NUTTY SCIENTISTS

Science Educational Program

Learning Science through fun hands-on experimentation

WHO WE ARE

NUTTY SCIENTISTS is the European leader in fun educational activities for children from 4 to 16 years old, with more than 135 offices in the world.

Every year more than 5 million children participate in our programs.

Since 1996, our mission has been to arouse the curiosity and imagination of children while experiencing science hands on. This interaction stimulates their interest in science and the environment to clearly see our connection with the world around us.

How we work?

Nutty Scientists proposes interactive performances in a workshop or show format, during which the children have their own experiences, led by The Nutty Professor and his assistants.

Our shows are always entertaining, educational and participatory, which allows children to learn while having fun.

We have over 120 workshops which introduces children to science (physics, chemistry, biology ...) and also raises awareness on such issues as the environment, sustainable development (water, land, waste, the greenhouse effect) and also life education (hygiene, health and prevention).

Our shows and our workshops stimulate the imagination and spirit of the children, arousing their curiosity and fostering an environment where students are encouraged to participate, boosting their self-esteem.

Our methodology :

Nutty Scientists uses a unique teaching methodology developed by scientists and supervised by teachers. We encourage experimentation and participating in a very fun, engaging, and exciting setting. This fun and child-centered approach gives the child a practical and authentic experience, which has been proven to enhance their learning and retention of important information.

As Confucius said:

"I was told and I forgot,
I saw and I understood,
I did and I learned"

OUR AREAS OF KNOWLEDGE

In-School Activities Program

NUTTY SCIENTISTS

The Nutty Scientists Program aims the following objectives:

- Boosting interest in Science, environment, nutrition, astronomy and health prevention
- Strengthening the knowledge of students about the environment around them.
- Showing them how learning can be useful and fun.
- Increasing participation, communication, and integration within the classroom.
- To improve the academic performance of the participating students.

To achieve these goals the Program is divided into cycles of activity by levels, so that at each level of education has a working curriculum appropriate to the age and knowledge of the student.

1) Level "Discover"_____ Kindergarten to 1st Grade
2) Level "Explorer"_____ Elementary - 2st to 3nd Grade
3) Level "Expert"_____ Elementary- 4th to 5th Grade

The activities will be in a classroom format and will last approximately 50 minutes.

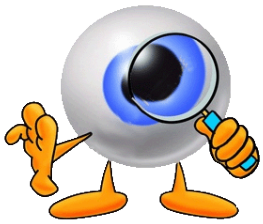
For the correct development of these activities, Nutty Scientists will bring in monitors/teachers, trained by our organization as well as all materials needed to carry out the activities.

Level: Discover

Kindergarten and 1st Grade: we begin to discover

Observing like a Scientists:

The student will be able to…



- Observe the process of diffusion by coloring water.
- Observe the unusual effect produced by mixing milk with food coloring.
- Understand that everything isn't as it seems.
- Practice scientific process skills such as measuring
- Recognize and identify different materials, observing a few of their properties and relating their properties to a few uses.

Know Your Senses

The student will be able to….

- Show where each flavor is distinguished on the tongue.
- Explain why we need the nose to better taste the things we eat.
- Explain why it is easier to smell things that are wet because they reach the nose faster. (not sure about this one…)
- Explain that sound travels through air and that the sound waves, like waves of water, cause movement.
- Identify the three parts of the ear and explain why high-pitched sounds can be dangerous to the ear.

Aroma Factory

The student will be able to ….

- Understand how soaps and detergents work.
- Make Glycerin soap.
- Use a syringe as a measurement tool.
- Make shampoo from natural elements.
- Explain how toothpaste works and make toothpaste.
- Understand that perfume is made from natural elements.

Always in movement

The student will be able to…

- Recognize a lever and discover how it works.
- Test out movement on an inclined plane (sliding).
- Verify that the greater the incline, the faster the fall of the object will be.
- Construct a screw and observe its function.
- Observe how movement can be transmitted from one place to another, maintaining or changing its speed and direction.

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Ecology, the Miracle of Nature

The children will learn…

- the roles different animals play in an ecosystem.
- the fragility of the ecosystem.
- to respect the cycle of life.
- to recreate an ecosystem.
- to work as a group to protect Nature.
- the food cycles within an ecosystem.

Energy moves the world

The children will be able to…

- demonstrate what energy is and identify different ways of produce energy.
- recognize energy in different forms.
- explain that the food we eat gives us energy.
- explain what we used to have energy in our everyday life.
- build a windmill with very basic materials.
- explain the transfer of energy that makes the windmill turn

Mrs. Moon and Mr. Sun

The children will learn to …

- explain what the moon is and recognize its appearance.
- understand the formation of the lunar craters.
- explain that, in addition to the Moon, there are other artificial satellites that orbit the Earth.
- recognize the Moon's movement and the phases as we see them from Earth.
- know the effects of gas that increases its volume in a limited space. (not sure about this one???)

Level: Explorer

2nd and 3rd Grade: exploring the world around us

Crazy States of Matter

The student will be able to.....

- explain what atoms are.
- identify solids and liquids and describe evaporation.
- identify the three states of matter.
- describe the motion of atoms in gases, liquids, and solids.
- explain how temperature affects the movement of atoms.
- learn about dry ice and describe what sublimation is.

Magnet Planet

The student will be able to....

- recognize that magnets are attracted and repelled by magnetic fields – invisible forces.
- demonstrate, in a visible manner, the direction of the invisible magnetic fields and locate magnetic fields with nails and a tray.
- explain that magnets have two poles and show that opposite poles attract and similar poles repel each other.
- explain why ranchers make their cows eat a magnet while they are still calves.

