstorming, in Brainwriting everyone sits at a table together to simultaneously tackle a problem. **The difference is that in Brainwriting each participant thinks and records ideas individually, without any verbal interaction.** As we'll see, this small change results in a fundamental difference in the idea generation effectiveness.

Here are the steps in a typical Brainwriting session:

1. Participants sit around a table and each one gets a sheet of paper with the same problem statement written at the top. Just like in traditional brainstorming, you also need a moderator for the session.
2. At the moderator's signal, **each participant has 3 minutes to write down 3 ideas on the sheet of paper**. Just like in traditional brainstorming, the ideas should always go unedited. The difference is that now they are being recorded in private. The number of ideas and duration can vary, but I found that "three ideas every three minutes" works particularly well.
3. When time is up (or when everybody's done), **each participant passes the sheet of paper to the participant to the left.**
4. Each participant now reads the ideas that were previously written and a new three-minute round starts. Each participant must again come up with three new ideas. Participants are free to use the ideas already on the sheet as triggers — or to ignore them altogether.
5. Lather, rinse, repeat. The group can agree to stop after a fixed number of rounds (such as when sheets come to a full turn around the table) or when participants feel that contributions are exhausted.
6. After the idea-gathering phase is completed, the ideas are read, discussed and consolidated with the help of the moderator, just like in traditional brainstorming.

So, what does this small change of having the ideas written, instead of spoken accomplish?

- The amount of ideas generated can be amazing. Since ideas are generated simultaneously, participants never get to block each other. With everyone generating 3 ideas every 3 minutes, a group of 5 people is able to produce 100 ideas in 20 minutes.
- Participants still get to cross-pollinate and build on each other's ideas. That is, they still get the benefits of brainstorming in a group, while avoiding its main shortcomings.
- Ideas are recorded the moment you get them: no ideas are lost while you wait for a chance to speak.
- No one gets overshadowed and everybody contributes equally, regardless of personality type or personal agenda.
- Ideas are contributed in private. In less mature environments, there's no fear of being openly judged by other participants. The ideas can be kept anonymous and participants have freedom to be truly wild with their ideas.
- Everyone's given a clear task: to fulfill a specific idea quota in a specific time frame. The quota adds an element of healthy pressure that can help unlock your creativity, as it can be seen as a fun challenge.