



ON SCIENCE AND BEING A SCIENTIST

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What is Science?

- ▶ “The observation, identification, description, experimental investigation and theoretical explanation of natural phenomena.”
- ▶ “Any methodological activity, discipline or study”
- ▶ “Knowledge gained through experience or empirical observations”

Science comes from Latin “scientia” meaning “To Know”

WHY SCIENCE IS IMPORTANT

- ▶ “Science is important because it has helped form the world we live in today.”
- ▶ “Science is everywhere in today’s world. It is a part of our lives and in everything we have and do.”
- ▶ Science tells us what is true.
- ▶ Science can help solve the problems of society and humanity.
- ▶ Science can help man understand his nature, his world and the universe.

THE SCIENTIFIC METHOD

- ▶ Ask a question or identify a problem
- ▶ Do background research or gather information
- ▶ Construct a hypothesis (a possible answer/solution)
- ▶ Test the hypothesis by making observations and/or conducting experiments
- ▶ Analyze the data obtained
- ▶ Conclusion

WHO CAN BE A SCIENTIST?

- ▶ “Anyone who can ask a question and find the answers”
- ▶ “Anyone dedicated to curiosity, experimentation and evidence”

CAN A SCIENTIST BE A MILLIONAIRE?

Yes, if he/she develops a technology (product or process) that he/she can sell or do business with.

LET US NOW DO A SIMPLE EXPERIMENT TO APPLY THE SCIENTIFIC METHOD

► The Problem and Question

The “kuyapo” (*Pistia stratiotes*) is a floating aquatic weed that rapidly multiplies and has become a nuisance in fishponds, irrigated rice paddies and waterways.



Can the “kuyapo” be used for reducing the water temperature of fishponds by shading them?

The Hypothesis: The “kuyapo” can reduce water temperature in ponds by shading them.

▶ Information gathered

- water evaporates from the pond surface
 - water transpires from plants on the pond surface
- ▶ The Experiment



▶ The gathering of data/observations



▶ The analysis of data

- there was a decrease of 2 degrees Celsius in the temperature of the water with “kuyapo” compared to that without “kuyapo”
- there was 5% less water in the basin without “kuyapo” compared to that with “kuyapo”



► Conclusion

Shading of the “kuyapo” reduced the water temperature of water and water loss in the basin that was exposed to the sun.

A New Question:

Can the “kuyapo” be effective in reducing water temperature of water in fishponds as an adaptation measure for climate change impact?

WHAT DO YOU THINK?

ON BEING AN AQUACULTURE SCIENTIST

- ▶ A Personal Sharing

- My childhood days

I observed how water scorpions breathe with their tails underwater

- My college days

I took up a B.S. Zoology course at the UP instead of becoming a lawyer like my father and grandfather.

- My teaching career

I conducted a limnological study on a freshwater lagoon when I was an instructor of the Central Mindanao Univ.

- My fisheries break

I was provided a fisheries scholarship at the Auburn Univ. in the US for my Ph.D. in Fisheries Management where I did the artificial sex reversal of tilapia for my dissertation.

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▶ Lessons Learned and Advice I Can Give

- * Being a scientist is a commitment not only to your discipline but also to help improve the lives of people and for the progress of our country.
- * You can have fun by enjoying the thrill of discovery and the excitement of research.
- * You can have many rewards but the most important thing is that you live your passion and follow your dream.

What Science Can Be for You

- ▶ It can be **FUN**
- ▶ It can **“SATISFY YOUR CURIOSITY”**
- ▶ It can make you **“SEE THE WORLD”**
- ▶ It can make you **FAMOUS**
- ▶ It can make you **RICH**

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“Never stop asking
questions.”

- Albert Einstein

The background is a dark teal color. It features several large, overlapping teal circles of various sizes. A vertical red bar is located in the top right corner. The text "Who wants to be a Scientist?" is centered in white, sans-serif font.

Who wants to be a
Scientist?