

SCIENCE...

1. assumes the world is understandable.
2. reveals and explains patterns.
3. is evidence-based.
4. changes based on new knowledge.
5. is creative.
6. is communal and cooperative.
7. uses a variety of methods.

GUESTS AT THE SCIENCE CENTER, AN INFORMAL LEARNING ENVIRONMENT...

- ...**EXPERIENCE** excitement, interest, and desire to learn about the natural and physical world.
- ...generate, understand, remember, and **USE** scientific concepts, methods, and facts.
- ...manipulate, test, **EXPLORE**, predict, question, observe, and make sense of the natural and physical world.
- ...**REFLECT** on science as a way of thinking about the world.
- ...**PARTICIPATE** in science with others, using scientific language and skills.
- ...**THINK** about themselves as scientists.

We aspire to **stimulate curiosity** and **inspire science learning** in everyone by **creating fun, memorable experiences**, because we value science as an indispensable tool for understanding our world, accessibility and inclusiveness, and enriching people's lives.



Science is...

NATURE OF SCIENCE SOURCES

Project 2061 - <http://www.project2061.org/publications/sfaa/online/chap1.htm>

Univ. of Indiana - <http://www.indiana.edu/~ensiweb/NOS%20Over.KeyConc.html>

UC Berkeley - http://evolution.berkeley.edu/evolibrary/article/0_0_0/nature_01

PROCESS OF SCIENCE DIAGRAM SOURCE

“How Science Works.” Understanding Science. 2018. University of California Museum of Paleontology. 3 December 2018 <https://undsci.berkeley.edu/images/flowchart_k2.pdf>.

FOR MORE INFORMATION...

Understanding Science: UC Berkeley <https://undsci.berkeley.edu/index.php>

Borun, M., Chambers, M. & Cleghorn, A. (1996). Families are learning in science museums. *Curator*, 39, 123-138.

Falk, J.H. & Dierking, L.D. (2010). The 95 percent solution: School is not where most Americans learn most of their science. *American Scientist*, 98, 486-493.

Fenichel, M., and Schweingruber, H.A. (2010). *Surrounded by Science: Learning Science in Informal Environments*. Board on Science Education, Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

National Research Council. (2009). *Learning Science in Informal Environments: People, Places, and Pursuits*. Committee on Learning Science in Informal Environments. Philip Bell, Bruce Lewenstein, Andrew W. Shouse, and Michael A. Feder, Editors. Board on Science Education, Center for Education. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

EXHIBIT EXPLORATION

Behaviors to look for in guests

- Asking questions
- Inviting others to join or try
- Trying an exhibit more than once
- Discussing concepts with others
- Learning skills by observing others
- Cooperation with multiple people

Favorite Ecosystems exhibits

Features to look for in exhibits

- Allowing for more than one result
- Encouraging experimentation
- Focusing on phenomena, not facts
- Built for multiple guests to use together
- Inviting guests to use science skills (trial and error, counting/collecting data, observation, etc.)

Other exhibits to observe

- Group exhibits in Island Zone
- Ice wall
- Infrared camera in Desert
- ROV sim in Deep-Sea Vents
- Be a Barnacle in Rocky Shore

MY NOTES

California Science Center

Science is...

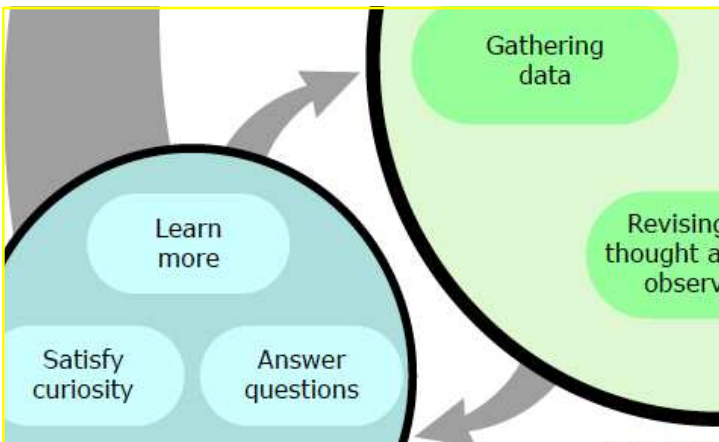


Photo by Marten Newhall on Unsplash

...BASED ON EVIDENCE

Observe, collect data and ASK QUESTIONS

- Can you see a pattern?
- Do you have enough information?
- What does the data tell you?
- Do many reputable sources agree?



UC Berkeley, Understanding Science

...A PROCESS

Examine evidence, experiment, fail, try again

- What happens if we change something?
- How can we solve this problem?
- Can we collaborate with others?
- Do we need more data?



Gary Peebles/USFWS

...EVERYWHERE, AND ACCESSIBLE TO EVERYONE!

Everyone can do science!

- Look for evidence to support new claims
- Use the science process
- Collaborate with others
- BE CURIOUS!



Science is...

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is hereby authorized to

GO FORTH AND USE SCIENCE!

You are an important part of the Science Center's mission to **stimulate curiosity** and **inspire science learning** in everyone by **creating fun, memorable experiences**, because we value science as an indispensable tool for understanding our world, accessibility and inclusiveness, and enriching people's lives.



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