MEDIA- and ACTION-TIPS for STEM Volunteer Readers

BOOKS

The Very Hungry Caterpillar

© Gerstenberg Verlag

"In the light of the moon a little egg lay on a leaf." Generations of picture-book fans cite the beginning of the legendary story by heart. After all, the experiences of the little hungry caterpillar that - crack! - hatches from this egg and begins to look for some food, have been read out over and over again since 1969. Why did this picture book gain cult status? Maybe because Eric Carle has succeeded here in creating the perfect combination of a tight text with many repetitions (which of course the listeners immediately say), colorful and imaginative pictures as well as harmonious hands-on and learning elements. The greedy little animal finally feeds itself not only in text and image through all sorts of food - caterpillar and children learn playfully first words and numbers and can literally experience the traces of the eating adventure through the numerous holes in the picture book pages.

A classic children´s book that is still a template for reading aloud lively, reading along, naming, counting and tracing in an enjoyable manner.

From about 3 years of

Action idea: By the way, even the very first basic scientific knowledge is imparted, with the lovingly designed 3D pop-up app "The Very Hungry Caterpillar and His Friends – Play and Discover" (Story Toys Entertainment Limited, for iOS, Android, from about 4 years) can be expanded playfully: in creative design, assigning, jigsaw puzzles and narration! The app can be used in combination with the book the basis of an exciting and varied reading time.

German edition:
Number of pages: 26
Author & illustrator: Eric Carle
Publisher: Gerstenberg Verlag
ISBN: 978-3-8369-4231-7

BOOKS

Milo Mole and the Diamond of Truth
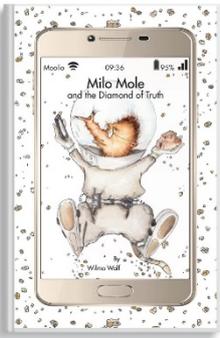
Emma's smartphone is always there: to keep in touch with her grandma and her best friend Kiki, but above all to keep in touch with brave mole Milo – the hero of her favorite mobile game. In a secret mission Milo and Emma travel to the moon in search of the magical diamond of truth. Emma is all the more perplexed about Milo appearing in her child's room one day announcing he is fed up with his daily life as a mole. He now wants to play with the smartphone himself. The smartphone used by the children to permanently rush him from order to order. Unfortunately, Milo seems to have some catching up to do regarding the use of such a device - and the nasty traps that can be hidden. But a real mole is, of course, not easy to trick…

© Holm Verlag

The smartphone compatible format will make young readers curious. The clever combination of fantastic history and hand-in-hand expertise along with playful elements such as QR codes, which provide background knowledge on internet usage, create a coherent overall package.

The mole-adventure with a virtual touch is complemented by a removable laminated Milo web glossary, whose joke will even gain younger children´s attention. Or would anybody seriously log on "Whatsgrabb" or do research on "Goofle"? A perfect template for teaching children responsible usage of social media and devices with internet access.

From about 8 years of

Action idea: The funny web glossary offers playful links to talk about research methods that are well-founded and age-appropriate with kids. For example volunteer reader and kids could together compare a classical print encyclopedia with a corresponding children's homepage. Additional the handling of big children search machines may be tested: Who can find more relevant information on the life of the moles and which pages can be trusted?

English edition:
Number of pages: 32
Author: Wilma Wolf
Publisher: Holm Verlag
ISBN: 978-3- 9467-93144

BOOKS

Professor Astro Cat's - Frontiers of Space
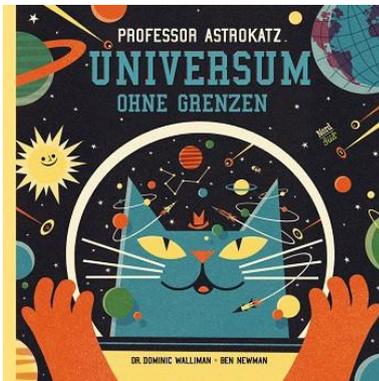
© NordSüd Verlag

