

# SCIENCE IS FUN AND THE JOY OF LEARNING!

## Science Literacy: Making Informed Choices



It is not about Archimedes, Lavoisier, Curie, Tesla, or Boyle, though, of course, their discoveries and theories are the basis of the scientific world. We know what we know because of them.

But it is about the teenage boy who last year stood in front of a burning tire, grinning from ear to ear as he proudly made his political statement, unknowingly inhaling carbon monoxide and cyanide.

It is about the mother who just overdosed her sick small daughter with paracetamol, inadvertently causing her liver damage.

It is about the politician voting to shut down a landfill but neglecting to open another one, thus producing a trash crisis in the country.

Basically, a lot of us lack what is now known as Science Literacy.

Formally defined, it “is the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity,” according to the National Science Education Standards.

In other words, it is about making the right decisions in our personal lives and for the good of humanity.

The base of these decisions necessarily comes from scientific knowledge. That is not to say that we all need to be scientists. Indeed, what would the world be without our artists, musicians, and poets? But we need to have enough scientific know-how to make informed choices.

“In science, we aim to understand the complexity of the beautiful world we live in,” said **Bassam Z. Shakhshiri '56**, professor of chemistry at the University of Wisconsin-Madison. “This complexity is also in society and how people interact with each other.”

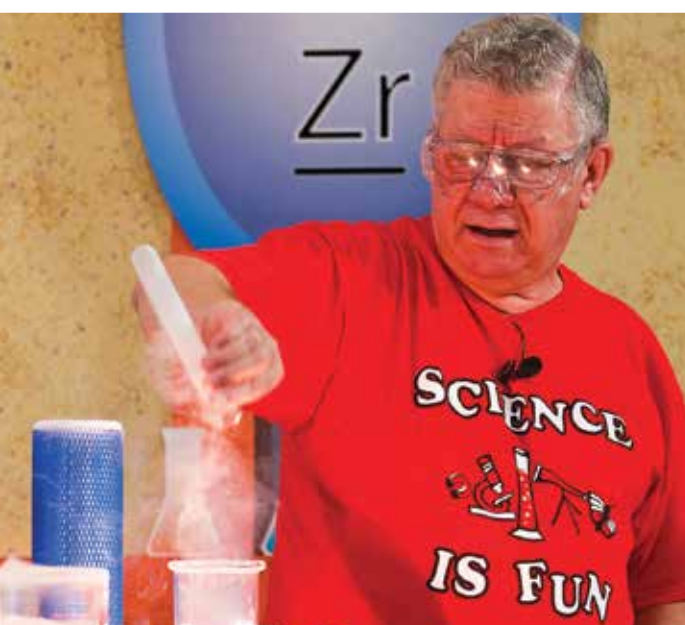
Ergo the importance of having a solid fundamental knowledge of science.

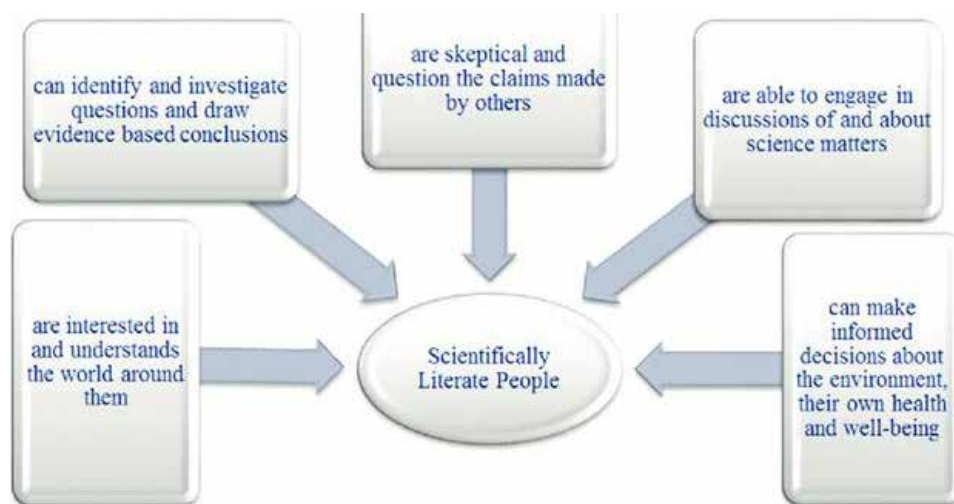
Now, for those who shy away from science - thinking it is but a series of mundane formulas and theorems - Shakhshiri would like to build comfort and familiarity with science.

“Science literacy is an attitude about deep appreciation of science and its role in society,” he explained.

In other words, if you care about your immediate environment

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In the Lab of Shakhshiri  
[www.scifun.org](http://www.scifun.org)





and if you want to wash in clean water, breathe in healthy air or have 24 hours of electricity, then welcome to the world of science literacy.

Of course, one has to begin with the basics of science. If taught correctly, it is, explained Shakhshiri, “fun, not the cheap thrill kind of fun, but the intellectually stimulating and emotionally rewarding kind of fun. It’s about communicating useful knowledge about the world and cultivating curiosity so that people will see that science is crucial to societal progress.”

And so, for the past 50 years, Shakhshiri has been giving public lectures with science demonstrations at all levels of educational institutions, fairs, science centers, international conferences, in the halls of the US Congress, and on television across the US and around the world. He is most noted for his “SCIENCE IS FUN!” presentations and has a much-awaited yearly television “Christmas Science Show.”

His audience? “Anyone from 5 to 95 years of age,” he said.

Shakhshiri’s love for science began in early elementary school when his mother presented him with a yellow sweater that she had lovingly knitted. The young Shakhshiri was instantly intrigued: how in the world did this yellow color come about?

He soon became captivated with the world of light, colors, and vision. Why is the sky blue? Why are the caps on the surface of the sea white? Why do the

cedar trees of Lebanon retain their color of green in the winter while other trees do not?

It was little surprise that after he graduated from IC (Prep in those days) in 1956, he enrolled as a chemistry major at AUB. A year later, his family moved to the US, where Shakhshiri continued his studies. In 1960, he received his bachelor’s degree from Boston University. In 1964 and 1968, he received his master’s and Ph.D. from the University of Maryland. He taught at the University of Illinois for two years. In 1970 he joined the University of Wisconsin-Madison faculty (where he now holds the William T. Evjue Distinguished Chair for the Wisconsin Idea.)

Besides publishing several books on chemistry, he became a strong advocate for public education and programs that inform the public about scientific research creating what he calls “an educated citizenry.” He also founded the Institute for Chemical Education, the Wisconsin Initiative for Science Literacy and has presented more than 1500 lectures to various audiences.

His books and other scholarly publications, television broadcasts, radio appearances, and website have provided source material for science teachers worldwide. Shakhshiri served from 1984 to 1990 as the chief education officer at the National Science Foundation in Washington, DC. In 2012

he was president of the American Chemical Society—the largest scientific organization in the world.

COVID lockdowns have not stopped Shakhshiri from continuing with his campaign. ‘Science is Fun,’ and his science literacy training workshops continue unabated through the zoom platform.

“The vast majority of people are not going to be scientists,” he said. “That’s why we need to have them be literate in science. This will enable them to make informed choices, to be skeptical, and to reject shams, quackery, unproven conjecture, and to avoid being bamboozled into making foolish decisions where matters of science and technology are concerned.”

Shakhshiri also highlights the links between science, the arts, and the humanities, saying that the same creativity and passion that drive science also inspire artistic endeavors.

In short, science literacy is for everyone—scientists, artists, humanists, all professionals, the general public: the young and the old.

