

# Energy consumption

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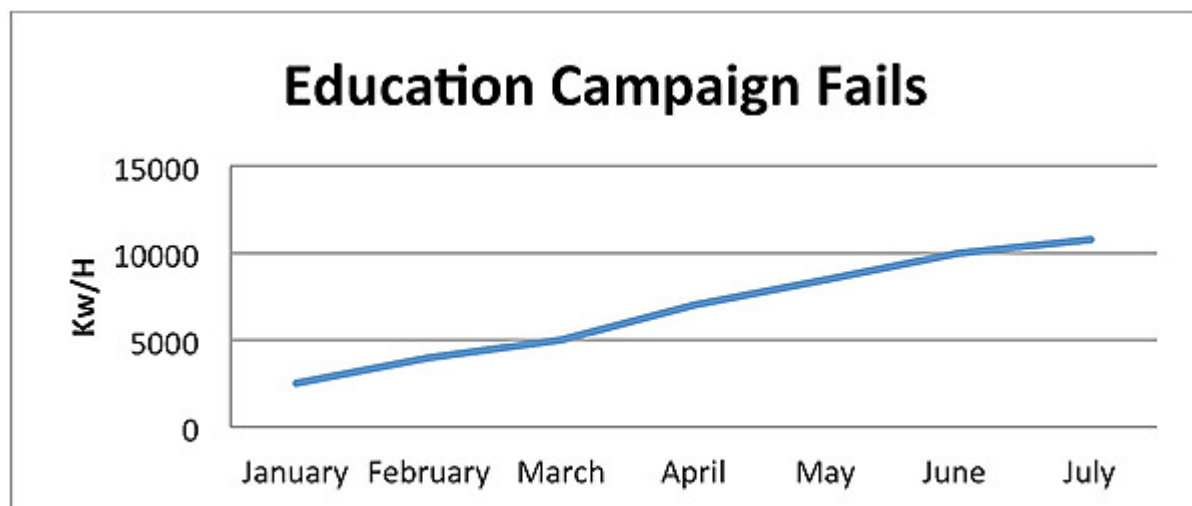
## Annotation

Bella can critically examine her classmates' data displays and analyse and evaluate their claims with reference to the data. She identifies the importance of using the data correctly to represent a situation and to answer a question. She recognises that there are potential consequences from how data is presented and that care should be taken in analysing data and presenting results.

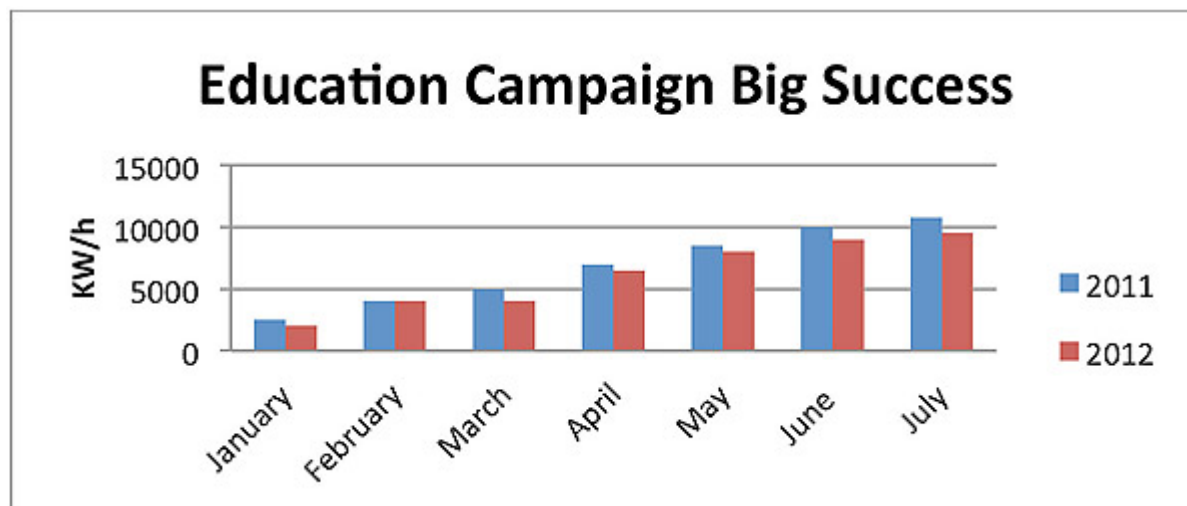
## Problem: Energy consumption

Room 14 are studying energy. As part of their study, they are looking at consumption of electricity. In term 1, the students designed campaigns to reduce electricity consumption. In term 3, the teacher obtained the school's electricity consumption figures and asked the students to use these figures to make a presentation to the class about what had happened as a result of their campaign efforts.

This is a slide from Avi's presentation:



This is a slide from Meola's presentation, showing last year's data (2011) and data from the 2012 campaign year:



The teacher poses the following problem for the students:

*We seem to have two contrasting viewpoints here. Can anyone help us work out which is the more reasonable conclusion?*

## Student Response

Bella: The graphs show different data, and Meola's graph is more useful than Avi's.

Teacher: Tell me some more about that.

Well, on Avi's graph, they show the electricity consumption going up this year, and they say that our education campaign failed, but that's not right. It goes up more in February than January because no one much is at school in January, and it's more in June and July because it's winter and the heaters are on. It doesn't really tell us about the education campaign; it just tells us that we use more electricity in colder months.

Teacher: Tell me more about your thinking

Meola's graph shows us this year compared with last year, so we can see if we are doing better each month. We didn't do our campaign until March, and in March, it is much less than it was in March last year. We got slacker in April and May because the difference between the bars is not so big, but it's getting better again because we reminded people. So our campaign has worked.

Teacher: Can you tell me any more about it?

Well, I just think you have to be really careful because you can get the wrong idea if the data isn't the right data. If we were getting money for doing the campaign and we showed Avi's graph, they wouldn't pay us because it isn't the real story.