The Universe contains all the stars we can see in the sky – as well as an unfathomable number that we can't. But Professor Astro Cat – the smartest cat in the galaxy – has all kinds of brilliant ideas for sparking readers' imaginations and helping them wrap their brains around a small part of this universal knowledge. One example: if you can't imagine what a Big Bang is like, just try turning the dial on a radio. One out of every 100 crackling noises you hear was produced by the radiation that the Big Bang generated billions of years ago. Some of the other information almost seems like a fairy tale – but it is true: have you ever heard of stars called Red or Brown Dwarves? Of course, not every question is as easy to answer as those posed by Astro Mouse – who wants to know whether the moon is made of cheese! But if you want to understand a lunar eclipse, the GPS system or how the night sky changes with the seasons, Professor Astro Cat and his space-mouse sidekick are real know-it-alls who can explain these complicated subjects with humor and expertise.

Don't be fooled by the creative retro look: this picture book about the secrets of the Universe is highly informative and based on sound professional knowledge. Of course, it is not a book to be read straight through in one go. Rather, in the same way that you can discover something new every time you look at the starry sky, here, each page gives the reader access to a fascinating area of knowledge.

Equally exciting for children ages 8 and up and adults who want to learn something about the Universe!

Action idea: It's easy to construct your own funny spaceship using yogurt cartons, tin foil and kebab skewers – or a toilet paper roll and silver construction paper. You can use the yellow plastic insides of a popular chocolate treat and a ring made of stiff cardboard to create a planet in no time. With a little bit of internet research and a few simple materials, each child can take home a souvenir of their galactic read-aloud session …

English edition:

Number of pages:	72
Author:	Dr. Dominic Walliman/Ben Newman
Publisher:	Flying Eye Books
ISBN:	978-1909263079

BOOKS

The Day the Crayons Quit
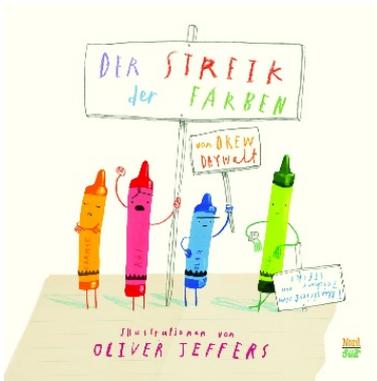
© NordSüd Verlag

What fun! A big stack of letters for Duncan! But it soon becomes clear that this unexpected shower of mail is directly connected to the sudden disappearance of all his colorful crayons from their box. Purple, Pink, Brown, Black, Green and the others are fed up: they are constantly overworked, stuffed into one-dimensional cliché categories, while their true potential goes completely unrecognized. Therefore, they have decided to write open letters where they clearly state their complaints: Purple very much enjoys being used as a color for magical hats, but can't stand it when people color over the edges. Gray complains that elephants simply use up too much color. Yellow and Orange argue about who is the true color of the sun. Peach doesn't dare leave the box without its paper cover. Only Green is completely happy – after all, it is Duncan's favorite color…

On every double-page spread, this witty crayon crisis session introduces a color that directly addresses the young artist with its letter of complaint or thanks. The letters are written on crumpled slips of paper, in spidery children's handwriting – on the opposite page, a brilliantly pointed illustration makes their content clear. For example, the melancholy Beige crayon that is so rarely put to use… Hilariously funny, definitely challenging and out-of-the-box creative: this book presents a perfect opportunity to talk about the use of different colors, their occurrence in nature and art and their meanings; it can also be a means of introducing primary and complementary colors.

From about 6 years of

Action idea: There is not just one green, one yellow, one red – there are countless shades of every color, and we can discover them almost everywhere around us. You don't even have to play "I spy with my little eye…" to identify things that are dusty blue, pine green, mustard yellow, smoky grey or fire engine red, for example. Then, of course, you can pick out favorite shades and try to mix them as exactly as possible using watercolor paints. This is also a practical way to learn that obstreperous purple is closely related to red and blue! You can also demonstrate this very effectively using test tubes, food coloring and a pipette …

English edition:
Number of pages:	40
Author:	Drew Daywalt/Oliver Jeffers
Publisher:	Philomel Books
ISBN:	978-3-0399174193

BOOKS

Dinomania – A Pop-Up Journey to Prehistory

© Knesebeck Verlag

Who is ready to take a trip to prehistoric times? Certainly every young explorer who has already acquired an impressive amount of detailed knowledge about the mysterious giants of prehistory, the dinosaurs. But for beginners, too, this fascinating pop-up world, which reveals a new three-dimensional scene with every turn of the page, offers a very special reading or read-aloud experience. There are so many creatures to see and marvel over – whether they are water reptiles like Deinosuchus or Ichthyosaurus, emerging in lifelike form from the backdrop of the ocean; Quetzalcoatlus, with its simply astonishing 12-meter wingspan, flying against the sunrise; or perhaps, for safety's sake, visiting Diplodocus in a museum, where it is on display with all of its other relatives.

