## [SCAMPER thinking\*](http://www.icaf.org/kidzone/funstuff/scamper.html#credit)

Sometimes you need to approach a problem from many different angles before you find a solution. SCAMPER is a method for creative thinking that people use to solve problems and stretch their minds. Each letter in the word stands for a reminder for another way to generate ideas. Think of an idea, process or object and then:

**S** ubstitute some aspect of it

**C** ombine elements with something else

**A** dapt or Alter an aspect of it

**M** inimize, Magnify or Multiply an aspect of it

**P** ut some part of it to other uses

**E** liminate an aspect of it

**R** everse an aspect of it

For example...

Think of a spoon.

Substitute flexible wire for the handle. You could tie it to your foot and eat!

Combine a spoon with a fork to create a utensil good for poking food and eating soup (wait, hasn't that been done before?)

Adapt the spoon to eating tall glasses of ice cream - make the handle much longer!

Magnify the spoon and you could have a huge shiny water slide!

Put the spoon to another use: you could use it as a musical instrument or as part of a wind chime.

Eliminate some parts of the bowl of the spoon and you can use it as a strainer.

Reverse the way you hold the spoon and you could have a round-handled tool for sculpting or marking clay.

\* This creative idea is adapted from Robert Alan Black's site, [Creativity Challenges](http://www.athens.net/~merrybeing/CC/index.html).

Using the SCAMPER method developed by Alex Osborn and Bob Eberle encourages creativity, not only through CPS, but for any classroom assignment.  SCAMPER is an acronym standing for:

**S**ubstitute

**C**ombine

**A**dd or Adapt

**M**agnify, Minimize, Modify

**P**ut to other uses

**E**liminate

**R**everse or Rearrange

Using SCAMPER, a classroom teacher can encourage students to look at curriculum in new ways.  A very basic example of SCAMPERing follows:

²

Pretend you have a cardboard box on the floor filled with clothes. For what else could you use the box?

**Substitute** - Take the clothes out and put in toys to make a toy box.

**Combine** - Add wheels and make a wagon.

**Adapt** - Add a rope so that it can be pulled.

**Modify** - Paint it.

**Put it to other uses** - Haul old to the car to take to Goodwill

**Eliminate** - Eliminate the wheels so that it can be stored.

**Rearrange Parts** - Make it into a toy refrigerator and use the flaps for shelves

Here is another example of an assignment a teacher created to use in the classroom while studying the Civil War.

**Substitute** - General Eisenhower for General Lee

**Combine** - Knowledge of Civil War and html language to create a webpage

**Add** - What if the radio had been invented at this time?

**Magnify** - What if the war had lasted for 10 years?

**Put to other uses** - How could the hoops under ladies dresses be used?

**Eliminate** - What if we eliminate slavery as an issue for the war?

**Reverse** - What if the South had won the war?

In the two examples given, all of the letters of SCAMPER have an activity assigned to the letter.  However, a teacher may certainly pick and choose the SCAMPER verbs that suit the topic being studied.  For example, if a teacher was involved in a math unit on fact families, the teacher could have the students substitute a new number(s) for a number used in their lesson, or could ask students to reverse a equation.

# [Creative Problem Solving with SCAMPER](http://litemind.com/scamper/)

Published

by

[Luciano Passuello](http://litemind.com/author/admin/)

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in [Creativity](http://litemind.com/category/creativity/) and [Problem Solving](http://litemind.com/category/problem-solving/)

. [15 Comments](http://litemind.com/scamper/#comments) Tags: [Creativity](http://litemind.com/tag/creativity/), [Problem Solving](http://litemind.com/tag/problem-solving/).



SCAMPER is a technique you can use to spark your creativity and help you overcome any challenge you may be facing. In essence, SCAMPER is a general-purpose checklist with idea-spurring questions — which is both easy to use and surprisingly powerful.

In this posting, I present a complete SCAMPER primer, along with two free creativity-boosting resources: a downloadable reference mind map and an online tool that generates random questions to get you out of a rut whenever you need.

## SCAMPER Reference

You will find below a comprehensive help guide to using SCAMPER. There are more than 60 questions that can be asked, along with almost 200 words and expressions you can create associations with.

### SubstituteSubstitute

Think about replacing part of the problem, product or process with something else. By looking for replacements you can often come up with new ideas. You can change things, places, procedures, people, ideas, and even emotions.

