



# Water charged with copper

## Decoding Various Health Benefits And Toxin Removal By Copper Charged Water

### Pro@Project

Stuti Kalra, GT Network

It all started when **Deeptanshu Nandi**, a Class VIII student of **AIS Gurugram 43**, came across an advertisement urging people to say no to plastic. Among many other measures suggested, one was to stop using plastic bottles, stating the reasons of hazard it caused to health and the environment. Back at home, this young thinking mind observed that his grandparents drank water from a copper jug. Curiously, he asked them why and what he learnt from them set him thinking of ways to enrich water for drinking.

### Copper The wonder metal

“Why copper?” the young mind thought. Deeptanshu learnt that copper utensils had properties that were beneficial for health. Hence, people in ancient times preferred drinking water from copper vessels and lived longer. Ayurveda, too, recommends storing water overnight in copper utensils and drinking it in the morning for a healthy life. But what exactly made this metal so enriching?

### Copper A science perspective

A curious Deeptanshu then met

with his science mentor, **Reena Gupta**, who encouraged him to test why copper renders water beneficial for his next science project in the upcoming **Vasudha**, Amity’s annual science project competition. Thus, was born an idea to test the electrical conductivity of water kept in copper container as compared to water kept in other containers like plastic and glass, and then

**Experiment:** Testing copper charged water for ionic enrichment

**Young scientist:** Deeptanshu Nandi, VIII, AIS Gur 43

**Mentor teacher:** Reena Gupta

find out which one is most fit for drinking.

The objective was to test how water reacted with the metal of utensils in which it was stored. The underlying theory being that when water is stored in a metal container, a very small amount of metal’s ions detach from the container and stay in water. These charged metal ions attract toxins in the body and neutralises its effect. These toxins are then expelled through natural processes like urine, stool and perspiration. Metal charged water is therefore safe, easily available cheap and mild to moderately effective enriched beverage.

### Copper Experiment to conduct

Four containers made of plastic,



Deeptanshu Nandi and mentor, Reena Gupta with observation table

glass, silver and copper were half filled with water. Copper was the chosen metal as the body needs it for many physiological functions like RBC synthesis, protein metabolism, enzyme activity and benefits nervous system, circulatory system and maintain bone health.

The electrical conductivity of water in all four containers was recorded for two consecutive days, every hour, from 8 am to 1 pm with the help of a conductiv-

ity meter. The readings showed that electrical conductivity was highest in water contained in silver vessel followed by copper vessel and least in water contained in plastic container. Hence, copper was scientifically deemed good for health. It is easily available and economic also as compared to silver. However, studies suggested that caution has to be taken to ensure that not too much copper is consumed as it can lead to heavy metal poisoning.

### Copper Water that heals

Considering the fact that our body is made up of 75% water, the use of copper charged water is the perfect answer to several diseases such as joint pains, polio, leprosy, high BP, stress, mental tension, paralysis, anaemia, etc. While a lot of steel bottles coated with a layer of copper on the inside are available, another solution lies in lining a thin layer of copper in the



The experimental setup

### Awards and Accolades

■ The project was awarded second position in **National Science Concur\* 2018**. He was awarded a trophy and cash prize of INR 7,500. \*National Science Concur is the National Level Online Science Competition organised by Pivotal Consultancy Services Scholastic World for Class VI-XII to promote innovation and experiential learning. It is held at two levels. The first level comprises an MCQ round. Those who qualify move to second and final level that comprises individual science project.

inner portion of the taps (so that too much copper does not cause heavy metal poisoning). This will result in the drinking water being automatically charged with copper ions adequately. 🇮🇳

# Gaming greys

## With A Distinct Black And White, Gaming Is The New Grey

Pranik Rai, AIS Vas 1, XI B

Doing anything more than a certain limit comes with its own set of advantages and disadvantages. Something along the similar lines happens when it comes to gaming. Sure, it gives you immense pleasure when you beat that level you have been stuck at for a long while, but you seem to completely disregard the amount of time you have put in actually to make that possible. This, however, is just one aspect of the problem. Let’s have a look at the others.

### Cognitive abilities

#### The black

A large chunk of the gaming community suffers from what is known as ‘Internet Gaming Disorder’. When gamers came across game related cues which activated the pleasure seeking parts of the brain, their brain showed the same reaction as that of an addict. It was a testament of the structural and functional changes that take place in the natural reward system of the brain

### The white

Out of 116 studies that were carried out by renowned researchers and scientists, 22 were of the opinion that gaming tends to directly affect the structure of the brain. The participants of the study who were exposed to prolonged gaming, showed an enlarged hippocampus, the area of the brain which affects attention. It has been observed that gaming is responsible for increase in attention.

### Social interaction

#### The black

Several studies conducted over the years point that most gamers are reclusive and incapable of effective social interactions. In a study which involved 3000 students showed that 9.9% of the students became pathological gamers with drastically reduced social interaction. These children showed lack of social competence and greater impulsivity. Not just this but depression, anxiety, social phobias and lower performance at school were other outcomes.

### The white

In contrast to these studies, ‘couch co-op’ games (games that allow two or more players to play on the same console) have shown to facilitate better social interaction and relation-

ships. 25% of users who played such games have said that these games fostered better face to face conversation and aided in improving interpersonal relationships. Strategising and being part of a clan in games such as Rust are shown to even help with linguistic abilities as players from all around the world become a part of the clans or squads.

### Physical fitness

#### The black

The most common and perhaps one of the most accurate statements made against gaming is that gamers are not so keen on physical activity. While sports is believed to activate your mind, body and spirit, video games simply mean you are static and the only movement that can be witnessed in this case is that of the thumbs and eyeballs.

#### The white

Well, video games are not the enemies but the future of sports. Consoles like Xbox connect and Wii Kinect require the involvement of an individual’s entire body. Various e-sports titles that are available in the market now are the ones which require you to get involved in the game just like you would in the real world. The only difference being that you play them in comfort of your living room.

Like everything else, gaming has its own black and white. You need to take the grey route.

Illustration: Ravinder Gusain, GT Network