



# Children's TECHNOLOGY REVIEW

**Top 10 Essential Apps**  
for a Child's First iPad, page 5

**LittleClickers: Orion**  
Space Capsule, page 4



On the cover: Pepi Ride by Pepiplay makes it easy for two to drive. See page 19

## **Children's Technology Review** **January 2015**

Volume 23, No. 1, Issue 178

amiibo, page 10  
Community Helpers Play & Learn, 10  
Counting Together Plus, 11  
CreatorBox, 11  
Curious Words\*, 12  
Disney Imagicademy, 12  
Disney's Frozen Costume Pack for  
LittleBigPlanet, 13  
Easy Song Studio, 13  
Elmo Loves You!\*, 13  
Endless Wordplay\*, 14  
FiLIP 2, 14

Gappy Learns Writing, 14  
GoldieBlox and the Builder's Survival  
Kit, 15  
Goodnight, Goodnight, Construction  
Site\*, 15  
Hot Wheels RC Street Hawk Remote  
Control Flying Car, 15  
LumiKids Park\*, 16  
Mild and Mellow's Holiday Light, 16  
Moss, 16  
Mouse Tales - Game for Kids, 17  
Multifly, 17  
Musical Trees, 17  
Nick Jr. App\*, 18  
Off the Rails\*, 18  
Patchimals - First Lines, 19  
Pepi Ride\*, 19

Playmation Spanish\*, 20  
PuzzlePuzzlePuzzle, 20  
Sago Mini Fairy Tales\*, 21  
Sonic Boom: Shattered Crystal, 21  
Super Nano Trucks, 21  
Toca Kitchen 2 \*, 22  
Up to 100\*, 22  
Winky Think Logic Puzzles\*, 23  
Wonder Bunny Math Race, 23

*\* Denotes "Editor's  
Choice."*



### NEW YEAR'S PREDICTIONS

What will the next 12 months bring for children's interactive media? Using the past 12 months as a guess, plus last year's predictions, here are some safe guesses.

- **It may seem obvious, but we'll see a lot more children's iOS apps.** We all know that the last four years have given us tens of thousands of viable children's interactive products. But we're just getting started. Affordable, powerful authoring tools like Unity and a growing installed base of iPads will create even more app choices. This increase in supply will make it even harder for smaller publishers to get noticed.
- **The Android app space continues to be an afterthought,** at least for many leading app designers, and this is too bad. We think Google should do more to make Android tablets easier to use, and it should make the Google Play experience more publisher-friendly, so they can make Google pay.
- **We're about to see some incredible apps.** With every passing day, another cluster of brilliant college graduates or clever, highly motivated publishers will figure out another way to tell a story or engage a child with a tricky concept. It's wonderful that this innovation knows no geographic boundaries.
- **We'll see further evidence that multi-touch learning environments can help children learn concepts that have been traditionally difficult to teach.** Three examples are reviewed in this issue: **Up to 100** lets children actively explore a dynamic number line; **Off the Rails** breathes life into the theme-park construction genre by using the accelerometers inside a tablet to let children build their own ride from the first person; and **Curious Words** leverages the power of an iPad's camera to make language come to life. I think that Maria Montessori and Jean Piaget would love apps like these.
- **Tablets will cost less and do more.** Both iOS and Android and Android-based devices (like Amazon's Fire HD) will improve.
- **Coding Apps and kits will increase in number.** We'll continue to see introductory programming games for children and games with code-related concepts embedded in the game play.
- **More peripherals...** 3D Goggles and 3D printers will evolve in 2015 (specifically the Oculus Rift 2, paired with tools like Unity).
- **Better voice, face and motion recognition technologies** will start finding their way into toys, apps, and big screens. They'll influence how children learn.
- **There will be a blurring line between tablet and TV.** Apps like **Nick Jr.** and **Disney Imagicadamy** expertly blend passive video content with interactive play. They raise the question "is a tablet a TV, and vice versa?"



Finally, we hope that 2015 will be the year that we see features for Facebook, Google and YouTube that can help parents, teachers and librarians better customize the experience for young children. The "under 13" excuse simply isn't good enough anymore. With great wealth and power comes great responsibility, to our young.

### LITTLECLICKERS: ORION

Want to go to Mars? You'd ride in Orion, NASA's newest spacecraft. Did you know your iPhone has more computing power than the Orion's computers? We were surprised to see that NASA uses PDF coloring sheets to help children "learn" about Orion. It's time for NASA to hire Dan Russell (see *Off the Rails*) Pinson to create an Orion flight simulator. Visit [www.littleclickers.com/orion](http://www.littleclickers.com/orion)

## Children's Technology Review January 2015

Volume 23, No. 1, Issue 178

**Editor** Warren Buckleitner, Ph.D.,  
([warren@childrenstech.com](mailto:warren@childrenstech.com)) [WB]

**Editorial Coordinator & Circulation**  
Lisa DellaFave ([lisa@childrenstech.com](mailto:lisa@childrenstech.com)) [LD]

**LittleClickers Editor** Megan Billitti  
([megan@childrenstech.com](mailto:megan@childrenstech.com))

**Director of Publishing** Matthew DiMatteo [MD]

**Interns** Mr. Zig [Z]

**ONE YEAR SUBSCRIPTIONS** are \$59, for 12 monthly issues, 52 weekly issues plus online database access. Weekly issues are sent at 8:30 AM on Wednesdays EST. Site subscriptions are available. Contact *Children's Technology Review*™, 120 Main Street, Flemington, NJ 08822 or call 800-993-9499. Visit [www.childrenstech.com](http://www.childrenstech.com) to learn more.