#### Helper Questions

* Can I replace or change any parts?
* Can I replace someone involved?
* Can the rules be changed?
* Can I use other ingredients or materials?
* Can I use other processes or procedures?
* Can I change its shape?
* Can I change its color, roughness, sound or smell?
* What if I change its name?
* Can I substitute one part for another?
* Can I use this idea in a different place?
* Can I change my feelings or attitude towards it?

#### Trigger Words

alternate, colorize, exchange, fill in for, locum, proxy, relieve, rename, repackage, replace, reposition, reserve, shape, stand in for, surrogate, swap, switch, take the place of

### SubstituteCombine

Think about combining two or more parts of your problem to create a different product or process or to enhance their synergy. A great deal of creative thinking involves combining previously unrelated ideas, goods, or services to create something new.

#### Helper Questions

* What ideas or parts can be combined?
* Can I combine or recombine its parts’ purposes?
* Can I combine or merge it with other objects?
* What can be combined to maximize the number of uses?
* What materials could be combined?
* Can I combine different talents to improve it?

#### Trigger Words

amalgamate, become one, blend, bring together, coalesce, come together, commingle, conjoin, fuse, intermix, join, link, merge, mingle, mix, package, relate, unite

### AdaptAdapt

Think about adapting an existing idea to solve your problem. The solution of your problem is probably out there already. Bear in mind that all new ideas or inventions are borrowed to some degree.

#### Helper Questions

* What else is like it?
* Is there something similar to it, but in a different context?
* Does the past offer any lessons with similar ideas?
* What other ideas does it suggest?
* What could I copy, borrow or steal?
* Whom could I emulate?
* What ideas could I incorporate?
* What processes can be adapted?
* What different contexts can I put my concept in?
* What ideas outside my field can I incorporate?

#### Trigger Words

acclimatize, adapt oneself, adapt, adjust, alter, amend, become accustomed, bend, change, conform, contextualize, copy, emulate, familiarize, find your feet, fit, get a feel for, get used to, incorporate, make suitable, match, modify, readjust, refashion, revise, rework, settle in, transform, vary

### MagnifyMagnify

Think about ways to magnify or exaggerate your idea. Magnifying your idea or parts of it may increase its perceived value or give you new insights about what components are most important.

#### Helper Questions

* What can be magnified or made larger?
* What can be exaggerated or overstated?
* What can be made higher, bigger or stronger?
* Can I increase its frequency?
* What can be duplicated? Can I make multiple copies?
* Can I add extra features or somehow add extra value?

#### Trigger Words

amplify, augment, boost, enlarge, expand, extend, grow, heighten, increase, intensify, lengthen, make seem more important, multiply, overemphasize, overstress, raise, strenghten, stretch out

### Put to Other UsesPut to Other Uses

Think of how you might be able to put your current idea to other uses, or think of what you could reuse from somewhere else in order to solve your own problem. Many times, an idea only becomes great when applied differently than first imagined.

#### Helper Questions

* What else can it be used for?
* Can it be used by people other than those it was originally intended for?
* How would a child use it? An older person?
* How would people with different disabilities use it?
* Are there new ways to use it in its current shape or form?
* Are there other possible uses if it’s modified?
* If I knew nothing about it, would I figure out the purpose of this idea?
* Can I use this idea in other markets or industries?

#### Trigger Words

abuse, apply, avail yourself of, behave, benefit, bring into play, contextualize, deplete, draw on consume, employ, enjoy, exercise, exhaust, expend, exploit, get through, handle, luxuriate, make use of, manage, manipulate, mistreat, operate, reposition, source, spend, take advantage of, take pleasure in, tap, treat, use up, utilize, waste, wear out, work

### EliminateEliminate (or Minify)

Think of what might happen if you eliminated or minimized parts of your idea. Simplify, reduce or eliminate components. Through repeated trimming of ideas, objects, and processes, you can gradually narrow your challenge down to that part or function that is most important.

#### Helper Questions

* How can I simplify it?
* What parts can be removed without altering its function?
* What’s non-essential or unnecessary?
* Can the rules be eliminated?
* What if I made it smaller?
* What feature can I understate or omit?
* Should I split it into different parts?
* Can I compact or make it smaller?

#### Trigger Words

abolish, control, curb, destroy, disregard, do away with, eradicate, exclude, excrete, expel, exterminate, get rid of, jettison, kill, lessen, limit, liquidate, lower, moderate, modulate, pass, play down, purge, reduce, reject, remove, restraint, restrict, shorten, simplify, temper, throw out, tone down, underemphasize, waste, wipe out

### RearrangeRearrange (or Reverse)

Think of what you would do if part of your problem, product or process worked in reverse or were done in a different order.