Each double-page spread can be unfolded twice; and before you open the lower section, you can read (or read aloud) the short texts about the legendary rulers of the oceans, forests and skies. The colorful pop-up pages are artistic in design, yet they nevertheless provide a realistic picture of the widely varying reptiles. Each individual dinosaur is also labeled with its size and weight. A timeline at the lower edge of the page makes it possible to categorize the animals geologically. This is a top-quality visual journey of discovery as well as an astonishing educational book!

From about 6-7 years of

Action idea: Playing a game makes it easier to remember the difficult names of the prehistoric giants. For this, you can make two copies each of the small, square illustrations on the inside cover pages and on the back cover, cut them apart and label them together with the children. (Of course you will need to refer to the book to do this!) When you are finished, you can use the paper squares to play a memo game. Who do you think will win – the children or the adults?

German edition:

Number of pages:	18
Author:	Arnaud Roi/Gwen Keraval
Publisher:	Knesebeck Verlag
ISBN:	978-3-86873-876-6

APPS

The Very Hungry Caterpillar and His Friends – Play and Explore

© StoryToys

The Very Hungry Caterpillar and his friends need your help urgently! Once again, the caterpillar is terribly hungry and has to gobble up a huge amount of fruit to satisfy his appetite. But watch out: there are all sorts of unhealthy, sugary snacks hidden among the fruits, and the caterpillar needs help avoiding them. And there's always something going on with the Very Hungry Caterpillar's friends, too! There are baby animals to find, puzzles to solve and flies to catch. Of course, all these things work best with the active support of little caterpillar experts. One especially nice feature: for every task you solve successfully, you can win a very unusual badge! Who hasn't always wanted to have a "Marine World Explorer" or a "Whiz Kid Quiz" badge?

The Very Hungry Caterpillar and His Friends – Play and Explore is a wonderful complement to Eric Carle's bestselling book. The app combines child-friendly, interactive games in the inimitable style of *The Very Hungry Caterpillar* with exciting information about the animal world, sparking young scientists' curiosity. The factual texts are perfect for reading aloud. The clear formulations and design allow for uncomplicated and intuitive operation on a tablet.

Within the framework of the "Volunteer Readers" project, an app recommendation screencast is available, which provides an even better overview of the app.

From about 3 years of

Action idea: *The Very Hungry Caterpillar* is a classic that belongs in every child's bookcase. How nice that this app gives children the opportunity to rediscover the little caterpillar on a tablet or a smartphone! The app is wonderfully suited for additional activities in connection with read-aloud time, since it stimulates children's desire to further explore subjects of nature and general knowledge. Find out more about the classic picture book here.

English edition:
Publisher: StoryToys Entertain Limited
Compatibility: iOS, Android, Kindle Fire

APPS

The Human Body
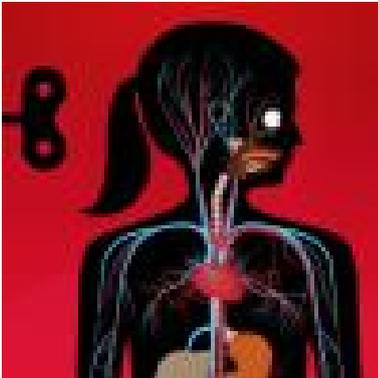
© Tinybob

What does a body actually look like from the inside? And most of all, how does it work? Let's go on a fascinating journey through the body! Nervous system, skeleton, digestion, respiration and more are just waiting to be discovered. And by accident you learn playfully, how the oxygen gets into the blood, how a message gets from the hands to the brain or what happens to the food that we have just tasted. Bet that you have never had so much fun talking about digestion? Duping sounds are included in the app namely … Not to mention the fascination that this theme has on children.

