

Young scientists weigh up effects of low doses and high heels

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WHILE A spoonful of sugar is known to help the medicine go down, one teenage scientist in Derry has revealed that few know exactly how much a spoonful of either sugar or medicine is.

A study by Lavinia Blanking from St Mary's College in Derry, for the upcoming BT Young Scientist and Technology Exhibition, shows that spoonfuls vary widely.

Lavinia, competing in the junior category (for first- and second-year secondary students), found that while the spoon measure appears in instructions accompanying medical syrups and tonics, when everyday cutlery is used to estimate a 5ml dosage, the dose was consistently underestimated to half of what was required.

However, when the spoon supplied with the medication was used, doses were typically slightly overestimated.

If the dose is too low, the medicine can be ineffective and, in the case of antibiotics, could result in resistant bacteria growing. The project found, when testing half doses of antibiotics on three strains of bacteria, that they were ineffective.

Lavinia's project is one of 550 that have been entered into the 2012 exhibition, which is set to attract as many as 40,000 visitors to the RDS in Dublin from

January 12th to 14th. More than 350 schools are taking part.

Cleo Lane and Meadhbh Murphy from St Aloysius College in Cork have an investigation in the intermediate category (for third- and fourth-year students) into how a person's height can affect their ability to walk in high heels.

"The Science of Heels" project was inspired by the number of girls who looked unsteady on their high heels while celebrating Junior Cert results last year.

Cleo and Meadhbh decided to examine how both height and centre of gravity affected a person's balance in heels and have tailored an experiment found on the internet to test people's centre of gravity both in and out of heels.

A trio from Avondale Community College in Wicklow have developed an "Ice Device" to remove frost from car windscreens.

Dáire Flood, Cormac Hayes and Cillian Kavanagh got the idea after the freeze in December 2010.

They noticed that after people used ice scrapers and kettle water, windows often froze up again. The Ice Device heats a car's window-washer tank so warm water can be squirted on to the windscreen.

The Young Scientist exhibition is in its 48th year.

See btyoungscientist.com