#### Helper Questions

* What other arrangement might be better?
* Can I interchange components?
* Are there other patterns, layouts or sequences I can use?
* Can I transpose cause and effect?
* Can I change pace or change the schedule of delivery?
* Can I transpose positives and negatives?
* Should I turn it around? Up instead of down? Down instead of up?
* What if I consider it backwards?
* What if I try doing the exact opposite of what I originally intended?

#### Trigger Words

adjourn, annul, back up, change the date, change, delay, drive backward, go backward, invalidate, invert, move backward, move, overturn, postpone, put off, quash, readjust, rearrange, relocate, render null and void, reorder, reorganize, repeal, reposition, reschedule, reshuffle, retreat, swap, switch, transpose, turn around, undo, withdraw

(icons by [*Everaldo Coelho*](http://www.everaldo.com/))

## SCAMPER Resources

### 1. SCAMPER Random Question Tool



There are many ways to use SCAMPER. For example, you can sequentially go through all the questions in the previous section as fast as you can; or you can stay on each question until you think you exhausted all possibilities.

However, when it comes to creativity, getting random — and unexpected — input can really help your mind find a solution for that ‘impossible’ problem. With that in mind, as a companion to this article, I created the [SCAMPER Random Question Tool](http://litemind.com/scamper-tool/): it shows you an unexpected question drawn from all the SCAMPER questions in the previous section. Think about a problem that has been nagging you then give the tool a try to see how many options you can generate.

* [**SCAMPER Random Question Tool**](http://litemind.com/scamper-tool/)

### 2. SCAMPER Reference Mind Map



I’ve put together all the SCAMPER questions from the previous sections in a mind map, formatted for a single printed page. Think of it as a handy one-page reference you can use whenever you are stuck or just need a kick start to get your creative juices flowing.

* [**SCAMPER Reference Mind Map**](http://litemind.com/wp-content/uploads/misc/litemind-scamper-reference.pdf) [.pdf, 646 KB]

### 3. Thinkertoys Book



The best resource I know about SCAMPER is Michael Michalko’s wonderful book [Thinkertoys](http://www.amazon.com/exec/obidos/ASIN/1580087736/phaedrus0b): it has more than 40 pages dedicated to SCAMPER alone. Michael’s book is the most comprehensive creativity reference I have put my hands on: there are more than 40 creativity techniques that should suit every taste — from the most logic to the most intuitive types. **Highly recommended!**

* [**Thinkertoys: A Handbook of Creative-Thinking Techniques**](http://www.amazon.com/exec/obidos/ASIN/1580087736/phaedrus0b)

The following can be adapted for classroom use—have students plan their artwork by meeting an idea quota:

# [Get Mentally Fit with an Idea Quota](http://litemind.com/get-mentally-fit-with-an-idea-quota/)

Published

by

[Luciano Passuello](http://litemind.com/author/admin/)

on September 25, 2007

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. [8 Comments](http://litemind.com/get-mentally-fit-with-an-idea-quota/#comments) Tags: [Creativity](http://litemind.com/tag/creativity/).



The first step to have great ideas is to adopt an [attitude of having lots of ideas](http://litemind.com/6-tips-generate-outstanding-ideas/). Going further, there are some strategies we can use to dramatically increase the amount of ideas we generate. The **Idea Quota** is one of the simplest and most effective of them.

## The Idea Quota

I first learned about the Idea Quota through Michael Michalko’s excellent book [Thinkertoys](http://www.amazon.com/gp/product/1580087736?ie=UTF8&tag=phaedrus0b&linkCode=as2&camp=1789&creative=9325&creativeASIN=1580087736). Putting it simply, using an Idea Quota means **committing to have a predetermined number of ideas during the day**.

The point of committing to a quota is that it forces you to **actively pursue new ideas**. Instead of just waiting and hoping for ideas, you give your mind a specific challenge to work on — activating your creativity and directing it to a tangible goal.

Although you can use quotas without specifying a central theme for your ideas, the technique works best when you direct it to very specific needs, such as:

* a challenge you’re working on, either in your personal life or at work;
* an improvement you want to make in your life or business;
* finding answers to specific questions you have, either practical or more abstract.

## Pump Some (Mental) Iron

Just like in a physical workout, to grow your creativity muscles you have to constantly push your limits, even if just a little bit. Every time you do that, you expand your comfort zone and make it increasingly easier to have plenty of ideas.

[Thomas Edison](http://en.wikipedia.org/wiki/Thomas_edison), still the individual with the [most awarded patents](http://en.wikipedia.org/wiki/List_of_Edison_patents) to date, had ambitious targets for himself: he had an “invention quota” of nothing less than **a minor invention every ten days and a major invention every six months**.