The app "The Human Body" introduces children at primary school age into the fascinating world of anatomy. The appealing, interactive illustrations are simplified and tailored to the young users. The app itself contains only a few words, because the explanations associated with the pictures are simply read out of the booklet, which can be downloaded from the manufacturer's website, so the interaction between the children and the reader is preprogrammed for the app.

Please check the app recommendation screencast published in the course of the project "Volunteer Readers" to get more information.

From about 6 years of

Action idea: Some of the body functions that were shown in the app, you can understand ourselves – together with the kids. For example, how to measure pulse rate on the wrist, how to change pulse and breathing, how to run or jump, how to do a flashlight experiment in order to observe the size of the pupils are experiments easy to realize with kids. In this manner kids learn more about their body in a very playful way.

**US edition:**

Seller:	Tinybob Inc.
Languages:	58 languages including German, English, French, Italian, Portuguese, Russian, Spanish
Compatibility:	iOS

Lindbergh: The Tale of a Flying Mouse
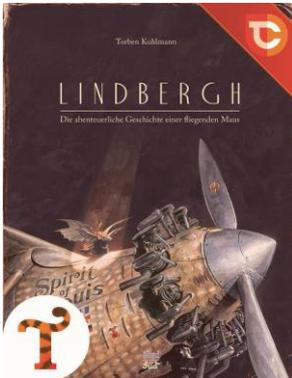
© NordSüd Verlag/Oetinger

A little mouse and a big trip: So far, that's not an unusual story. But when it comes to a particularly well-read (library) mouse, which is looking for means, and above all, a means of transportation to fly from Hamburg across the Atlantic Ocean to New York then it becomes an unusual story! Luckily the migratory mouse has fantasy, pawing skills, technical skill and persistence. After all, who ever heard of a flying mouse? But the little hero creates the unbelievable and manages to build a functioning aircraft. What follows? An acclaimed landing in New York and the beginning of a legend.

The award-winning story also captivates in the app version with fantastic illustrations, an exciting plot and a gorgeous hero. In addition, there are numerous imaginative animations, which are z. For example, it would be possible to set in motion the propeller of the elaborately designed model airplane, to look at the city from a bird's eye view, or to sound the ship siren in the harbor. Soundtrack, reading mode and 5 different languages can be selected.

From about 6-7 years of

Action idea: What is the simplest aircraft design? Of course a paper plane! But why is it that some fly really far and crash some immediately? Through the child search engine www.kidzsearch.com or www.kidrex.com you will find numerous construction manuals and can examine the flight conditions very practically. Racing is of course firmly anchored in the program.

German edition:
Seller:	NordSüd Verlag/Oetinger
Languages:	German, English, French, Italian, Spanish
Compatibility:	Android and iOS (ibooks and TigerBooks)

David Wiesner's Spot

© Houghton Mifflin Harcourt

It starts out with just a ladybug, crawling around on the otherwise white screen. But what is that strange spot in the middle? If you enlarge it, the spot on the ladybug's back is transformed into an island. If you enlarge the island, suddenly you see a house. And if you enlarge the house, you can see various objects lying on a desk. Enlarge the newspaper photograph on the desk, and you see a swarm of ladybugs carrying black umbrellas. The puddle on the ground then leads to the ocean. And so it continues on and on forever…

This prizewinning app follows the same process to lead users into five fantastical worlds, which are linked to one another in twisting paths like a labyrinthine garden, inviting players on a great journey of discovery. Completely without words, the app tells little stories – such as one about an anglerfish whose light can be switched on and off.

Within the framework of the "Volunteer Readers" project, an app recommendation screencast is available, which provides an even better overview of the app.

An innovative storytelling app that invites users ages 4 and up to spin tales together.

Note: The app contains advertising in the secure parents' section.

Action idea: The app is based on the principle of a story-within-a-story as well as on the variability of shapes and perception. Children are automatically prompted to invent stories to go along with the worlds and characters that appear. For example, why are the cats having a parade? Why is everyone looking for the little green alien? Building on this, players can also create their own stories or images, which then allow the next child to choose an object and continue drawing or telling a story. With older children, the app can also be used to address the theme of (illusory) perception and to begin exploring the subjects of optical illusion or mimesis in the animal world.

