

Ideate* with confidence. Take a weekly Inventamin™.

*Ideate--to form an idea, imagine or conceive--*Webster's New World Dictionary*

Abandon Symmetry

If something is symmetrical, consider improving it by abandoning the symmetry. For example, exclude a part of the object to reduce weight or to reduce cost. Symmetry--similarity of form or arrangement on either side of a dividing line--*Webster's New World Dictionary*

Examples:

Toll roads usually have tollbooths on both sides of the road (symmetry) to charge a toll for traffic going both ways.

Toll roads going to an island only need one tollbooth (abandon symmetry) and only charge to go to the island.

Teams are usually composed of equal numbers of players on each side (symmetry). Playground teams may have different numbers of players on each side (abandon symmetry) to compensate for different sizes, different ages, or different levels of skill.

The heads of nails are usually round (symmetrical). Nails used in automatic nail guns often have a half round head (abandon symmetry) to allow the nails to fit in a smaller space and slide across each other in a magazine or container.

Practice

Your Examples: What examples can you find of where this Inventamin™ has been used? Search for how or where the "**Abandon Symmetry**" might be used to improve or create something.

Identify non-technical applications of where symmetry was abandoned. Identify natural applications of abandon symmetry.

Hint: When working with a recommendation the objective is to use it as one possible pathway to solving a problem. A recommendation is also a resource to help you solve a problem. The use of resources is important to solving inventive problems. When working to solve an inventive problem we would like to find an "ideal" solution. The ideal solution means that everything remains the same, nothing changes, and the problem is solved. Rarely is this ever achieved, but it should be the innovator's objective. Resources (substances, energy, functions, information, space, time, etc.) that exist within the system are what we use to move toward the ideal goal. Understanding and revealing resources in your system helps you apply recommendations (Inventamins™), and provides a means for looking at the system in more detail. Some people do this naturally – but most people need some guidance. People who are great innovators or who have the ability to apply the Theory of Inventive Problem Solving, **TRIZ**, have mastered the art of revealing resources and recombining them in new ways to achieve innovative results.

Lesson: Think about what people see when they are looking for or applying "abandon symmetry." Select an object. Look at it. Think about how "abandon symmetry" could be used to change it. List several possible ways and write them down or draw them. Even those ideas that seem silly could turn out to be useful. Discuss your ideas with your partner or the class. Display drawings of your examples. Bring examples to share or display for the class.

Invitation

Each week, you'll receive another Inventamin™ and an opportunity to practice using it. We ask you share your findings and/or ideas with us to help everyone become more innovative. We will include some examples submitted by the previous participants. Your participation is important – the object of receiving Inventamins™ is to learn to become more inventive and innovative and to practice, practice, practice.

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Share with your teaching colleagues

Send us the name and email address of a colleague or friend who might be interested in subscribing to Inventamins™.

How are people using Inventamins™?

Teachers are using them as innovation/creative homework assignments, enrichment, or enhancement exercises to provide weekly stimulation of student thinking

Friends are sharing them with friends

Parents are sharing them with children

And adults in all walks of life are using them to stimulate their own thinking

Send your observations, ideas and names to inventamin@ideationtriz.com

Teacher Suggestions:

Use of the weekly Inventamin™ will vary considerably from teacher to teacher. Some prefer to use them in brief lessons at a regular time during the week. Some prefer to use them to fill in the end of a class. Some like to use them as a problem of the week to be posted on Monday and discussed on Friday. Some like to use them as homework assignments or enhancement and extra credit opportunities. A teacher's creative use of the inventive recommendation may also shape the lesson--How would you use the Inventamin in your classroom?

Additional Information

What are Inventamins™?

Inventamins are simply recommendations for inventing, innovating, problem solving, and creating. They are different ways to look at a problem that have been used by other creative people for many years. These recommendations were developed from the knowledge contained in more than two million patents. Researchers examined the patents to determine which were truly inventive and identified patterns of how the inventions were made. When a pattern was identified and described, it was tested to determine if it could be used to solve other problems. Today there are more than four hundred recommendations that have been identified, tested, and found to be useful in solving inventive problems. Patents deal with technical problems. Because Inventamins are abstracted from the patents, there are many places that the Inventamins may be found or applied in addition to technology. There may be examples in nature, in literature, in management, in psychology, in everyday life.

What Is a Patent?

(Excerpted from *General Information Concerning Patents* print brochure issued by the U.S. Patent and Trademark Office <www.uspto.gov>)

A patent for an invention is the grant of a property right to the inventor, issued by the Patent and Trademark Office. The term of a new patent is 20 years from the date on which the application for the patent was filed in the United States or, in special cases, from the date an earlier related application was filed, subject to the payment of maintenance fees. US patent grants are effective only within the US, US territories, and US possessions.

The right conferred by the patent grant is, in the language of the statute and of the grant itself, "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States or "importing" the invention into the United States. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing the invention.