**PRODUCT SUBMISSIONS.** Send one product with release information to *Lisa DellaFave, Editorial Coordinator, 120 Main Street, Flemington, NJ 08822 (Phone: 908-284-0404)*. Send app codes by email to [lisa@childrenstech.com](mailto:lisa@childrenstech.com).

**OUR RULES.** No ads, gimmicks or politics; we work for the benefit of children. *CTR* follows editorial guidelines at (<http://childrenstech.com/editorial-guidelines/>). Highlights include:

- We don't sell or profit from the products we review.
- We don't distribute, sell or leverage subscriber information.
- Contributors are required to disclose bias.
- There is no sponsored or advertising content of any variety.
- Complete transparency We make every effort to disclose review criteria and sources of potential bias.
- We don't skim from other reviewers.

**PUBLISHER INFORMATION** *Children's Technology Review*™ (ISSN 1555-242X) is published monthly (12 issues) by Active Learning Associates, Inc. Send address changes or new subscriptions to *Children's Technology Review*™, 120 Main Street, Flemington, NJ 08822. **Use of this publication for any commercial publishing activity without prior written permission is strictly prohibited.** Readers are subject to the TERMS OF USE found at <http://childrenstech.com/disclaimer>

**Contents © 2015 by Active Learning Associates, Inc. All Rights Reserved.**

### Your Subscription is Your Key to 11,773 Archived Reviews

Your paid \$59 subscription to *CTR* includes exclusive password access to the *CTREX* database — a collection of reviews going back to 1985. If you've lost or forgotten your password, please call 800-993-9499 between 9-3 PM EST.



## NEW CTREX FEATURES

We've added five new fields to our online reviews, as follows:

**1. MyCTR** (to accompany your profile). One click, and you can search the CTREX database according to a pre-set search criteria that you create in your saved subscriber control panel. To program your URL, login to CTREX and select your user name. You'll see a series of checkboxes that will let you start using this feature.

**2. App size.** This is handy for knowing how long the download might take, or how much room the app will take on your device.

**3. Minimum language skill required to use the experience.** This is also called MUC (Minimum User Competency). We'll describe any specific skill prerequisites a child might need in order to use the app.

**4. Native Language.** This includes any listed translated languages that the app lists as an option. Note that we don't test every language option.

**5. Language scaffolding.** How does the app help a non-reader (or non-writer) become a reader (or writer)? This might include text highlighting, tutorials, hints or other techniques. Our latest improvement to the CTREX database is a special URL that you program, which will appear in each weekly issue of CTR.

## RECENT DUST OR MAGIC VIDEOS

Toy guy Chris Byrne talks about some of the things that make dust in the products he reviews, in *WTF??? It's Not What You Think It Means*. <http://youtu.be/WbIMHI0y-7U>

Chip Donohue of the Erikson Institute shares some highlights from his recent book, in a talk called *Back to the Future: Lessons in App Design from Mister Rogers* at <http://youtu.be/sleWMAIrE6c>

Kate Highfield's talk gives us a global view, in: *The View on Children's Interactive Media from OZ* at <http://youtu.be/SRk15IWHUdM>

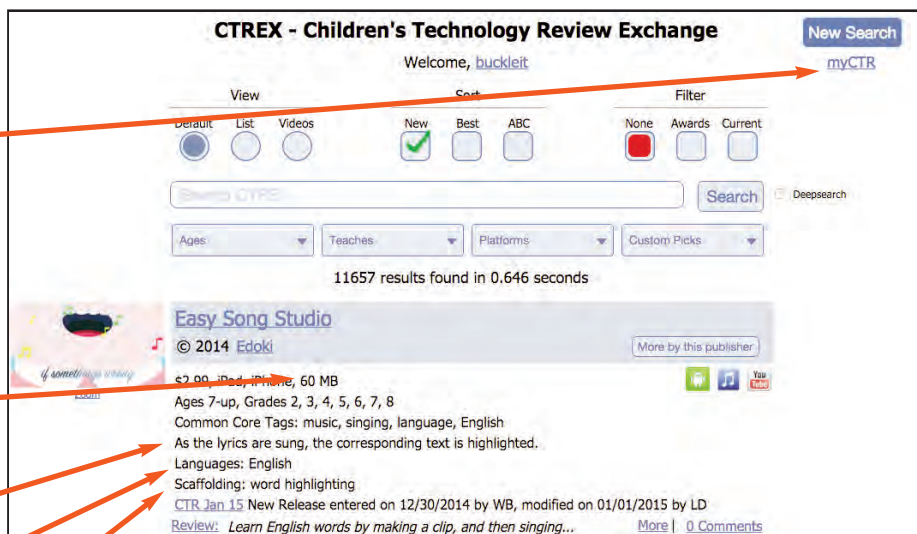
## QUOTES FROM THE PAST FOUR CTR WEEKLIES

"I think right now we are at a moment where there is a much bigger commercial opportunity for those who want to push beyond stereotypical gender roles. The culture is at an inflection point and you can feel it." Chris Heatherly, Senior Vice President and General Manager, Disney Interactive Kids; posted last week on the Dust or Magic Facebook group.

"My generation was born in the past and brought into the future, but the next generation was born in the future and are molding it into an even more unthinkable, fantastic generation of technology innovation." Theresa Sotomayor, a Senior in the TCNJ IMM Program in her Thesis project presentation.