English edition:

Author/ editor:	David Wiesner
Seller:	Houghton Mifflin Harcourt
Languages:	English
Compatibility:	iOS

Rudi Rainbow and the Lost Colors

© Hello November / Slackhead Games

Rudi Rainbow really only wanted to play in the yard with his friends Tommy Tornado, Sören Snowflake and Stella Star. But after Harold Hurricane threw a wild tantrum, Rudi's colors disappeared. Rudi's friends can't stand the thought of him having to live in black and white from now on – so they go off in search of the lost colors. What happens next is really exciting, because along the way, they learn about all kinds of fascinating natural phenomena.

Rudi Rainbow is a weather learning app that teaches children about the work nature does on a daily basis. The story about Rudi's search for his lost colors is accompanied by interactive games that help little scientists learn lots of information about weather phenomena and astronomy. The short loading times between the individual chapters are filled in with exciting facts: did you know that there are 88 constellations in the firmament? A fun and colorful story with plenty to learn for children as well as adults.

Within the framework of the "STEM Volunteer Readers" project, an app recommendation screencast is available, which provides an even better overview of the app.

From about 4 years of

Action idea: How do clouds form, and why does it rain? You can create a model of how the water cycle works on your own window at home, using a resealable plastic freezer bag, a little water, food coloring, a black permanent marker and strong adhesive tape. Draw ocean waves on the lower edge of the plastic bag, and the sun and clouds in the upper corners. Fill the plastic bag with a mixture of water and food coloring up to the top edge of the waves. Next, seal the bag tightly and use the tape to affix it to a window (preferably one that gets plenty of sunshine). Now, depending on the temperature, you can observe how the water evaporates, and somewhat later, how it condenses and "rains" again.

English edition:
Developer: Hello November / Slackhead Games
Languages: German, English, French, Italian, Portuguese, Spanish
Compatibility: iOS, Android

The Earth

© Tinybop

This app offers fun and learning at every turn! In the fifth installment of Tinybop's fantastic, animated Explorer's Library, everything revolves around the Earth and the geological forces at work inside of it and on its surface – with more or less spectacular effects. At first, you simply see an interactive model – but at the touch of a finger, or when you turn a virtual wing screw, you can move in for a close-up view of what is hidden under the Earth's crust, inside a volcano, on the ocean floor, or in sedimentary rock strata. Users can make a volcano erupt or provoke an earthquake by swiping or tapping the screen. At the same time, the app allows users to change perspectives, reveal or hide descriptions, mix up terms, toss them around and rearrange them. It is a journey that can transport any viewer to the center of the earth in complete safety...

Here, players can create and wander through landscapes, activate and observe natural phenomena. Again and again, you can make new discoveries, listen to the fascinating nature soundtrack and along the way, learn extensively about such complex subjects as sedimentation, tectonic plates or volcanoes. Texts are not even necessary here...

From about 7 years of

Action idea: Before starting to explore the app together, you can set the stage by reading a short story aloud – for example, Toby and the Ice Giants. Or bring along some unusually shaped stones or fossils and together with the children, use the app to find out how and when they might have been formed.
More activity ideas related to natural phenomena are available in our video series "STEM & Reading Aloud in Action".

English edition:
Developer: Tinybop
Languages: 47 languages including German, English, French, Italian, Portuguese, Russian, Spanish
Compatibility: iOS

Professor Astro Cat´s – The Solar System

© Minilab

A picture book with an elaborate retro look is being launched in digital form – that does seem unusual! And in the case of Professor Astro Cat, it's unusually successful. Young users are welcomed into the top-secret space program by the feline astronaut himself and immediately receive their first assignment. They then begin exploring our solar system; along the way, they can collect medals, which are the prerequisite for their own careers as rocket scientists. By swiping and touching the screen, they can visit and explore the different planets. On each planet page, users can first reveal factual information and then check their newly-acquired knowledge with a quiz. If, for example, you remember that sulfuric acid rain falls on Venus, you can successfully collect Astro Snacks for the hungry space professor. And once you have confirmed your expertise further, you can also use the stars you earn as proof of your qualifications: little by little, as a newly qualified specialist, you can acquire all the components you need for your own spaceship mission.

