

TOP 20 KFORCE PICKS:

STEMAPPS FOR GRADES K-12



WELCOME

At Kforce, we match talented professionals with some of the best companies in the world. Our work gives us an insider's view into what today's employers need: people skilled in science, technology, engineering and/or math (STEM).

The demand for STEM talent continues to surge. By the year 2025, there will be <u>3.5 million STEM</u> jobs. Despite future projections, there is a huge STEM talent gap in the U.S., which may cause as many as 2 million of these jobs to go unfilled.

Let's combat the <u>declining STEM interest</u> by providing fun and engaging ways for kids to explore and learn. Introducing STEM education early on will be pivotal for these future professionals to secure their space in this coveted field.

One of our favorite ways to get kids excited about STEM-related concepts is through game play. We researched, downloaded and tested hundreds of STEM apps for grades K-12 to list our Top 20 Kforce Picks. Check out this eBook for our suggestions.





20 APPS FOR







Engineering









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Grades 6-8



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Science is a crucial component in early childhood education, as it teaches problem-solving skills and empowers kids to experiment, make predictions and ask questions to understand the world.

As parents, it can be difficult to answer all the complex questions kids have about the universe. In fact, only about half of parents feel confident in supporting science learning.

With the progression of mobile devices, the solution is never far away with innovative applications made for any inquisitive mind. Get to know our favorites:



About the App

These adorable, colorful little characters are called Thinkrolls, and it's the user's job to navigate them through a series of puzzles by successfully using fundamental physics principles. With this award-winning app, kids will experiment with gravity, heat, buoyancy, speed, friction and elasticity to overcome a variety of complex obstacles.

Why We Love This App

This app has turned the standard maze into a science lesson for preschool and elementary school-aged kids. If you think you can just zoom through this app "Pac-Man style," then think again! Players will need to use a variety of different objects (each representing a scientific concept) to clear the path and get their Thinkroll to the end of the maze.

Grade Recommendation K-5

Cost \$3.99





SCIENCE





NASA VISUALIZATION EXPLORER



About the App

Your kids will see the world through the eyes of NASA scientists. They will learn about NASA's ice, cloud and land elevation satellite named Mars. Users also learn about its magnetic tail, what causes the bright spots on the surface of the dwarf planet Ceres and more.

Why We Love This App

We love this app because it gives you a behind-the-scenes look into what NASA is working on right now! Kids will love this app because it engages them with striking images and animations taken by the Hubble Space Telescope. Extraordinary visuals, access to real data and cutting-edge concepts presented in a story format make NASA Visualization Explorer irresistible.

About the App

Learn all about a frog's unique lifecycle and anatomical details without the live animal dissection. Middle schoolers can point their device's camera at a flat surface, and watch a realistic frog appear right in front of their eyes using AR technology. Leap into this biology lesson by using your finger or an Apple Pencil to dissect the frog and get a close-up look of its complex organs.

Why We Love This App

We love how the scalpel, forceps and scissors feel so real, and we're amazed at how well the app replicates an actual dissection. And we, of course, give this app bonus points for no messy cleanup and strong formaldehyde odor!







Cost







Grade Recommendation



\$3.99











THE ELEMENTS IN ACTION



About the App

Watch the periodic table come to life in this amazing app with video exploration of the elements. Users can click on "boron" in the periodic table and see how it's used in fireworks to produce a green flame. Or, tap on "molybdenum" to explore why it's often used for high-temperature furnace components. Chemists and scientists have used these substances for years to create inventions from smartphones to LCD screens, exemplifying the critical role elements play in the world of STEM.

Why We Love This App

Simply put, the design aesthetics of this app are captivating. It's the perfect solution for your kids to observe chemical reactions without having harmful fumes or explosions in your house. The quality and styling of the videos pull high schoolers in, giving them a front-row seat to some of the coolest experiments they'll ever see.



9-12
Grade Recommendation

\$4.9

Cost



About the App

Users will unleash their inner astronaut with this realistic 3D space flight simulation game. Through this app, high school students can recreate historic NASA missions and explore planets, moons and solar systems.

Why We Love This App

The physics and mechanics in this app are impressive. We love how the flight computers, switches, instruments and displays are realistic and function precisely. The Space Simulator is an excellent way for high schoolers to get hands-on experience and explore concepts they're learning in school in a fun and interactive virtual environment.



9-12
Grade Recommendation



\$4.99 **Cost**









In this golden age of innovation, learning about coding early on has become an invaluable skill to solve problems in our world using abstract and creative techniques.

With 67% of all new STEM jobs consisting of computing and only 10% of STEM graduates <u>obtaining a computer science degree</u>, it's up to the younger generation to immerse themselves in this ever-growing field as soon as possible.

Introducing children to this highly technical field has never been easier or more fun. From learning about algorithms through puzzles to designing their own app, there are countless mobile applications at their disposal to get started. Discover our top choices:



CODESPARK ACADEMY

About the App

codeSpark Academy introduces kids at a very young age to the concepts of coding and computer programming through a variety of games and puzzles. In addition to getting a head start in STEM, codeSpark Academy provides building blocks to early literacy and mathematics through beginner programming languages like Logo and Smalltalk.