## TOP 10 ESSENTIAL APPS FOR A CHILD'S NEW IPAD

What if there were a great, wise and all knowing expert who could automatically find the "best 10 apps?" Of course this is an impossible task. At CTR we should know ... our most frequently asked question is why we've picked this particular headline. In order to actually find the "best" ten apps for your child, we'd have to first ask you a lot of questions. Next we'd give you a suggested list (actually 40 apps) and a customized link to help you make your own choices. It all happens on page 5.



# Dust or Magic

## 2015 Dates to Save

**Mar 29 - Apr 3. Masterclass & Café** at the Bologna Children's Book Fair, Bologna, Italy  
*The Masterclass:* Sunday afternoon before the world's largest children's publishing event. 200 Euros/seat. *Café demo booths:* 3 days during the book fair. 1000 Euros.

**Apr 19 - 21. Language & Literacy Retreat** at the Highlights Foundation in Boyd's Mills, PA  
 Three days to test the ebooks and apps that are defining how children read and write. Ideal for reading teachers, literacy teachers, researchers and designers. One seat \$1600 all inclusive rate includes food & housing.

**May 31 - Jun 2. AppCamp 6**, back at the family friendly Asilomar in Monterey, California!  
 Three intensive days to get smart on the "state of the app" with talks, laser critiques and demos. \$1440/seat. The *Children's AppFest* will be May 30, Saturday afternoon at the co.lab in SF (children welcome).

**Nov 1 - 3. The 15th Annual Dust or Magic Institute on the Design of Children's Interactive Media**  
 Review the year with the best minds in the world; all in one room, at the new Inn at Lambertville Station, in New Jersey. \$1480/seat.

**Save your seat at**  
[www.dustormagic.com](http://www.dustormagic.com)

5 sites & ten videos about

# Orion

LittleClickers is brought to you by Computer Explorers, who is offering camps on programming. Visit [www.computerexplorers.com](http://www.computerexplorers.com) to learn more. The web-based (html) version of this page is at

<http://www.littleclickers.com> with live links, plus a place to report any errors. Note that CTR and COMPUTER EXPLORERS do not have commercial interests in the sites listed on this page. Librarians and teachers are permitted to copy this page for non-profit use. To suggest a future topic or to report a bad link, please contact the editor, Warren Buckleitner [WB] [warren@childrenstech.com](mailto:warren@childrenstech.com), or the web editor, Megan Billitti [MB] [megan@childrenstech.com](mailto:megan@childrenstech.com); or call 908-284-0404 (9 - 3 PM, EST).

**Want to go to Mars?** You'd ride in Orion, NASA's newest spacecraft. The capsule took its first flight on Dec 5, 2014, so we thought we'd learn more ...

**1. How many astronauts can Orion carry?** The NASA site has your answers <http://1.usa.gov/1BftElB> and is the best place to start exploring Orion. It can carry a crew of six — about the same as a mini-van.

## 2. How are Orion and Apollo similar?

This Business Week article <http://buswk.co/1xXK2c0> gives a side-by-side comparison of the two space capsules. They're very similar, due in part to the heat shield. At Space.com <http://bit.ly/1rrCIUv> you can learn how Orion was nearly cancelled because it was too expensive.



**3. Which has more computing power, Orion or an iPhone?** Orion might be a next-gen spacecraft, but it uses computers that are 12 years old, according to Computer World <http://bit.ly/1G3Enmm>. The winner? iPhone.

## 4. What does SLS stand for?

At <http://1.usa.gov/13lb1LS> you'll find the answer: Space Launch System. It's the most powerful rocket ever built, and it will be used to take some lucky astronauts all the way to Mars.

**5. When's the next launch?** Not until 2018, according to <http://1.usa.gov/13LS6jB> when Orion will circle the moon. Plan a family vacation to see a space launch!



## Applications:

**1. Who's up there right now?** At <http://bit.ly/1brJMBK> you can see that there are 6 people in space, right now (as of January 1, 2015). See where they're from, and how many days they've been in space.

**2. Can you spot the space station?** Visit <http://1.usa.gov/1n3V4nS> to spot the space station from wherever you happen to be.

**3. Color?!** NASA uses low tech coloring sheets to help children explore the high tech Orion. <http://1.usa.gov/1tkc3EX>



## Megan's videos about Orion

Here's a set of hand picked videos from Youtube:

[http://www.youtube.com/playlist?list=PLcBVHhZUUEKw1\\_4CUi01aDoGkx5hAucYHn](http://www.youtube.com/playlist?list=PLcBVHhZUUEKw1_4CUi01aDoGkx5hAucYHn)

Interact with this page online, at <http://littleclickers.com/orion>



# Top 10 Essential Apps for a Child's First iPad

*What if there were a great, wise and all knowing expert who could automatically find the “best 10 apps?”*

Of course this is an impossible task. At CTR we should know. It's our most frequently asked question, which is why we've picked this particular headline. In order to actually find the “best” ten apps for your child, we'd have to first ask you a lot of questions.

- ✓ What is your child's age, their interests and their prior experiences?
- ✓ Will the apps be used at home, school or a library?
- ✓ How much money do you want to spend?
- ✓ How much memory does your child's iPad have? Is it an iPad mini, or a hand-me-down iPad 1 without a camera?

*So what are the “Top 10 Essential Apps for a child's first iPad?”*

We need your help. The CTREX database link (we call it an “expert link”) can steer you in the right direction, with hundreds of options—but it's up to you to do the sorting. We've tried to make it easy, by giving you videos and screen shots, and direct links to the publisher and Apple or Google's store, so you can check ratings.

We also want you to agree or disagree with us, and help others in the search process. In writing this article we've hand picked a safe “top 40” set of titles using the following criteria.

