Science Sleuths 2014

TBI Study

POWERHOUSE SCIENCE CENTER
Future Home of the Discovery Museum

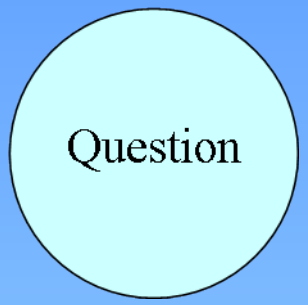
Science Sleuths

June 23-27, 2014 - 9am-4pm - Ages 9-11

This camp is for kids that are curious, full of questions, and eager to investigate the world around them. Learn about science on many different levels - from the nano size and up! Gain experience using scientific tools and processes during lessons that are guaranteed to thrill. Campers explore multiple science fields. Participants are introduced to crime scene investigation using fingerprint evidence and chemical analysis. Study marine biology with a dissection of a real specimen. Chemical experiments reveal unimaginable results! For those with outer space on the brain, a two and a half hour Challenger Learning Center mission is offered. These activities and many more make up an exciting week for your science sleuth!

POWERHOUSE SCIENCE CENTER
Future Home of the Discovery Museum

Questions:

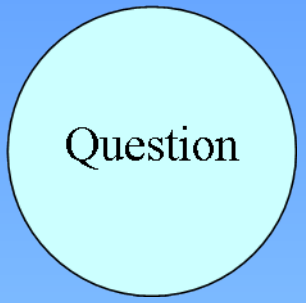


Are nanoscience activities engaging our participants?

Which activities are the most engaging?

Are our participants understanding concepts?

Question:



Are nanoscience activities engaging our participants?

We want participants to have the best camp experience. Satisfied participants are more likely to seek out other museum educational offerings.

Question:

Question

Which activities are most engaging?

We want to make the most of limited supplies, staff and time.

Question:

Question

Are participants understanding concepts?

We want to insure the museum's education mission is being fulfilled.

Data Gathering Instruments

Investigate

Science Sleuths Facilitator Survey

Name of activity

1 How much did you enjoy facilitating this activity?
(circle one)
- 1 Will never do again
- 2 Was not enjoyable
- 3 Was just OK
- 4 Was kind of enjoyable
- 5 Loved it

2 What did you like most about leading this activity?

3 Is there anything you would change about this activity?

4 What did you experience that made you think participants understood the concept?

5 You are (circle one):
Staff High School Volunteer Adult Volunteer

Science Sleuths
Participant Group Interview

We would like to take some time to go over the nanotech activities we did today. We want to find out which ones you liked best and what you learned from them.

Today 's Activities:

_____ _____

_____ _____

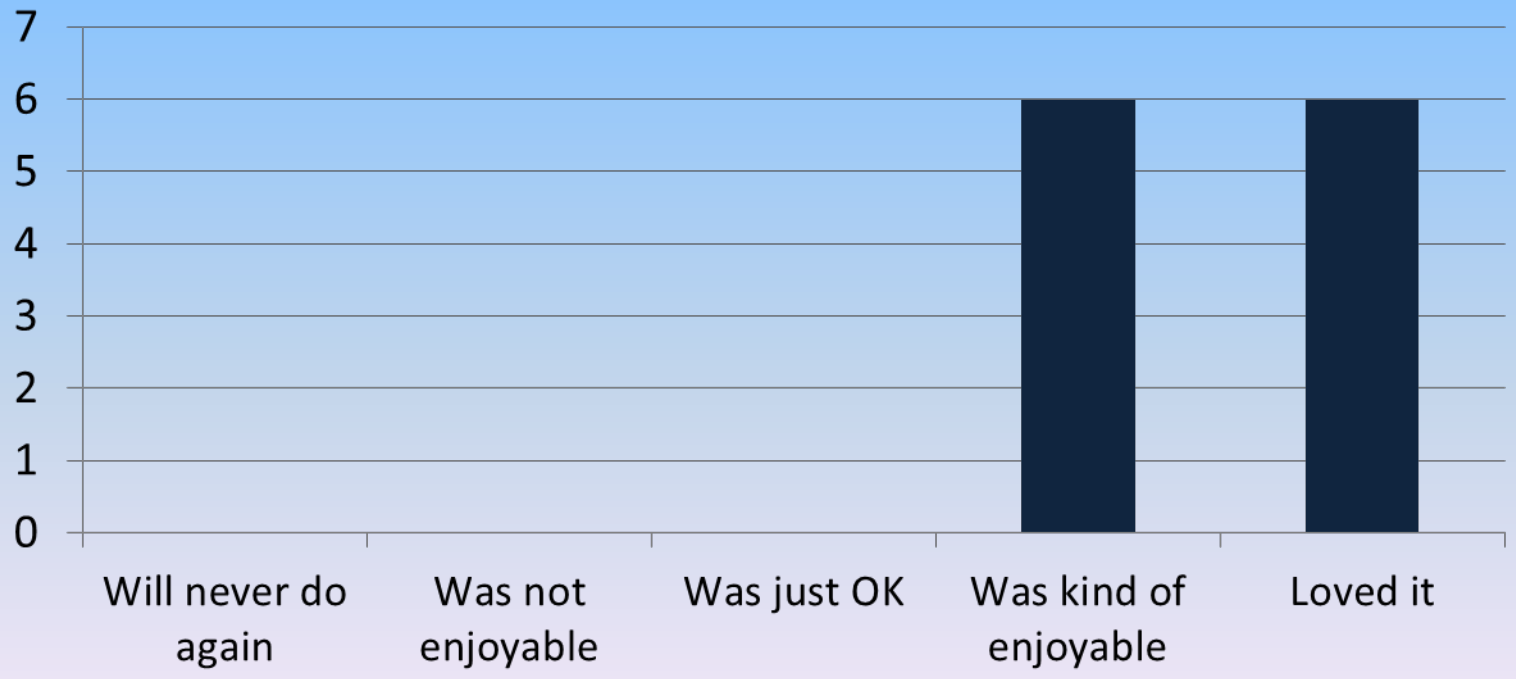
1 Which activity are you going to tell your family about first?