Why We Love This App

This app is perfect for early elementary-aged kids because there are no words or instructions. By fostering creativity and learning to be confident problem solvers, young kids will get started on the path to becoming coders. Pre-readers can jump right in and learn the necessary programming skills to start building games completely through visual cues and an incredibly intuitive UX/UI.

Grade Recommendation



Cost









TECHNOLOGY





About the App

Tynker empowers middle schoolers to code by solving puzzles and designing their own games. Watch your kids transform their imaginations into reality through the power of programming. This app uses command blocks to introduce students to programming applications and robotics, leaving them hooked to continue learning more challenging concepts.

Why We Love This App

Kids will love Tynker because it provides interactive and fun classes that can be done at their own pace! With concepts ranging from debugging programs to pattern detection, this app is an excellent way for students to build their computational thinking skills for a future career in STEM.

About the App

Hopscotch is a fun and interactive introduction to the basics of coding. Kids will be guided through some of their favorite games to learn how it was put together. Once they grasp the fundamentals, they will then have the choice to develop their own games from scratch. Middle schoolers can even publish their games within the app for others to play and enjoy. With a little creativity and imagination, the possibilities are endless.

Why We Love This App

Who knew learning to code could be so fun? The purpose of us downloading Hopscotch was strictly to review the app, but we must admit that we may have been caught sneaking in extra screen time to build games with our new coding skills. We love that this app is so hands-on and the tutorial overlays throughout are super useful. Warning for parents: You may want to download Hopscotch for yourself!





Cost

Grade Recommendation





Grade Recommendation







8 | 2020 STEM eBook

TECHNOLOGY



SOLOLEARN

About the App

No coding experience? No problem! Lightbot: Code Hour is a programming app disguised as a puzzle game, and it secretly teaches your kids programming logic as they play. They can learn all the fundamental coding concepts such as sequencing, recursive loops, conditionals and procedures while lighting up tiles and guiding the robot through the puzzle.

Why We Love This App

Learning a valuable skill through game play is always a win for us. We love Lightbot: Code Hour because it not only introduces the basics of computer science and coding, but more importantly, it makes high school students think like programmers. Get your child ready to exercise their critical thinking skills with this app.



9-12

ERFE

Grade Recommendation

Cost





About the App

Whether your kids are just breaking into programming or looking to grow their experience further, SoloLearn allows high schoolers to join a community of fellow coders and put their skills to the test! This collection of free learning content offers courses to help them pick up a new programming language and challenge themselves with varying levels of difficulty. High school students can use this app to take the first step toward learning a new skill and growing their technical portfolio.

Why We Love This App

With SoloLearn, anyone has the power to become a coding wizard. This app breaks complex topics down into easily digestible courses backed by a community of passionate programmers who are invested in helping users succeed. High school students can learn on the go with quick interactive quizzes and exercises teaching the fundamentals of programming while inspiring the next generation of innovators.



9-12

FREE

Grade Recommendation

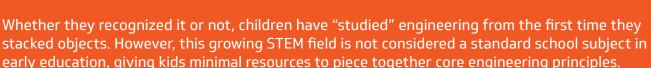
Cost











With over 135,000 open engineering jobs projected by 2028, it's up to parents and teachers to provide the essential building blocks needed to break into this arena. In today's day and age, there are a variety of mobile applications designed to inspire the next generation of engineers, without parents having to step on yet another fallen LEGO. Learn about our top selections:



About the App

Welcome to the World of Goo where your kids will drag, drop and stack gobs of goo to build fun structures while traveling through multiple worlds. Sound easy? Not really, because they will soon be introduced to various types of goo balls that function differently than all the others. With the gravitational proprieties in this game being similar to the moon, kids will apply Newton's Laws of Motion to complete the puzzle successfully.

Why We Love This App

We can't think of a better or more fun way to teach elementary schoolers concepts of physics and puzzle building! Figuring out how to construct goo bridges that don't give in to gravity will most definitely tap into a kid's creativity, strategic thinking and problem-solving abilities—soft skills that are critical in today's business world.

Grade Recommendation



Cost











CRAZY GEARS



SIMPLEPHYSICS

About the App

This app has been described as a digital playground in the form of an addicting puzzle game. The bold colors will draw your child in as they learn how different mechanisms affect one another when constructing a machine.

Why We Love This App

We love that this app is geared toward even our youngest future engineers. While exploring and building machines in "Crazy Gears," kids will learn how mechanisms work as they encounter them in and out of the classroom. Children will also learn that there is often more than one way to solve a problem—a key concept within STEM.

About the App

With SimplePhysics, budding engineers and architects get to try their hand at building anything from treehouses to ferris wheels. Create designs with the blueprint editor or start from scratch. But, there's one catch—the building materials have a "cost" associated with them. So, not only do users have to build the best structure, but it needs to come in under budget.