Even if you don’t plan to be the next light bulb genius, the point is: **make sure your quota is challenging**. Edison firmly believed that he could never have gone so far without giving himself very aggressive targets. The lesson he gave us is that your expectations matter a lot: if you expect to have just a few ideas, you will settle the moment you reach that amount.

## How to Make the Idea Quota Work for You

### 1. Pay Attention to Your Problem Statement

**Be extremely careful when defining your challenge**: just by changing the way you state the problem, you will be able to greatly increase your idea output.

For example, when you define your challenge as “How to get a promotion”, what you may really mean is “How to earn more money” — or something entirely different, depending on your situation. By digging for your underlying motivations you avoid being distracted by situations that may be just transitory. By expanding your alternatives, you make the whole idea generation process much easier and more productive — but you also need to be careful not to make the problem too vague. Finding the sweet spot between not being too strict and not being too broad may not be easy, but it’s well worth the effort.

### 2. Honor Your Quota

Once you agree on a quota, **commit to it**. This is essential for the technique to work, as it shows you’re serious about getting that amount of ideas.

One general advice, especially valid to help you reac your quota, is to be prepared to write down ideas anywhere and at any time. By doing this, you won’t miss any ideas and will have a big head start against your daily goal. If you don’t reach your quota by taking notes throughout the day, then sit down at an appropriate time with the specific purpose of brainstorming ideas. Granted, when your creativity is low, this can be hard – but just like in a physical workout, it’s only by persisting that one can reap the greatest benefits.

### 3. Keep Ideas Flowing

When listing ideas, it’s important **not to judge or evaluate them**. The point of the technique is to come up with as many ideas as you can, so try to focus on the sole goal of reaching the quota you defined, leaving any form of analysis for later.

When in doubt about an idea, don’t get distracted by it — just write it down and move on. Two common examples of such distractions are: suspecting an idea is a duplicate of a previous one or believing the idea is completely unrelated to the subject at hand. Sure, don’t count those ideas for the quota if you prefer, but do write them down, as they may trigger other valid ideas.

### 4. Don’t Limit Yourself to the Quota

Sometimes, you’ll be right in the middle of a stream of ideas when you reach your quota. When that happens, **don’t stop because you reached your quota**. Always remember that the ultimate goal here is to have as many ideas as you can — the quota is just a guideline to help you reach that goal and should never be used to limit yourself in that regard.

Another common thought to avoid is that you should hold your ideas for tomorrow’s quota, instead of “using them up” in an already-filled quota. This only shows fear of running out of ideas, and it’s a strategy that always backfires later. Be aware that it is only by adopting a belief based on the abundance of ideas that you’ll be able to unleash your creativity’s full potential.

### 5. Have Fun!

To be fully creative, **you have to have fun**. Use your imagination to find out your own ways to make the Idea Quota always enjoyable. Here are a few suggestions:

* Work with many simultaneous challenges. Cycle them daily, or randomly draw them from a “Challenge Box”;
* Create some little incentives and rewards. Have them only after you reach your quota;
* Partner with someone and collaborate on a shared quota or compete against each other.

## Test Drive It

Although it may be impractical to be in “Idea Quota mode” all the time, I recommend you try it for at least a week for a specific problem or improvement you want to make. Don’t forget to be aggressive on the quota you set for yourself and you may be surprised about how many ideas you’re capable of having.

If you try it, please share your experiences in the comments section below. Did you struggle? Did you invent any new fun ways to do it? Did you combine it with a different technique of yours?

# [6 Tips to Generate Outstanding Ideas](http://litemind.com/6-tips-generate-outstanding-ideas/)

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What’s the secret creative geniuses share to come up with their remarkable ideas?

Even though idea generation may look like a somewhat mysterious and random process, there is a practical, simple lesson we can all apply to increase our chances of having great ideas.

## Connections, Connections, Connections

Everybody wants to have great ideas, but have you ever wondered **what an idea is?**

If you haven’t, take a few moments to think about it. The answer is probably simpler than you initially thought: **ideas are connections.**

Any idea, no matter how trivial, is an association between previous, established ideas. These connections happen in our minds all the time – often spontaneously and below our level of awareness.