- ✓ 2014 copyright date.
- ✓ A mix of free and paid options.
- ✓ Editor's Choice selections. All have scored a 4.3 or better on CTR's instrument.
- ✓ A balance between fun and educational.

### **PRESCHOOL (n = 318)**

Use the link to search through 318 recent, high rated apps. Or use our recommendation, below.

See the list --> <http://bitly.com/1Aitj3v>

#### **1. Sago Mini Fairy Tales**, Sago Sago [www.sagosago.com](http://www.sagosago.com), (\$2.99 on iPad)

<https://itunes.apple.com/us/app/sago-mini-fairy-tales/id920007273?mt=8>, for ages 2-5. Why we like it: Simply touch the screen to explore thirty, no-fail animated routines inspired by popular fairy tales. This is the fourth and most recent in a series; all are excellent and work well as a child's first app.

#### **2. Endless Wordplay**, Originator [www.originatorkids.com](http://www.originatorkids.com), (\$free/\$4.99 on iPad, iPhone, iPod Touch (iOS 5.0 or later))

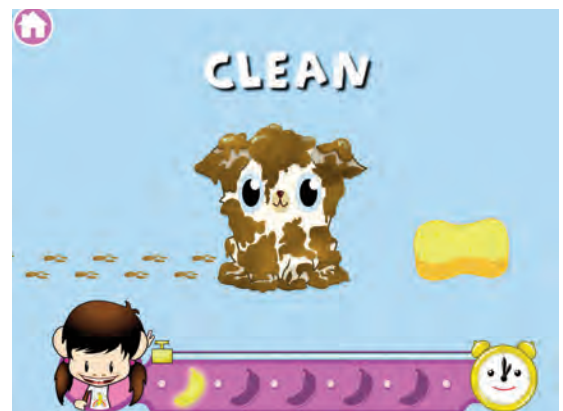
<https://itunes.apple.com/us/app/endless-wordplay/id727871636?mt=8>, for ages 3-7. Why we like it: The latest in the “Endless” series of learning apps (all excellent), this app introduces key spelling patterns and phonograms in rhyming words, word puzzles, and animations that reinforce meaning and usage. As with the other apps, the letters come to life.

#### **3. LumiKids Park**, Lumosity [www.lumikids.com](http://www.lumikids.com), (\$free on iPad)

<https://itunes.apple.com/us/app/lumikids-park-by-lumosity/id934603970?ls=1&mt=8>, for ages 3-6. Why we like it: Three timed, leveled logic puzzles are easy to play and generally well designed. There is no text or voice-over instructions -- children simply touch a toy to get started. The better they do, the harder it gets.

#### **4. Zuzu's Bananas: A Monkey Preschool Game**, Thup Games [www.thup.com](http://www.thup.com), (\$2.99 on iPad, iPhone, Android, Kindle)

<https://itunes.apple.com/us/app/keynote/id932142187?mt=8>, for ages 3-6. Why we like it: Fun, fast, and easy to play, this is a collection of 50 timed micro-games, each taking no more than 15 seconds to play. The design resembles Wario Ware or Dumb Ways to Die (adapted for young children) and runs on a tablet.



# Top 10 Essential Apps for a Child's First iPad

Expert Analysis

Expert Analysis

**5. My Very Hungry Caterpillar**, StoryToys [www.storytoys.com](http://www.storytoys.com), (\$3.99 on iPad <https://itunes.apple.com/us/app/my-very-hungry-caterpillar/id894991908?mt=8>), for ages 2-7. Why we like it: Responsive and well designed, this simple virtual life simulation features Eric Carle's "The Very Hungry Caterpillar."

**6. Toca Pet Doctor**, Toca Boca <http://tocaboca.com/>, (\$2.99 on iPad, iPhone, iPod Touch (iOS 5.0 or later). <https://itunes.apple.com/app/id808108897>), for ages 2-6. Why we like it: Looking for a perfect "first app" for a child as young as 2? Toca Pet Doctor starts with a waiting room full of 15 critters, each with a problem. The worm is tangled into a knot, the cat has fleas and the frog has swallowed too many flies.

**7. Bubbl Draw**, Bubbl [www.bubblbubl.com](http://www.bubblbubl.com), (\$0.99 on iPad (37MB) <https://itunes.apple.com/us/app/bubl-draw/id719169017?mt=8>), for ages 1-7. Why we like it: Your screen becomes a magical, musical scratch pad, where random taps are instantly rewarded with bursts of colors, music and related sounds. This is another no-fail app that builds a child's feelings of control.

**8. Drive About: Number Neighborhood**, Artgig Studio, [www.artgigapps.com](http://www.artgigapps.com), (\$2.99 on iPad, iPhone, iPod Touch) <https://itunes.apple.com/us/app/drive-about-number-neighborhood/id864136403?mt=8>), for ages 3-5. Why we like it: Children drive, fly and sail around Number Neighborhood as they discover nine mini-games that effectively reinforce school readiness skills. This is an excellent, no-fail download.

**9. Busy Shapes**, Seven Academy, (\$2.99 on iPad <https://itunes.apple.com/us/app/busy-shapes/id722784048?l=fr&ls=1&mt=8>), for ages 2-5. Why we like it: You can't fit a round peg in a square hole. But you can have a fun time with this smart, responsive, automatically adaptive set of classification puzzles.

**10. Elmo Loves You!**, StoryToys [www.storytoys.com](http://www.storytoys.com), (\$3.99 on iPhone, iPad <https://itunes.apple.com/app/id895000972?mt=8>), for ages 3-6. Why we like it: Elmo Loves You! is organized around a book metaphor, with 3D pop up pages that unfold with each swipe.

