APRIL 23RD – 25TH 2021

2ND NEW ZEALAND YOUNG SCIENTISTS' TOURNAMENT

Challenge your top science students

Each team is 3 students born in 2005 or later

Students can qualify for IYNT 2021 – the world cup of science

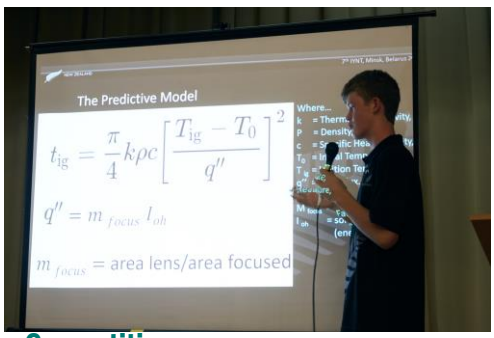
A fun, exciting competition.

Pre-register now: www.nzyoungscientists.com

How the tournament works

There are seven open-ended problems (see next page). Students have to develop their own solutions and, at the tournament, present a solution in 8 minutes. Students can (and should) get as much help as they possibly can from anyone and everyone, but in the tournament itself students alone have to defend their investigations in science fights.

Preparation



Competition

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During the first round we learnt how to work efficiently as a team during a science fight, different members taking notes to pull together an opposition or review presentation in the few minutes of preparation time.

— Millie, NZ IYNT 2018

"It was the hardest I've ever worked, but I think it paid off pretty well! (we came first). What I am most grateful for however, is the knowledge and skills I have obtained from doing this; they far outweigh any gold medal."

— Sai, NZ IYNT 2017

Accolades...

2021 NZ Young Scientists' Tournament Problems...

1. Coin in a balloon
An inflated air balloon contains a coin and is gently moved to set the coin rolling around the inside of the balloon. Explain and investigate the buzzing sound produced in this experiment.

2. Liquid layers
Water and vegetable oil do not mix and form two layers in a beaker. It is possible to fill the beaker with many more layers of immiscible fluids. How many layers can you obtain?

3. Lake water
A drop of water from a natural pond may contain bacteria, archaea, algae, fungi, protozoa, and other organisms. Perform observations to identify as many species of living organisms as possible. What are the chances that another drop contains a different selection of species?

4. Tall towers
A tower is built by stacking rectangular bricks on top of each other. Some people argue that the maximum height of the tower is limited by the human skill to place the bricks gently; others may say that the limiting factor is non-perfect shape of the bricks. Perform experiments to outline the factors that limit the maximum height of such a tower.

5. Salt and Ice
Study the effectiveness of salt to melt ice cubes.

6. Zinc layers
If a copper coin and small granules of zinc are immersed into a solution of zinc sulphate and then heated, a layer of zinc appears on the coin. What is the thickness of the zinc layer? What other metals can be covered with zinc in such an experiment? Investigate and explain the effect.

7. Invent Yourself: Standing waves
Formulate a problem about an interesting experiment where standing waves are observed.

see https://www.nzyoungscientists.com/problems for "invent yourself" instructions.