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Kids in charge of the science machine

kids.frontiersin.org

Frontiers for Young Minds (<https://kids.frontiersin.org/>) is an open access journal that publishes scientific articles reviewed by kids. The open access format assures free worldwide access to kids from all socioeconomic backgrounds. The concept is simple, scientists write articles based on their published work or provide a conceptual review of an exciting area of science targeting elementary and middle school age kids. Kids then review the work in concert with a science mentor, typically a PhD student or a Post-Doctoral Fellow, and provide a review of the paper that must be addressed in detail by the submitting authors. This kid- controlled review process is structured to allow the kids to understand hypothesis formulation, experimental design, data analysis and publishing of results.

Each article is first assigned to an associate editor who works with a mentor paired with a single child or a classroom to conduct the review. The core goal is for kids to emerge with a clear and deep understanding of the topic of each paper. FYM reviewers and their mentor then write up a review that authors must address in detail. The revised paper is then approved by the mentor and FYM illustrators add a descriptive lead cartoon to each article. Figure 1 shows four cartoons addressing concussion, neural stem cells, harmful greenhouse gases and life on other planets (see Figure 1). The website (kids.frontiersin.org) is user friendly and the Bio of each kid or classroom reviewing the paper appears with each article. The journal currently has five sections: Astronomy and Space Science, Health, Earth and its Resources, Neuroscience and Biodiversity and more are planned.

Writing for children 8-15 can be a major challenge for the science authors and the kids are often unflatteringly honest. One eleven year-old reviewer commented “I think kids between 8 and 15 will have a hard time understanding

the words. Because they won’t understand the words, they will have a hard time understanding the meaning of the sentences. Not only the words are complex, the sentences are often very long and unclear.” Perhaps the most dreaded review comment came from a twelve year old “This seems important but the way it is written is so boring I can’t even get to the end. Could the authors maybe sound excited about what they are doing”.

FYM is an international effort and we are approaching our first 100 articles from 160 authors and over 400 kid reviewers and mentors from twenty-three countries. We aim to reach kids across the globe and across socioeconomic backgrounds. An immediate goal is to provide translations of our articles into many languages including Spanish and Chinese, to provide a corpus of interesting articles for classrooms internationally. If you are as excited as we are about the concept and promise of FYM, please consider becoming part of it as author, associate editor, or science mentor and join in the quest to involve kids in the scientific process.

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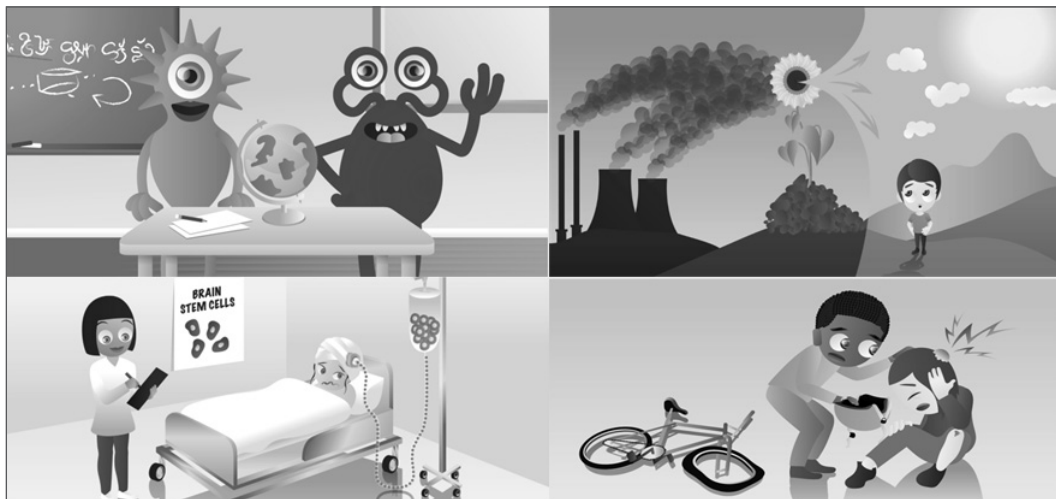


Figure 1. Lead in cartoons characterising the subsequent paper for four *Frontiers in Young Minds* articles.