Another interesting characteristic of these connections is that you can’t predict anything about them beforehand. Many times, ideas are formed by associating two completely unrelated concepts, and in unexpected or unusual ways. To create the movable type, [Gutenberg](http://en.wikipedia.org/wiki/Johannes_Gutenberg) connected the idea of the wine press and the coin stamp. To create the concept of a mass-circulation newspaper, [Joseph Pulitzer](http://en.wikipedia.org/wiki/Joseph_Pulitzer) combined large-scale advertising with high-speed printing. Great ideas may even seem to be random at times – but that doesn’t mean that there’s nothing you can do to develop them.

## Creativity and Productivity

Because of the randomness in idea generation, having great ideas is not a task that can be approached directly. The only way to increase the likelihood of having great ideas is to increase the amount of ideas that you have at your disposal to form connections. Ideas, no matter how simple, are the raw materials for higher-level ideas. The more ideas you have, the more material your mind will have to associate and generate a good one. Nobel prize-winner [Linus Pauling](http://en.wikipedia.org/wiki/Pauling) summarized this effective strategy in single a sentence:

**The best way to have a good idea is to have lots of ideas.**

Being prolific, then, is the key to have great ideas. In creativity matters, there’s no tradeoff between quantity and quality: **it is only through quantity that you get quality**.

We should abandon the myth of the genius that only has great ideas. It seems that every piece of work created by a genius is brilliant, but that happens because only their greatest creations get any publicity at all. The truth is that they could never have generated such brilliant creations without being tremendously productive. Consider these examples:

* [Einstein](http://en.wikipedia.org/wiki/Einstein) is famous for his theory of relativity, but he published 248 other papers.
* [Bach](http://en.wikipedia.org/wiki/Bach) wrote a cantata every week, even when ill or fatigued.
* [Mozart](http://en.wikipedia.org/wiki/Mozart) produced more than 600 musical works.
* [Thomas Edison](http://en.wikipedia.org/wiki/Thomas_edison) held nothing less than [1093 patents](http://en.wikipedia.org/wiki/List_of_Edison_patents). Imagine, then the amount of his non-patented work…

Another interesting fact about breakthrough ideas is that their quality is completely unrelated to the quality of other ideas by the same person. As a matter of fact, if you look at many geniuses’ most prolific periods, you’ll find a common pattern: it was exactly when they produced their masterpieces that they also produced their greatest failures.

Great innovators, then, don’t seem to care about having remarkable ideas: **all they care about is having ideas – any ideas, lots and lots of them, anywhere and at anytime.**

## How to Have Tons of Ideas

If the best way to get quality ideas is by creating them from a vast pool of ideas, then our job is to have as many ideas as possible. Here are six tips that can help you develop an “idea abundance” mindset:

### 1. Expect to Have Ideas

The first step is to get rid of common beliefs such as “I’m not a creative person”. Drop any preconceived notions that ideas are reserved just for a privileged few. That’s often enough to have ideas start coming to you.

### 2. Welcome Dumb Ideas, or Any Ideas for That Matter

Your focus should never be on having great ideas. Always strive for quantity. Most people don’t ever try having ideas because they’re socially afraid to have their ideas labeled as “stupid” or “dumb”. Get over it: your ideas that are regarded as dumb today may be the foundation for a groundbreaking idea tomorrow. And when you eventually have such an idea, nobody will remember your less successful ones. (And on the matter of being afraid to show your ideas, keep in mind that teasing is a disguised form of shaming, of others trying to throw you off balance.)

### 3. Expose Yourself to New Experiences

Your senses capture the basic information that your mind uses to generate associations. The more you expose yourself to different situations, people and places, the more fuel you will give to your mind to make connections. Learn to welcome variety in your life: travel, try out new foods, read magazines you usually don’t. Just don’t be afraid of doing things differently.

### 4. Capture Ideas Immediately

Get in the habit of capturing all your ideas. Use a paper notebook, PDA or voice recorder. It doesn’t matter how you capture them, just make sure that you carry your idea capturing tool everywhere you go. If you don’t capture your ideas the minute they come up, it’s guaranteed you’ll forget most of them – even worse, you won’t even be aware that you had ideas in the first place. Also, each time your mind notices you’re paying attention to its ideas, it rewards you with more ideas.

### 5. Be Thankful for Ideas

Every time you have an idea – any idea – be thankful for it. By developing this habit, you create an additional positive reinforcement that works as a “pat on the back” of your mind, encouraging it to produce even more ideas.

### 6. Realize that Ideas Come in Bursts

It’s perfectly normal to go through several days and not having one single idea. But then, suddenly, ideas will come to you one after another, just like a surging river. Sometimes, the ideas will come so quickly you’ll barely have time to write them all down. Don’t worry about the natural slow times, but make sure that you take full advantage of those idea bursts when they come.