## EARLY ELEMENTARY (n=403) See the list --><http://bitly.com/1CTTFeD>

**1. Slice Fractions**, Ululab Inc. <http://ululab.com>, (\$2.99 on Android, iPad, iPhone, iPod Touch (iOS 4.3 or later) <https://itunes.apple.com/us/app/slice-fractions/id794730213?mt=8>), for ages 6-15. Why we like it: One of our favorite apps is getting better for the same price. Effective August 21 2014, thirty-two additional levels have been added as an update (no extra cost), plus a new underground world with singing mushrooms.

**2. Toca Town**, Toca Boca <http://tocaboca.com/>, (\$2.99 on iPad, iPod Touch <https://itunes.apple.com/us/app/toca-town/id871694174?mt=8>), for ages 3-up. Why we like it: Touch, tap and swipe your way through a small town, with six themed areas; each offering hidden surprises. As with other Toca Boca work, this app is expertly crafted to ensure that children drive the app, and not the other way around.

**3. Foos, The: Hour of Code**, CodeSpark [www.codespark.org](http://www.codespark.org), (\$free on iPad, iPhone, iPod Touch (iOS 6.0 or later) <https://itunes.apple.com/us/app/the-foos-code-for-an-hour-free/id923441570?mt=8>), for ages 5-8. Why we like it: Easy to learn and full of playful characters, this early programming experience mixes an Angry Birds type of leveling system with Scratch-style programming icons. In order to move your "Foo" character across the screen to a star, you must drag and drop the correct sequence of commands in the right order.



**4. Winky Think Logic Puzzles**, Spinlight Studio <http://spinlight.com/>, (\$2.99 on iPad (iOS 8) <https://itunes.apple.com/us/app/winky-think-logic-puzzles/id923072172?mt=8>), for ages 5-12. Why we like it: Simplicity meets the perfect type of complexity in this collection of 180 bite sized logic puzzles.

**5. World Landmarks Explorer**, Peapod Labs [www.peapodlabs.com](http://www.peapodlabs.com), (\$2.99 on iPad (75 MB) <https://itunes.apple.com/us/app/world-landmarks-explorer/id897788782?mt=8>), for ages 4-up. Why we like it: Here's a good way to bring geography to life. Good for all ages - both children and adults, this 23rd title from Chicago-based Peapod Labs contains the same familiar swipe-and-explore navigation you've seen in the ABC Explorer apps. But there's a new twist -- satellite views of 112 world landmarks from 53 countries by way Google Maps.

**6. Jack and the Beanstalk** by Nosy Crow, Nosy Crow [www.nosycrow.com](http://www.nosycrow.com), (\$4.99 on iPad, iPhone, iPod Touch <https://itunes.apple.com/us/app/jack-beanstalk-by-nosy-crow/id796383629?ls=1&mt=8>), for ages 3-10.

Why we like it: It's never been more fun to reach the top of the beanstalk, where nine games offer reading and logical thinking opportunities.

**7. Pepi Ride**, Pepiplay [www.pepiplay.com](http://www.pepiplay.com), (\$2.99 on iPad, iPhone, iPod Touch <https://itunes.apple.com/us/app/pepi-ride/id935224319?mt=8>), for ages 3-7. Why we like it: Silly, noisy and fun, this app is ideal for the graduates of Sago Road Trip. You pick out a car, decorate it, and then drive it on different tracks. We liked how the jump and speed controls can be controlled by different children, and the way the tracks are leveled to provide a challenge.

**8. Pinsaic**, Pinsaic [www.pinsaic.com](http://www.pinsaic.com), (\$.99 on iPad <https://itunes.apple.com/en/app/pinsaic/id828875981?mt=8>), for ages 4-up. Why we like it: Sometimes a constraint makes you more creative. Pinsaic -- an app that turns your iPad screen into a peg board, lets you create just about anything, as long as it fits on a 22 by 33 dot grid.

**9. Toca Nature**, Toca Boca, (\$2.99 on iPad <https://itunes.apple.com/us/app/toca-nature/id893927401?mt=8>), for ages 5-9. Why we like it: Little kids can play with big ideas, like ecosystems, as they finger paint with trees, lakes and mountains. A grove of oak trees spawns a deer, and a pond creates beavers and fish.

**10. Nick Jr. App**, Nickelodeon [www.nick.com](http://www.nick.com), (\$free on iPad <https://itunes.apple.com/us/app/nick-jr./id911115712?mt=8>), for ages 3-8. Why we like it: Blurring the definition of "TV" and "Tablet" this app serves up a generous helping of well designed ad-free Nick Jr. TV content, with a dash of interactive content build around show themes or characters. Note that this app promotes passive behavior. Don't miss the closed captioning feature, to increase the early reading value of this experience.



**UPPER ELEMENTARY (n = 247)** See the list --> <http://bitly.com/1D62XRL>

**1. Monument Valley**, Usetwo Games [www.monumentvalleygame.com](http://www.monumentvalleygame.com), (\$3.99 on iPad (147 MB), iPhone 4 or newer <https://itunes.apple.com/us/app/monument-valley/id728293409?mt=8>), for ages 6-up. Why we like it: Addicting, beautiful and leveled perfectly to keep you challenged (and confused), this is a set of ten optical illusion maze puzzles.

**2. Curious Words**, Curious Hat [www.curioushat.com](http://www.curioushat.com), (\$1.99 on iPad, iPhone, iPod Touch <https://itunes.apple.com/us/app/curious-words/id942848206?ls=1&mt=8>), for ages 4-up. Why we like it: Easy to use and potentially powerful, this creativity video is like "Vine" for children (young or old).

