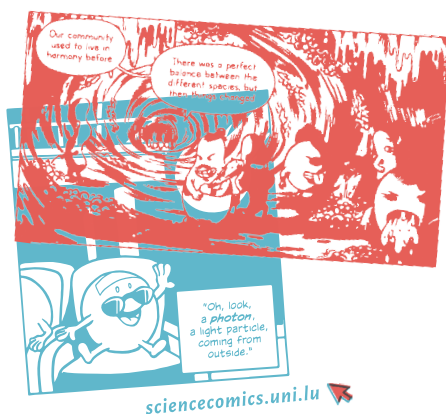




Popular science books and comics are excellent examples of popularised science communication. This article will focus on science comics and cartoons. Whereas comics refer to longer stories, cartoons usually consist of single-panel illustrations. Here, the term science comic will refer to both comics and cartoons with scientific content or a scientific message.

The increasing use of animated comics in scientific TV shows and documentaries illustrates that this medium is generally well received by many viewers. Science comics are also being used increasingly in science education and public engagement activities. They are particularly appealing to children and teenagers and may therefore be an ideal tool for stimulating interest in science among this audience. There is also evidence to suggest that, in particular, teenagers with a low science identity (see Essential 13) are more likely to continue learning about a scientific topic if they have learned about it from a comic rather than an essay^[39].

Science comics come in many shapes and sizes, from single panels to entire graphic novels. They combine written and visual communication and can embed the scientific content into a compelling story with strong visual metaphors that still leaves room for own thoughts and imagination. Comics can convey scientific information either entirely as part of the story, or by adding the information as extra blocks of text or diagrams that are not part of the story and

appear as an insert or digression^[40]. In the case of the former, it is important to ensure that the story is understood in the intended way by the reader so that the scientific content or message (intended inference) is conveyed. The latter strategy may increase the scientific content but also has the potential to break the flow of the story. Care must therefore be taken to ensure that the reader understands how this additional information relates to the story. The relation between the text and the pictures proves crucial for the correct transmission of information. None of these elements are isolated and they only make sense in their mutual context. In science comics, the link between text and pictures can be affected by the scientific content of the text. It can therefore be useful to draw attention to visual elements in a speech bubble to incite the reader to make the connection between text and image^[40].

Storytelling and character development are crucial. In the same way that a good storyline stimulates interest and encourages readers to develop their own questions about a topic, a poor storyline can be confusing and lead to misinterpretations when filling in the gaps. Furthermore, developing compelling and relatable characters will also engage your audience. Read up on storytelling and do not hesitate to seek help from experts, both for the storytelling and the visuals.

Finally, a word of caution. It is inherent in comic book production to take advantage of powerful visuals and metaphors. However, think twice about how you portray science and scientists as there is a high risk of reinforcing existing stereotypes. Of course, this cautionary advice is not only applicable to science comics but to every visual science communication effort.

Recommended reads:

- ♦ Farinella M. (2018), *The potential of comics in science communication*. JCOM 17 (01), Y01. <https://doi.org/10.22323/2.17010401>
- ♦ Tribull C.M. (2018). *Sequential Science: A Guide to Communication Through Comics*. Annals of the Entomological Society of America, 110, 2017, 457–466. <https://doi.org/10.1093/aesa/sax046>
- ♦ Friesen et al. (2018) *Communicating Science through Comics: A Method*. Publications, 6:38. <https://doi.org/10.3390/publications6030038>