2 What is one thing someone could learn from this activity?

Question:

Investigate

Are nanoscience activities engaging our participants?



Question:

Investigate

Are nanoscience activities engaging our participants?
Facilitator responses:

"…in a chorus they said, 'Whoa!'"

"…kids are amazed…"

"Joy on their faces…"

"The kids' excitement…"

"Reactions on kids' faces…"

Question:

Reflect

Are nanoscience activities engaging our participants?

Yes. Facilitators as well as student participants were engaged by nanoscience activities and concept of scale activities.

Question:

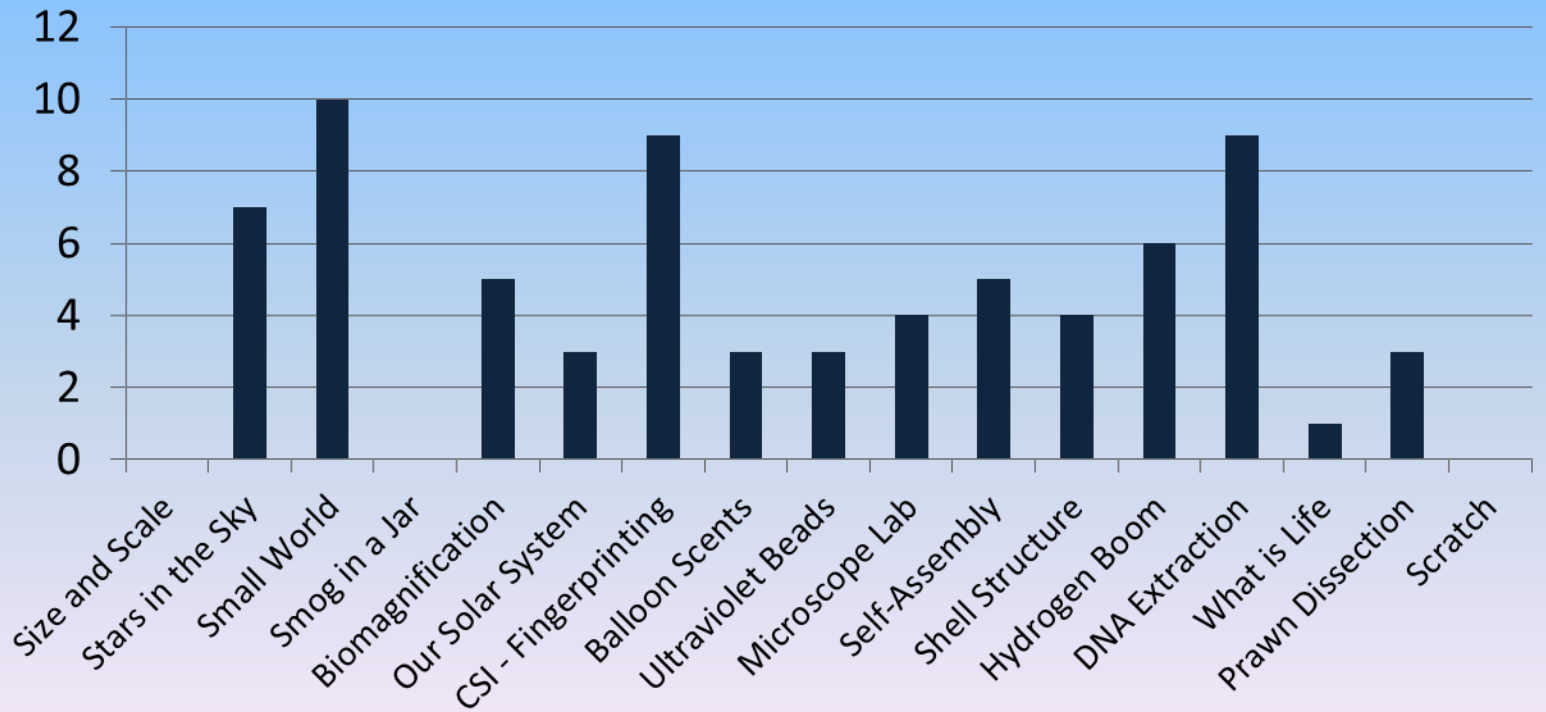
Investigate

Which activities are most engaging?

Question:

Investigate

Which activities are most engaging?



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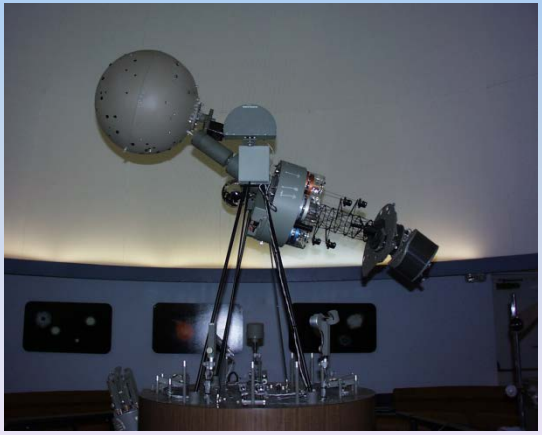
Reflect

Which activities are most engaging?



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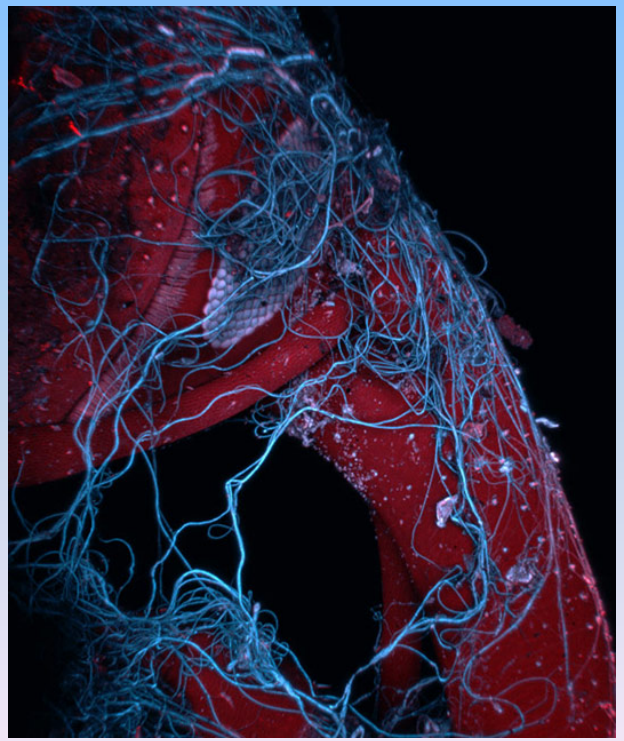
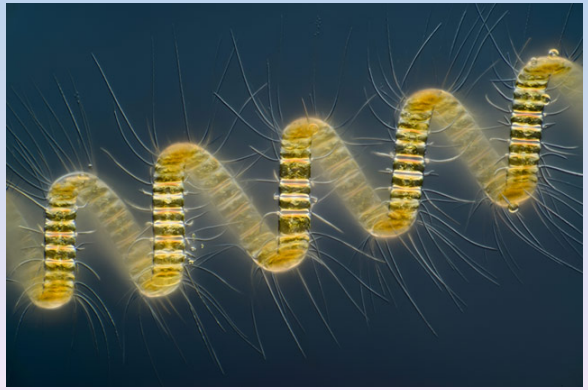




Question:

Investigate

Are participants understanding concepts?