**3. TeleStory**, Launchpad Toys <http://launchpadtoys.com>, (\$2.99 on iPad, iPhone, iPod Touch (iOS 7.0 or later) <https://itunes.apple.com/us/app/telestory/id915378506?mt=8>), for ages 5-up. Why we like it: Turn your iPad into a TV studio, where you're the star. The process is simple, thanks to auto-props that use face recognition to automatically provide props and wardrobe items.

**4. Collider**, Dan Russell-Pinson <http://dan-russell-pinson.com/>, (\$.99 on iPad, iPhone, iPod Touch <https://itunes.apple.com/us/app/collider/id376129315?mt=8&uo=4&at=10l6aE>), for ages 6-up. Why we like it: This 70 level puzzle game is easy to learn, in part thanks to a good tutorial, and hard to stop playing. Your goal is to cancel out the positive and negative balls, by making them collide. OK, if you want to call them "particles" you can look at this app from an electron/proton point of view. But it's more fun to just call them bouncing balls.

**5. Drei HD**, Etter Studio Ltd. [www.etterstudio.com/en/](http://www.etterstudio.com/en/), (\$3.99 on iPad, iPhone, iPod Touch (iOS 6.0 or later) <https://itunes.apple.com/us/app/etter-drei/id708388097?mt=8>), for ages 6-up. Why we like it: This leveled collection of 48 block stacking challenges each starts with a simple looking objective, but involves complex trial and error problem solving with some of the levels requiring collaborative play.



**6. Lightbot**, Lightbot <http://light-bot.com/>, (\$2.99 on iPad, iPhone, Android <http://light-bot.com/redirect-ios.html>), for ages 9-11. Why we like it: Designed for upper elementary-age children, this "senior" version of Lightbot presents a collection of programming puzzles that use touch-and-drop commands to solve. Like the more rudimentary "Junior" level, there are six sets of puzzles, each with nine challenges. Each starts locked, and must be solved in order, sequentially.



# Top 10 Essential Apps for a Child's First iPad

Exp

**7. Quick Fractions**, Shiny Things [www.getshinythings.com](http://www.getshinythings.com), (\$1.99 on iPad, iPhone, iPod Touch (iOS 7.0 or later) <https://itunes.apple.com/app/quick-fractions/id859831864?ls=1&mt=8>), for ages 8-12. Why we like it: Turns your iPad's screen into a magic, smart slate where you can draw answers (using MyScript technology, at <http://www.visionobjects.com>) to solve fraction problems, with the tip of your finger. The single app contains multi-levels, a social leader board, and a classroom friendly interface.



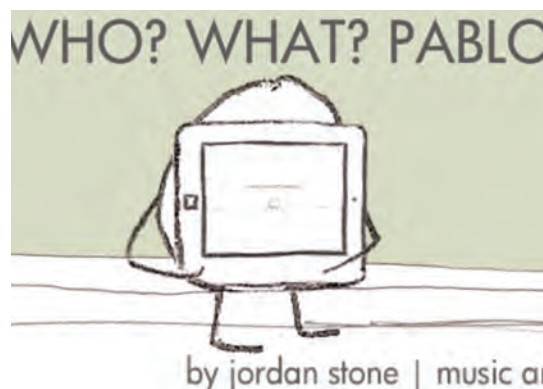
**8. Paint Double**, ambiApps <http://www.ambiapps.com/>, (\$0.99 on iPad, iPhone <https://itunes.apple.com/us/app/paint-double/id885863362?mt=8>), for ages 3-up. Why we like it: Incredibly simple, yet rather random, this painting app draws an imaginary line down the center of the screen making it easy to make symmetrical doodles. The color changes with each touch, making it easy to quickly fill the screen with senseless, but pretty doodles. It's just as easy to clear it.

**9. Who? What? Pablo!**, Sofake.com, (\$2.99 on iPad <https://itunes.apple.com/us/app/who-what-pablo!/id906561946?ls=1&mt=8>), for ages 8-up. Why we like it: This 15 screen musical painting has with page elements that unfold into one another, and an innovative parallax scrolling technique that you control with your finger.

**10. Oink Oink – My Crazy Farm**, Ravensburger Digital GmbH [www.ravensburger-games.com/en/](http://www.ravensburger-games.com/en/), (\$2.99 on iPad, iPhone, Android (124 MB) <https://itunes.apple.com/app/id883139136>), for ages 5-up. Why we like it: Ravensburger, the German company known for quality jigsaw puzzles, has yet to impress us with an app... until now. Here's a fast-paced, addicting logic puzzle that makes a game out of lines, and geometric shapes by turning lines into fences around wandering animals.

**MIDDLE AND HIGH SCHOOL (n = 125)** See the list --> <http://bitly.com/1vup11s>

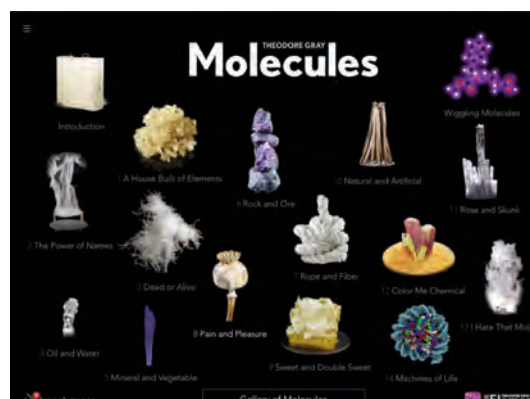
**1. Journeys of Invention**, (\$9.99 on iPad <https://itunes.apple.com/us/app/journeys-of-invention/id685965924?mt=8>), for ages 10-up. Why we like it: Spark a child's interest in science by giving them the chance to explore one of the first Apple 1 computers, the Apollo 10 command module and 78 other rare artifacts of invention.