Why We Love This App

We love this app because, in the real world, we know everything isn't black and white. There are various ways to look at something to come to a solution. In STEM careers, a popular approach to problemsolving is through design thinking—a solution-based approach to creatively resolve issues by understanding people's needs and developing effective solutions to meet those needs. With SimplePhysics, your kids will get an early taste for design thinking every time they play.



Grade Recommendation



\$2.99

Cost





Grade Recommendation



\$0.99 **Cost**



ENGINEERING



MINECRAFT



TRUSS ME!

About the App

Let your kid's mind run wild! This app will unleash their creativity by building their world with 3D blocks in Minecraft. Middle school students can invite their friends to play online in their world and explore every nook and cranny. The great thing is there isn't one single way to play. It's their game, their world and they make the rules.

Why We Love This App

There's a reason why this is the second bestselling video game of all time. Minecraft does an excellent job bringing out the creativity in everyone. We love how kids can become absorbed in this educational game and completely lose track of time. Their brains will get a great workout by drawing up critical-thinking skills, problem-solving strategies and more.

About the App

What better way to learn about the engineering field then to play an app designed by a rocket scientist? This educational app uses state-of-the-art simulation to provide realistic scenarios used by aerospace, mechanical and civil engineers. Students can select from either a freestyle mode to build structures and test their designs or a challenge mode to solve increasingly difficult puzzles by designing load-bearing structures.

Why We Love This App

"Truss Me!" is a great way to teach students the dynamics of truss design, opening their eyes to the world of structural engineering. High schoolers looking to learn more about this STEM space can get a realistic feel of building an optimized structure without any of the repercussions of it buckling under pressure. This app is an excellent way for future engineers to learn the ins and out of design while having a great time!



Grade Recommendation



Cost







9-12



Grade Recommendation















Math is an essential skill to succeed in any space, regardless of the profession. It gives us a way to understand the world around us, visualize problems and unravel complex tasks.

This subject is taught in <u>99% of elementary schools daily</u>, according to the NSSME, emphasizing the rising demand for teaching children about mathematics.

When sifting through educational STEM resources for your kids, it's imperative for math to be a part of the equation. That's why we've identified top mobile applications for your children to grasp mathematical concepts at any level. See a few essentials below:



MATH VS ZOMBIES

About the App

Math Vs Zombies uses a whole new approach to teaching children math concepts. Your kids will transform into scientists and go on a mission using their math skills to save the planet that is overrun by zombies.

Why We Love This App

Everyone who has a child in elementary school knows the importance of repetition with math skills. Whether it's simple addition, multiplication tables or an introduction to fractions, constant repetition is critical. Gone are the days of boring flashcards. We now have Math Vs Zombies to supplement math learning (cue the applause from parents near and far).

Grade Recommendation



Cost



Download on the App Store

@Kforce Inc.

MATHEMATICS





About the App

Are you having a hard time getting your kids to put down the controller and concentrate on their math homework? We have the perfect solution. Prodigy disguises math homework as a video game. Watch your children join epic monster battles with friends in their classroom, all while answering math questions aligned to their grade level.

Why We Love This App

Upon creating an account, users will be paired with a magical pet of their choosing to cast spells during battles and earn prizes. Kids will be prompted to solve math equations to advance the character and pets. With a variety of immersive storylines and battlegrounds to choose from, they won't even realize their math skills are increasing with every quest!

About the App

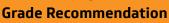
DragonBox Algebra 12+ is an incredibly fun, fast and easy way to learn and practice algebra skills. This self-paced game allows kids to advance through "chapters" that build upon skills such as positive and negative signs, factorizations, parentheses, substitution and other math fundamentals.

Why We Love This App

Let's face it—algebra can be tough, but with DragonBox Algebra 12+ it just got a little easier! We love that this app was carefully created and based on methods that focus on discovery and experimentation, instead of the typical drills and flashcards that kids see at school.



T FF





Cost



Download on the

App Store



Grade Recommendation







MATHEMATICS





About the App

With Socratic by Google, getting stuck on a math equation is a thing of the past. Powered by Google AI, this apps allows high school students to either take a picture of their math problem or ask a question directly to find the solution. And the best part? Instead of just feeding the answers like many other sources, Socratic by Google breaks down challenging concepts, allowing students to actually learn and keep their grades up.

Why We Love This App

Gone are the days where you have to scour the internet in search of an answer. Socratic by Google is a huge time saver when high schoolers have six different homework assignments each night. With resources such as videos, detailed instructions and study guides backed by teachers, this app is truly a one-stop-shop for students to better understand topics and expand their mathematical expertise.

About the App

Do your kids need help with a complicated math problem? Don't fret. Just scan printed text or handwritten math problems, and Photomath will provide step-by-step instructions so that learning is a breeze. Whether it's basic math, algebra, trigonometry, calculus or even statistics, this app is sure to save the day!

Why We Love This App

We've all been there. That dreaded moment when your child asks for help solving a math problem. You panic because you can't recall what you learned years ago to help your child find the solution. Rest easy, parents. There's no need to hire a tutor. Photomath is here for YOU!



Grade Recommendation



Cost







9-12 **Grade Recommendation**



FREE **Cost**





Want to learn more about the future of STEM?

Click Here!

