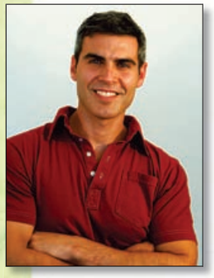
Q & A with Robert Sabuda and Matthew Reinhart



Q. Was the creation of the Encyclopedia Prehistorica books more or less challenging than other pop-ups you've done?

Robert: No book our studio ever creates is easy—ever! Each book is a challenge, since we try to go in new directions and not repeat ourselves. The latest book in the series, *Mega-Beasts*, for example, was exactly the kind of challenge we like to take on. Some of the mechanisms in this book are things we've never done before, and it took a while to get them just right.

Matthew: It's also hard to present the information about these amazing creatures in an interesting way and bring them to life, not just in pop-up movement but in words. It's important to describe them as living things, since that's what they were millions of years ago. In a way, though, *Mega-Beasts* was also a little easy, since it's the third (and last) of the Prehistorica series, and we're so comfortable about the style and tone of the books.

Q. How do you decide which items, facts, animals, and so on actually become pop-ups?

Matthew: Making the decisions for the pops is usually pretty easy—I just think about what would be cool to pop up or move in a book. The research in books and museums and on the Internet helps. Having been an amateur paleontologist my whole life is a big help, too! After I complete my research, I know pretty much which creatures will make the final cut. Of course, there are always the standout popular ones, like the mammoth and saber-toothed cat. Then it's been a matter of arranging the beasts in a logical fashion and taking out the ones that were too similar to the main "stars" of the book, the big central pops. Extra-weird creatures are always great to include, and I like to include the people who discovered the creatures, too, since their stories are just as interesting. I actually have more trouble making too many pops for the books and have to save extras for other books.

Q. Is there a large degree of trial and error in creating books of such complexity?

Robert: Yes! We make the pop-ups over and over to work out all the kinks. Nothing comes out perfect the first time. It takes patience and determination. But we like cutting and folding paper, so it's not so bad.

Q. Many of the pop-ups are interactive, such as those in which a conflict is depicted, either between animals or in one case between dueling paleontologists. Is this type of pop-up more fun to create? More difficult?

Matthew: Come on, who doesn't want to see a couple of prehistoric monsters duke it out? Imagining how extinct animals interacted is a lot of fun for us, but we make sure to always check our facts. Paleontology is an imperfect science, and theories are always changing.

Robert: It can be hard to make two separate pop-ups work together. For example, the giant ground sloth and the armadillo-like doedicurus were especially tough, since they both have to work together on the page. The pop-up was built many, many times to get them to cooperate when the page closed.

Q. Of all the amazing pop-up creations in this series, which are your favorites?

Matthew: I love the big quetzalcoatlus in *Mega-Beasts*, especially the way its wings open and its beak swings down. It's so cool and kind of scary! Actually, though, it's really hard to pick one, since they each hold something special. They are all our babies! Some we love more for their interesting movement, and others for the artwork. The woolly mammoth on the last spread of *Mega-Beasts* is especially endearing, since it's the first "head" pop-up in the Prehistorica series that doesn't chomp at the reader. He's actually reaching out to touch the reader, as if he's curious.

Teachers' Guide prepared by Karen Cardillo, educational consultant to publishers of children's books

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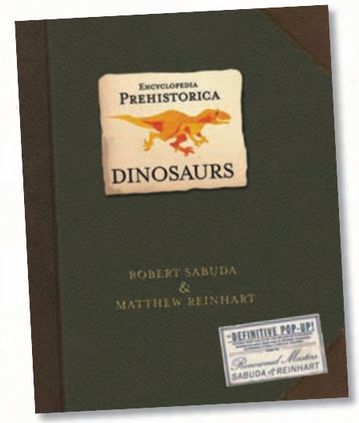
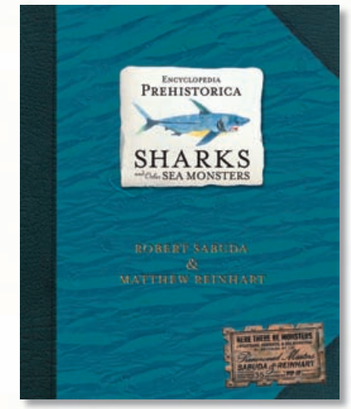
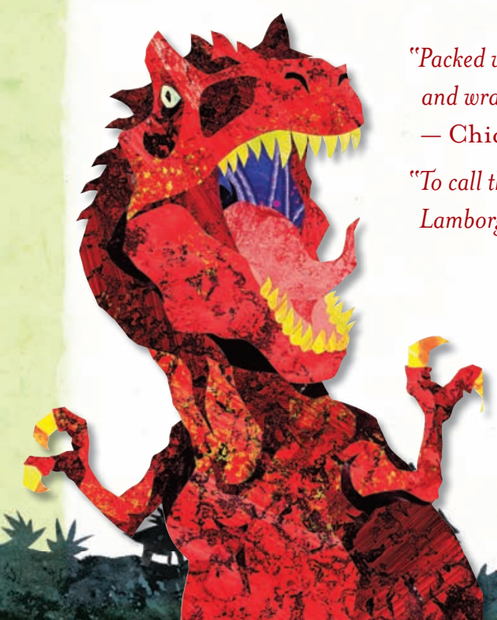
Encyclopedia Prehistorica

Teachers' Guide





With the Encyclopedia Prehistorica series, 3-D masters Robert Sabuda and Matthew Reinhart have succeeded in delivering their most innovative and exciting pop-up books to date. The three-book series — *Dinosaurs, Sharks and Other Sea Monsters,* and *Mega-Beasts* — enthralls not only with vivid and engaging pop-ups — more than 35 in each book — but also with fascinating facts, historical information, and even some folklore. Each book, through both lively text and stunning pop-ups, captivates readers of all ages, from the very young to the reluctant teen, as they explore prehistoric life and make discoveries that take them beyond the page and deep into a primitive world. Enjoy the journey!