**2. Playmation Spanish**, Playmation Studios Inc. <http://playmationstudios.com>, (\$1.99 plus IAP on iPad, iPhone, iPod Touch (iOS 7.1 or later) <https://itunes.apple.com/us/app/playmation-spanish/id909491490?mt=8>), for ages 6-up. Why we like it: Want to learn Spanish? Now you can build your own sentences by freely manipulating sentence parts. The visual scaffolds make it all possible.

**3. Molecules** by Theodore Gray, Touch Press [www.touchpress.com](http://www.touchpress.com), (\$13.99 on iPad <https://itunes.apple.com/app/id923383841?mt=8&ign-mpt=uo%3D8>), for ages 11-up. Why we like it: The hidden magic of matter is revealed in this well illustrated science app that is ideal for prospective scientists. Touch, stretch and twist molecules in this sequel to The Elements and The Elements in Action.

**4. Thomas Was Alone**, Bossa Nova Studios [www.bossastudios.com](http://www.bossastudios.com), (\$5.99 on iPad, Android, iPhone (218 MB) <https://itunes.apple.com/us/app/thomas-was-alone/id849095637?mt=8>), for ages 10-up. Why we like it: Here's a game that is proof that interactive design and narrative trumps high budget graphics. Ideal for an older child in need of a challenge, this one player spatial/problem solving game asks you to move a small colored square (named Thomas) through a series of 100 maze-like levels that range from simple to very complex. Progress is saved and it is easy to jump from one level to the next.



**5. Off the Rails**, Dan Russell-Pinson <http://dan-russell-pinson.com/>, (\$1.99 on iPad, iPhone, iPod Touch, Android <https://itunes.apple.com/us/app/off-the-rails/id928000230?mt=8&uo=4&at=10l6aE>), for ages 8-up. Why we like it: Build roller coasters in real time by tilting your screen. When you are creating your coaster, you see the scene from a first person point of view. We especially liked the facts about roller coaster construction.

**6. iStopMotion 2.3 for iOS**, Boinx Software [www.boinx.com](http://www.boinx.com), (\$9.99 on iPad, iPhone <https://itunes.apple.com/us/app/istopmotion-for->



ipad/id484019696?mt=8), for ages 7-up. Why we like it: Every aspiring Walt Disney needs a good animation app, and this one offers the best combination of ease of use and power, with the ability to link to external cameras, control sound and export as an animated GIFs. A free iStopMotion Remote Camera app is also available.

**7. Google Earth**, Google, Inc. [www.google.com](http://www.google.com), (\$free on Windows, iPad, iPhone, Android, Chrome <https://itunes.apple.com/us/app/google-earth/id293622097?mt=8>), for ages 7-up. Why we like it: Available as a free download, Google Earth is a stellar example of how interactive media can make abstract geographical and spatial concepts leap out of a textbook.

**8. Blek**, Kunabi Brother <http://blekgame.com/>, (\$2.99 on iPad, iPhone, iPod Touch (iOS 6.0 or later) <https://itunes.apple.com/us/app/blek/id742625884?mt=8>), for ages 6-up. Why we like it: Fun and rich with spatial and temporal challenges, Blek is a leveled puzzle game that starts with a simple challenge -- to sketch an inch-worm-like line on your touch screen to target dots.

**9. Plants vs. Zombies 2: It's About Time**, (\$free with InApp



Purchases on iPad, Android

<https://itunes.apple.com/us/app/plants-vs.-zombies-2/id597986893?mt=8>), for ages 10-up. Why we like it: This classic strategy timing game has been infused with a new set of interactive play opportunities, cheesy zombie puns and in-app purchase options. If you've played the original version, you won't be disappointed with this time-travel theme edition.

**10. Tipping Point Adventure Game**, (\$1.99 on iPad <https://itunes.apple.com/us/app/tipping-point-adventure-game/id579849894?mt=8>), for ages 10-up. Why we like it: This is a five chapter science-fiction adventure that starts with a view of a modern-day living room in present time, when you intercept a cryptic message. Features include the ability to save 5 player profiles.



## Start A Subscription!

- **Get full access** to CTREX, the world's fastest, most comprehensive database on children's interactive media.

- **Get CTR Weekly and Monthly reports.** Sent exclusively to paid subscribers; your personalized roundup of the latest trends and reviews.

- **Find What You Need.** Blazing fast sorting by any combination of age, rating, common core tag, publisher or platform, with additional "deep search" option for obscure information.

- **Membership in an exclusive, passionate community.** We believe "a review is the start of a conversation." Publishers and our subscribers can respond to our reviews.

**WHAT YOU DON'T GET** There are no ads, sponsors, purchase links, gimmicks, alternative agendas or panhandling. **CTREX is the solution to online review anarchy.** If your job depends on staying up to the minute on children's interactive media, your investment in CTR will pay off after the first issue.

A one year subscription is normally \$59/year. But we'll let you in for \$49 with the promo code below. Site licenses and student discounts are also available. Call 800-993-9499 or visit [www.childrenstech.com](http://www.childrenstech.com).