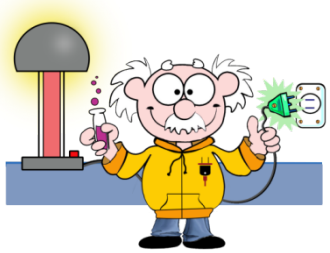
Density of Matter

The student will be able to....

- compose a list of things in order of density and explain why some things float, such as wood, while other things sink, such as steel.
- prove that saltwater is denser than fresh water (no salt).
- explain why boats and people float in the ocean more than they do in lakes.
- make a model of liquids and objects and show their different densities.
- explain how you can regulate the density of an object by controlling its mass.

Jumping with the Van de Graaff

The student will be able to...



- explain that identical charges repel each other while opposite charges attract each other.
- explain why the balloon is attracted or repelled by the Van De, why the “snake” jumps and is repelled by the Van de Graaff machine and why crumbs are attracted or repelled by the Van de Graaff machine.
- build a model to show how materials can transfer a charge from one place to another.
- explain that the air can carry a charge and that charges can accumulate and jump to different points.

Light, color and… action!

The pupil will be capable of explaining that:

- white light in reality is a mixture of all the visible colors.
- the color black is made up of atoms that absorb all the colors and don't reflect any light.
- the television screen is made of tiny red, green, and blue colored spotlights.
- the wheel seems white when we make it turn quickly.
- the sunset seems more orange when there is a lot of pollution.
- images disappear and change when they pass through the color filter.

Energy moves the world

The children will be able to…

- demonstrate what energy is and identify different ways of producing energy.
- recognize energy in different forms.
- explain that the food we eat gives us energy.
- explain what we use to have energy in our everyday life.
- build a windmill with very basic materials.
- explain the transfer of energy that makes the windmill turn.

Take Care for the Earth

The children will learn:

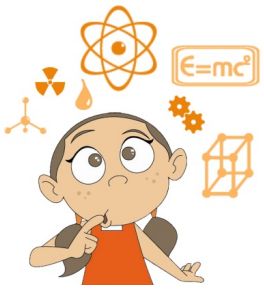
- the damage that a dripping faucet may pose and that beneath the earth there is water that we use to drink.
- what can happen when too much water is extracted out of the earth.
- that substances thrown on the ground could reach the water that we need.
- how the roots of plants can absorb pollution and the danger of deforestation.
- specific methods of how to save water in common uses such as irrigation.

Level: Expert

4th to 5th Grade: become a Scientific Expert

False Science

The student will be able to….



- discover that they can reach their own conclusions with testing and observations that are perfectly valid.
- recognize the importance of not ignoring their observations and insights.
- learn that air can be measured.
- explain that hot air expands and what combustion is.
- discover that they are capable of finding solutions to scientific problems.

Acids and Bases**

The student will be able to...

- explain that there are strong, moderate, and weak acids.
- explain that there is strong acid in our stomachs.
- use a red cabbage to test if certain substances are acids or not and explain that its juice does not change color when is mixed with neutral substances (like water).
- classify soap as basic.
- recognize if something is basic by the color blue, green, brown, or yellow that it makes when it is mixed with the cabbage juice.
- show with the cabbage juice test that mixing them together can neutralize bases and acids.

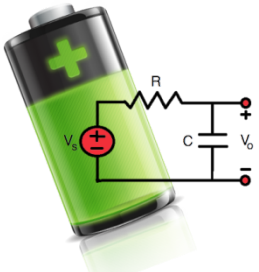
Discovering Electricity

The student will be able to….

- learn how and what atoms and electrons are, and their flow.
- learn that electrons can travel through the air, and that sparks and lightning are electrical currents.
- learn how fluorescent light bulbs work.
- learn what batteries are and how they work.
- learn that electrons have a negative charge.
- learn what an electroscope is and what it is for.
- learn how to transmit electricity and l what it means to close a circuit.

Producing volts

The pupil will be able to…



- explain that batteries contain electrons and show, in a simple way, what a charged battery is like.
- show, in a simple way, how a battery works.
- create a simple circuit with a light bulb, a battery, and a cable.
- demonstrate that electricity doesn't pass through all materials.
- explain what a conductor of electricity is and explain what an insulator is.
- design and construct an electric circuit board that can indicate if your responses are correct or not.

Chemical Reactions

The student will be able to ….

- learn what a monomer is and a polymer molecule is.
- learn what a simple mixture is.
- learn what a chemical reaction is.
- learn how to build a polymer.
- learn what happens to the atoms in a simple mixture.
- learn what happens to the atoms in a chemical reaction and some indicators that a chemical reaction has occurred.
- experiment with simple mixtures and chemical reactions.

Climate Change

The student will be able to…

- understand what the climate changes are and how the outcome of these changes is largely due to the activities of man.
- understand what global warming is and perceive its importance.
- know which gases cause global warming.
- detect what human activities generate pollution and emissions that cause these alterations in the climate.
- understand the consequences of global warming at the poles.
- learn what they can do individually to ensure sustainable development and not contribute to global warming.

What time is it?

The student will be able to…

- explain how the Earth, the Moon, and the Sun move in relation to each other and build a model to explain the phases of the moon.
- find out what time it is by observing the Sun and the Moon and show how a solar clock and lunar clock work.
- describe how a shadow forms by the position of the Sun or the time and build a lunar clock.
- explain why it is not the same time around the world.

Their smile is our best guarantee