This harmonious digital version of the highly-praised educational children's book on the subject of the solar system succeeds through its consistency with the printed original, meaningful animation and clear structure. Here, as a space cadet-in-training, the reader becomes part of the galactic (story book) mission and is guided toward long-lasting, successful learning by means of a well thought-out reward system. Even adult cadets can acquire some new knowledge here, too!

Within the framework of the "Volunteer Readers" project, an app recommendation screencast is available, which provides an even better overview of the app.

From about 8-9 years of

Action idea: Fans of arts and crafts can also have lots of fun with this topic. You can help children build a creative model of the solar system using just a few materials. For example, you can use paper circles and wooden toothpicks or differently-sized Styrofoam balls and florist's wire to model the order of the planets. The app provides the information you will need – such as the proportionate sizes and distances apart. If your time is limited, you can draw and cut out the planets in the right sizes before the read-aloud session. The children can then consult the app together to label and order the planets correctly.

English edition:
Developer:	Minilab
Languages:	German, English, French, Italian, Portuguese, Russian, Spanish
Compatibility:	iOS

Pettson's Inventions Deluxe HD

© Oetinger Media / Filimundus

Pettson and Findus? That's right – the two slightly offbeat heroes of Sven Nordqvist's beloved picture book series. Many young readers are already familiar with their adventures: a perfect introduction to this lovingly designed game app, which will be lots of fun for all children – not only the tinkerers and technology fans! Whether it is a comparatively simple construction, made from a seesaw, a rope and a carrot-loving cow that transports a little muckla into an apple tree – or an inclined plane, a sweeping grandma, a ball and a bell that combine their strengths to rouse Grandpa from his sleep – whatever it is, users are called upon to think, try out, reject and rebuild before they finally get their crazy machines running. Successful players receive a reward in the form of a gold star – and high praise from Pettson himself …

Simple rules of physics, plenty of imagination, a little patience, and enthusiasm for tricky tasks – these are all the things a young machine builder needs. And what never fails to amaze: children always get the hang of it much faster than adults do. This will quickly become evident in two-player mode – and hopefully you will make it to the next level …

From about 5-6 years of

Action idea: The connection with the Pettson books makes this an easy choice! In order not to run out of time, you can present one of the stories as a mixture of reading aloud and summing up – then follow this by exploring one of the inventions in the app together. If you want to use the app alone, you could combine it, for example, with a small experiment on the subject of "levers." Using a ruler, a rubber band and building blocks, you can demonstrate how objects can be lifted more easily by shortening one end of the lever …

German edition:
Developer:	Oetinger Media/Filimundus
Languages:	German/English/Swedish
Compatibility:	iOS, Android

Ubongo – Puzzle Challenge

© United Soft Media

Do you have enough "ubongo" for a fast, colorful and tricky game? It's easy to find out! "Ubongo" is the Swahili word for "brain" or "intelligence." And your little gray cells really will start spinning when a surface needs to be filled the right combination of geometric shapes – in a new way every time, and as fast as possible! The shapes are located outside the play surface, and you can turn them or flip them by tapping or double-tapping so that they – hopefully – fit perfectly into the empty spaces. Users try to complete different levels of difficulty, collect precious stones and test their capacity for logical thinking and imagination while playing against time or competing with other players …

In this digital version of the popular board game, players are motivated by the colorful design, graphic patterns, African-style drums and animal sounds. The soundtrack can also be turned off. An especially nice feature: the free mode lets you figure out the puzzles without time pressure or the stress of competition. Only adults are likely to need the short tutorial – unless, of course, they remember the classic game "Tetris," which is based on a very similar principle.

From about 6 years of

Action idea: Geometric shapes can be combined in many different ways. You can learn this in the app – or using squares, rectangles, diamonds, circles, triangles, etc. that you cut out of stiff cardboard ahead of time or make together with the children. You can then combine the shapes, for example, to make African animals such as elephants, giraffes or lions. You can find more shape-related activity ideas in our video clip series "STEM and Reading Aloud Activity."

German edition:

Developer:	Unity Soft Media
Languages:	German, English
Compatibility:	iOS, Android