"Packed with facts, statistics, and pronunciation guides and wrapped in awe-inspiring visual attraction."
— Chicago Sun-Times

"To call them merely 'pop-up books' is like calling a Lamborghini a set of wheels." — New York Post

Look inside for ways to use these extraordinary books in your classroom!

Dinosaurs 978-0-7636-2228-2 / 0-7636-2228-1
Sharks and Other Sea Monsters 978-0-7636-2229-9 / 0-7636-2229-X
Mega-Beasts 978-0-7636-2230-5 / 0-7636-2230-3
Age 5 and up

Candlewick Press
www.candlewick.com

Charge into great classroom projects with Encyclopedia Prehistorica!

Fright-or-Fancy Dino Masks

The ceratopsians (*Dinosaurs,* p. 5) had wide, elaborate frills and sharp horns atop their skulls. Have your students use paper, cardboard, and other materials to create their own dinosaur masks, equipped with stunning horns and other adornments. Host a dino pageant to show off everyone's creations.

Who Am I?

Invite your students to create a game of Who Am I? using the books as reference. Have them devise descriptive questions, then quiz one another. For example, a player might say, "I am a reptile invader larger than T. rex. I live in the water and eat everything in sight, including anything I can drag into the water with me." The answer is the kronosaurus (*Sharks,* p. 7).

All in the Family

Descriptions of the various animals in the Encyclopedia Prehistorica books often include a mention of the beast's modern-day relatives. Create a matching game to highlight these similarities. Cut an equal number of playing-card-size pieces of oak tag or heavy paper. Divide the cards into two equal piles. On one half of the cards, write the name of a prehistoric animal with some descriptive copy. On the other half of the cards, write the name of a similar or related modern animal. Have your students play the game by turning all the cards facedown and then turning over two at a time to find a match. Here are a few examples to get you started: ornithomimid/ostrich (*Dinosaurs,* p. 10), caudipteryx/roadrunner (*Dinosaurs,* p. 11), pterygotus/scorpion (*Sharks,* p. 2), mosasaur/Komodo dragon (*Sharks,* p. 10), teratorn/vulture (*Mega-Beasts,* p. 2), indricotherium/rhinoceros (*Mega-Beasts,* p. 5).

A Legend of Enormous Proportions

As mentioned in *Sharks*, Vikings feared a mythological sea monster called the Kraken; sailors had nightmares about the legendary Leviathan, waiting beneath the sea to swallow ships whole; and the Scots have long told tales of the Loch Ness monster, lurking in a Highland lake. Have each of your students pick one of the *real* prehistoric beasts from the Encyclopedia Prehistorica books and write their own legend about it.

Time Pyramid

Ancient life on earth spanned over several geological eras, principally the Paleozoic, Mesozoic, and Cenozoic, each in turn divided into periods. Create a classroom time pyramid to mark and describe each era. Have your students use encyclopedias and other references to include dates as well as specific conditions and inhabitants for each era. The base of the pyramid should be the Paleozoic Era, from 570 to 245 million years ago; the middle should be the Mesozoic Era, from 245 to 65 million years ago, split into the Triassic, Jurassic, and Cretaceous periods; and the top should be the Cenozoic Era, from 65 million years ago to the present, split into the Tertiary and Quaternary periods.

Help Is on the Way

Have your students stretch their imaginations and hone their descriptive writing skills by selecting one of the prehistoric animals depicted in the series, imagining a dilemma, challenge, or problem such a creature might face, and writing a "Dear Abby-saurus" letter from its perspective, describing the problem and seeking advice. Encourage students to use as much description as possible, including sensory words to describe sights, sounds, smells, and tastes — as well as to have fun and be creative. As an extension, you could have students exchange letters and write responses.

That's One for the Record Books

The Encyclopedia Prehistorica books feature many record-breaking facts and trivia. For example, the meganeura is the largest insect ever, with a two-foot wingspan. That's one big dragonfly! Have students produce their own record books by extracting such data from the Encyclopedia Prehistorica books. Invite them to include illustrations and to create covers for their fact books, then staple or bind the books together.

It's a Mystery to Me

The Encyclopedia Prehistorica books mention several massive extinction events: one at the end of the Paleozoic Era (*Sharks,* p. 1), one at the end of the Mesozoic Era (*Dinosaurs,* p. 1), and one at the end of the last Ice Age (*Mega-Beasts,* p. 12). Paleontologists do not fully understand the factors and causes of these mass extinctions. Did a spate of volcanic activity mark the end of the Paleozoic Era? Were dinosaurs wiped out after an asteroid hit the earth? Did climate change end the reign of the mega-mammals? Have students pick one of these events, research it further, and, using facts and reasoning, write about the possible factors that may have led to the mass extinction. Based on the facts currently available, which theory do they support and why?

Hey, You're Still Around?

Some modern animals, such as sharks, crocodiles, bats, and horseshoe crabs, have existed relatively unchanged for millions of years. Break your students into small groups, and assign each group one of these long-existing animals. Have the group develop a theory as to why it has survived for so long. What specific characteristics may have contributed to its resilience? What threats might it have faced over the years and how might it have survived? Invite them to consider the question of whether this animal faces any threats to its continued survival today and whether it's likely to survive another several million years. Have each group present its theories and reasoning.

Make Your Own Pop-Up

Go to the three books' individual listings at **www.candlewick.com** to find directions and reproducible images that you and your students can use to make your own amazing T. rex, shark, and pterodactyl pop-ups.