Journey into Adaptation with Max Axiom, Super Scientist, A

Author/Publisher/Website: Biskup, A.
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Recommended Grades: K-7
Subjects/Courses: Science, English Language Arts, Applied Design, Skills & Technology

ERAC Review

DESCRIPTION
Max Axiom takes readers on an adventure as he explains the science behind physical and behavioural adaptations of plants, animals, and insects. This graphic novel provides a basic introduction to the concept of adaptation with an easy-to-follow storyline and with support from additional resources such as print and online information, 4D content, discussion questions, writing prompts, and a quiz. This resource is suitable for elementary-level students and lends itself to a class read-aloud or as an introduction to reading nonfiction graphic text, as well as providing opportunities for further research and inquiry projects.

CURRICULUM FIT
Does the resource support BC curriculum? Moderately

This product supports the Core Competencies of the BC curriculum:

• Communication
• Creative Thinking
• Critical thinking
• Social Responsibility

Comments:
This resource supports the Science Grade K–1 Big Idea that “living things have features and behaviours that help them survive in their environment,” and the Grade 7 Big Idea that “evolution by natural selection provides an explanation for the diversity and survival of living things.” This resource introduces students to the process of adaptation. Students can learn about Charles Darwin’s voyage to the Galapagos Islands and about examples of adaptation—from creatures found in Max Axiom’s backyard to extreme habitats undersea or in the Arctic. It supports English Language Arts curricular objectives if used to explore components of graphic novels or in the development of writing projects.
GENERAL CONTENT

Content:
Is the resource engaging? Moderately
Is the content current for the intended curriculum and grade? Extensively
Is the content accurate for the intended curriculum and grade? Extensively
Is the content timely and important for student broad understandings? Extensively

Audience:
Is the content appropriate to the emotional maturity and cognitive level of students? Extensively
Does the resource provide opportunities for creative and critical thinking? Extensively
Is the level of detail appropriate? Extensively
Is the language use appropriate to the emotional maturity and cognitive level of students? Extensively
Are the visuals appropriate to the emotional maturity and cognitive level of students? Extensively

Comments:
The graphic novel format lends itself to brief text to introduce the concept of animal adaptation and the strategy of rereading. This resource is organized into four sections to provide a basic introduction to adaptation. The sections are survival, physical and behavioural adaptations, and adaptations over time. The level of detail is appropriate as the purpose of the resource is to be a fundamental introduction to adaptation. The popular graphic novel format will engage and motivate reluctant readers, who could otherwise be overwhelmed with text, allowing for science content to be more accessible. This resource is officially levelled by Fountas and Pinnell as level T (Grade 5 and up).

TECHNICAL DESIGN

Does the resource make effective use of the medium? Moderately
Is the location of illustrations appropriate? Extensively
Is the resource easy to use? Moderately
Is the use of font, text size and presentation uniform? Extensively
Are extraneous elements/illustrations kept to a minimum? Moderately

Comments:
The graphic novel content will hook readers. However, there are several occasions when the medium does not help the reader develop an understanding of the scientific content. For example, illustrations of highlighted plant adaptations describe cacti’s waxy coatings or fleshy stems, but the visuals are distant and indistinct. The adaptive colour change of the Arctic hare is subtle in the illustration. Most 4D content is extraneous, consisting of very short videos without any accompanying narration or activity to support the development of understanding. The 4D content in the back matter has educational merit, supporting an experiment and supplying a multiple-choice quiz

INSTRUCTIONAL DESIGN

Is the instructional design effective and appropriate for the intended audience? Moderately
Is the resource suitable for a wide range of learning and teaching styles? Moderately
**INSTRUCTIONAL DESIGN**

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<tr>
<th>Question</th>
<th>Rating</th>
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<tbody>
<tr>
<td>Are the instructional elements consistent with the purpose of the resource?</td>
<td>Moderately</td>
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<tr>
<td>Are the concepts clearly explained?</td>
<td>Moderately</td>
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<td>Are the content chunking and sequencing appropriate?</td>
<td>Extensively</td>
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<td>Does the resource provide multiple strategies to help learners construct meaning?</td>
<td>Moderately</td>
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<td>Does the resource provide varied opportunities to demonstrate learning and extend thinking?</td>
<td>Extensively</td>
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<td>Does the resource provide appropriate tools for assessment?</td>
<td>Moderately</td>
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<td>Does the resource support the transfer of learning to personal or applied contexts?</td>
<td>Moderately</td>
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**Comments:**
This text provides a basic introduction to adaptation, covering key scientific discoveries and examples of physical and behavioural adaptations for plants, animals, and insects. The back matter provides an experiment, four discussion questions, four writing prompts, a printable multiple-choice quiz, as well as print and online resources to support further research. Glossary words are not highlighted in the text. Readers are at times required to go outside the resource. For example, in the experiment procedure, readers are asked to use the internet to look up pictures of three birds to study their beaks, while the accompanying 4D content does not supply video or links to complete the task.

**PRINT CLASSROOM**

<table>
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<th>Question</th>
<th>Rating</th>
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<tr>
<td>Does the reference cover topics with sufficient depth for the intended audience?</td>
<td>Moderately</td>
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<tr>
<td>Does the classroom reference have a bibliography and footnotes?</td>
<td>Not at all or slightly</td>
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<td>Are the subject area list and/or subtopics extensive?</td>
<td>Moderately</td>
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<td>Do the external links contribute to the learning experience</td>
<td>Moderately</td>
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<td>Does the resource broaden students’ experiences and understandings?</td>
<td>Moderately</td>
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<tr>
<td>Does the resource make effective use of visual elements?</td>
<td>Moderately</td>
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<td>Are the images compelling?</td>
<td>Moderately</td>
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**Descriptors:**
Student research tools

**Comments:**
This is a unique science resource in a nonfiction graphic novel format, which will appeal to comic book enthusiasts. Max Axiom, an African-American "cool super-scientist" explains science concepts to young readers. The plot is brief and fast paced. Max shrinks in his backyard to introduce the concept of adaptation for survival. He then travels in time to talk with Charles Darwin and next travels to the age of dinosaurs to discuss possible explanations for extinction. He also travels to different habitats to introduce physical and behavioural adaptations. The resource briefly introduces scientific concepts and supports further investigation using a passcode to the website “facthound.com.”

**SUGGESTED CLASSROOM USAGE**

**Comments:**
SUGGESTED CLASSROOM USAGE

This resource would be an engaging addition to the classroom collection of nonfiction books for its general interest and for its suitability for teaching how to read nonfiction graphic text. Reluctant readers would benefit from the resource for its easy-to-follow and sequential storyline. This resource provides discussion questions and writing prompts. After reading, students could brainstorm questions and research to gain a deeper understanding of areas of interest through inquiry projects. It is a suitable teacher read-aloud for primary grades. Readers can create their own graphic novel using comic software such as Comic Life.

ADDITIONAL COMMENTS

Readability:
Above intended grade level(s)

Comments:
“A Journey into Adaptation with Max Axiom, Super Scientist” has been acknowledged, along with several other titles in the Graphic Science series. His title originally received a commendation in 2007, when the Pennsylvania School Librarians Association listed it as a Young Adult Top Forty Nonfiction Title. Also in 2007, it was recognized as a finalist in the Distinguished Achievement Award, sponsored by the Association of Educational Publishers. “A Journey into Adaptation” won the Learning Magazine Teacher’s Choice Award for Children’s Books in 2008. The 2019 re-release of this resource with 4D content is available in paperback and hardcover. The 2007 release is also available on audio CD.