Question:

Investigate

Are our participants understanding concepts?
Facilitator responses:

"They commented that you need different microscopes to see different things."

"They were wondering how so many atoms could fit in the tiny bubbles."

"...in the survey at end they used vocab when discussing activity."

Question:

Investigate

Are our participants understanding concepts?
Participant response word frequencies:

Question:

Investigate

Are our participants understanding concepts?
Participant responses:

"How to measure things of different sizes"

"Small things can be bad, too."

"There are differences between stereoscopes and microscopes."

"You can see DNA up close."

Question:

Reflect

Are participants understanding concepts?

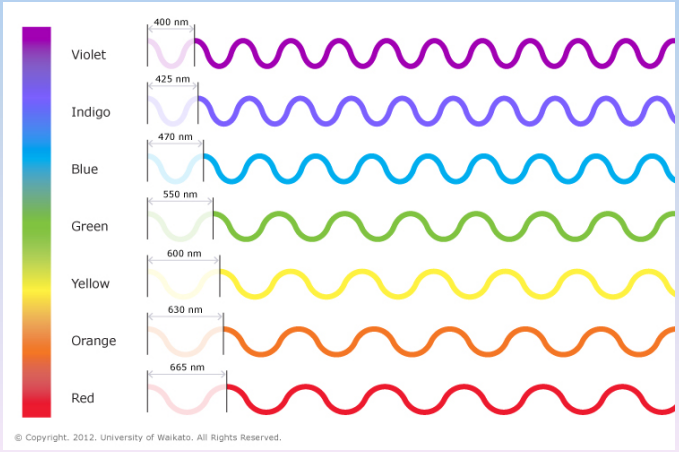
Yes. Comments from facilitators and participants indicate that nanoscience concepts and concept of scale are being understood.

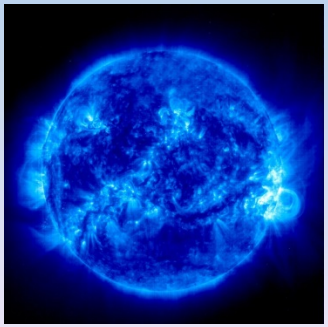
Improve

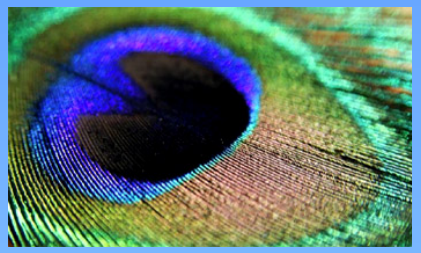
Because of the results of our TBI study, the education department began incorporating nanoscience and concept of scale activities into our other summer camps and lessons...

Improve

Ultraviolet Light and Visible Light

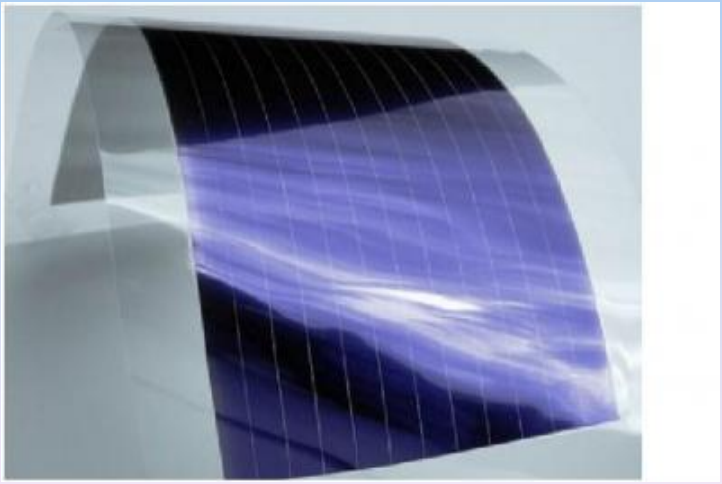






Improve

Optical Engineering



NanoDays Kits Presentations

Improve

Improve

We plan to include nanoscience and concept of scale activities in even more summer and vacation camp activities.

Any questions?