**ACTIVITY: Investigating whole body vibration training**

**Activity idea**

In this activity, students investigate data from research on the effects of whole body vibration training.

By the end of this activity, students should be able to:

* interpret information in data tables
* use this information to argue for or against the effectiveness of whole body vibration training
* use this information to aid development of visual and numerical scientific literacy.

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**Introduction/background**

The article [Whole body vibration training](http://link.sciencelearn.org.nz/resources/1913-whole-body-vibration-training) highlights research into a method of sport and fitness training. The people selling whole body vibration (WBV) training equipment claim that WBV can strengthen muscles, tone and shape the body, increase blood flow, speed up weight loss and reduce cellulite. It is the role of sports scientists to investigate such claims and report their findings.

An achievement objective in the nature of science strand Communicating in science is for students to apply their understandings of science to evaluate both popular and scientific texts (including visual and numerical literacy). The rationale is that students need to be able to decide what to believe and to use scientific information and knowledge to inform decision-making at the personal, work-related and societal level. Students need to be able to distinguish among good science, bad science and non-science. To do this, they must be able to understand, analyse and evaluate scientific texts.

This activity provides students with an authentic experience in reading information in data tables, practice in evaluating scientific texts and using data to make decisions about the effectiveness of WBV training.

**What you need**

* Access to the article [Whole body vibration training](http://link.sciencelearn.org.nz/resources/1913-whole-body-vibration-training)
* Access to the video [Research process](http://link.sciencelearn.org.nz/videos/1109-research-process)

**What to do**

1. Read the article [Whole body vibration training](http://link.sciencelearn.org.nz/resources/1913-whole-body-vibration-training), discuss the conflicting results and the tentative nature of scientific research.
2. Provide students with the student handout and access to the article [Whole body vibration training](http://link.sciencelearn.org.nz/resources/1913-whole-body-vibration-training) and the video [Research process](http://link.sciencelearn.org.nz/videos/1109-research-process).
3. Ask students to work through the tasks in the student handout [Investigating WBV training](#handout). (Amend it as desired to suit the level of student capability or to suit your own needs or purposes.)

**Student handout: Investigating WBV training**

Use the information from [Whole body vibration training](http://link.sciencelearn.org.nz/resources/1913-whole-body-vibration-training) to complete the following tasks:

1. Examine the C. Bosco, et al. data in Table 1. In your own words, briefly describe what the scientists tested, the process they used and their findings.
2. Examine the Rittweger et al. data in Table 2. In your own words, briefly describe what the scientists tested, the process they used and their findings.

1. Imagine your school wishes to purchase training equipment for its elite sports teams. Use the data from Tables 1 and 2 to prepare for a debate for and against WBV training.

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| **Sales rep from a sports fitness company that sells WBV equipment** | **An experienced coach who has seen fads in sports training come and go** |
|  |  |

1. Use the storyboard included on the next page to design an infomercial about WBV training equipment, its benefits and why every household should have one.
2. People need to be able to distinguish among good science, bad science and non-science. To do this, they must be able to understand, analyse and evaluate scientific texts. Using the infomercial storyboard you have created, what are some ways you could use scientific information and knowledge to inform your decision-making about whether or not to purchase WBV training equipment?
3. Watch the video [Research process](http://link.sciencelearn.org.nz/videos/1109-research-process). In it, Dr Justin Keogh from the Auckland University of Technology (AUT) talks about the reasons for choosing a research topic. He says, “The first step is initially coming up with the question. What are we interested in doing? What isn't really known?” Develop a question that you would like to have answered in order to help you make your mind up about the benefits or not of WBV.
4. Do an internet search on the effectiveness of WBV training. Document the sites that appear to promote the effectiveness of WBV training and those that offer caution about its benefits. Comment on whether you think the sites are trustworthy.

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| **Name(s):** | **Title:** |  **Date:** |
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