The Children's Technology Review Exchange (CTREX) Database makes finding children's tech easy. It's the home of the Picky Teacher. Try a search in guest mode, at [www.pickyteacher.com](http://www.pickyteacher.com)

**Subscribe at**  
[www.childrenstech.com/subscribe](http://www.childrenstech.com/subscribe)  
**Promo Code: 10bucks**



# Feature Reviews and New Releases

JANUARY 2015

*Here's an alphabetical listing of both the feature reviews (with ratings) and the new and future releases. "Entry Date" refers to the date we first learned of the product.*

## amiibo

First there were the Skylander collectibles; then Disney Infinity. Now, Nintendo has joined the game, with a set of 12 plastic characters with embedded RFID sensors, called "amiibo" figures.

Each is a popular character from a Nintendo game that you can touch to your Wii U GamePad controller to interact with compatible games. So no portal is required.

Different games will work with amiibo figures in different ways, and a single amiibo figure may unlock features in multiple amiibo-compatible games. In Super Smash Bros. for Wii U, you can tap your amiibo to register it to your Mii and save your game data. As you play, your amiibo can evolve.

Some games, like Super Smash Bros. for Wii U, will save data to the amiibo, while other games, like Mario Kart 8 and Hyrule Warriors, will give you bonus content for tapping an amiibo to the GamePad. There's no extra hardware needed.

The first round of amiibo launched on Nov. 21. There were 12 characters: Mario, Peach, Yoshi, Donkey Kong, Link, Fox, Samus, Wii Fit Trainer, Villager, Pikachu, Kirby and Marth. Zelda, Luigi, Diddy Kong, Little Mac, Pit and Captain Falcon amiibo will be released in December, with additional figures launching throughout 2015. Individual amiibo can be used across multiple compatible games, a first for the toys-to-life category. For example, players who own a Link amiibo can use it as a fighting partner in Super Smash Bros. for Wii U, to get a fun racing suit for their Mii characters in Mario Kart 8 and to access a special weapon in Hyrule Warriors. For more information about amiibo compatibility, visit <http://www.amiibo.com>.

Details: Nintendo of America, Inc., [www.nintendo.com](http://www.nintendo.com). Price: \$14. Ages: 7-up. Platform: Wii U. Teaches/Purpose: logic, memory, Nintendo characters. Entry date: 12/4/2014.



## Community Helpers Play & Learn

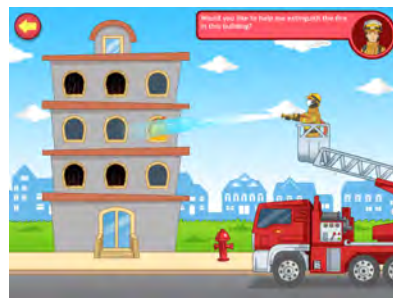
Laden with gender stereotypes, this app lets children explore twelve community helpers, each with an associated sorting or matching game.

The games vary in quality. You can help the firefighter extinguish the fire in a building by maneuvering the truck and crane to make the water reach the right window. But the process is clumsy -- hard for the wrong reason.

Other activities include helping a police officer make a wanted poster (criminals are always male) or helping a female baker decorate cookies.

The firefighter, police officer, mechanic, farmer, plumber, postman, doctor, garbage collector and gardener are all male, and the baker, teacher, and grocer are all female.

Details: Paper Boat Apps, [www.curiousfingers.com](http://www.curiousfingers.com). Price: \$1.99. Ages: 6-12. Platform: iPad, iPhone, iPod Touch (iOS 5.1 or later). Teaches/Purpose: community helpers, counting, puzzles, sorting, classification. Rating (1 to 5 stars): 3.9 stars. Entry date: 2/21/2014. [WB]



Ease of Use	8	78%
Educational	8	
Entertaining	9	
Design Features	6	
Good Value	8	



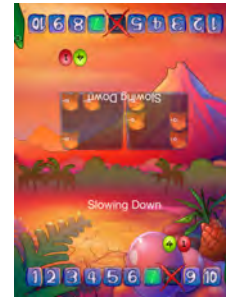
## Counting Together Plus

Featuring a cast of psychedelic dinosaurs, Counting Together serves up a fast paced set of quantity estimation challenges that encourage you to quickly count at a glance. The skill is called subitizing, the ability to recognize how many objects a person is looking at without actually counting them.

Up to four players can work on the app at once, making this a good classroom option.

The app claims to be good for Alzheimer's patients, brain injury-sufferers, and others needing to build or maintain mental acuity.

Details: Barrett Productions LLC, [www.countingtogether.com](http://www.countingtogether.com). Price: \$1.99. Ages: 5-up. Platform: iPad, iPhone, iPod Touch (iOS 6.0 or later). Teaches/Purpose: math, counting, memory, logic, quantity, subitizing. Rating (1 to 5 stars): 4.3 stars. Entry date: 3/3/2014. [WB]



Ease of Use	8	86%
Educational	9	
Entertaining	9	
Design Features	9	
Good Value	8	

## CreatorBox

Creator Box is a subscription-based monthly invention and creativity service designed to provide you with a new build-it-yourself toy every month. You first choose one of two tracks, both for ages 6-12.

Intro Creator Track (\$20/month) is for younger children, and the projects consist of mechanical (non-electrical) parts. They include a catapult, paper airplane launcher and a smart house.

Smart Tech Design Track (\$30/month) is more challenging and involves electronic parts like sensors and motors that are provided from littleBits. Projects include motorized toys, a windmill and a driverless car. One new littleBit is included with each project. Subscriptions are billed monthly.

Details: CreatorBox, [www.creatorbox.com](http://www.creatorbox.com). Price: \$19.95/month. Ages: 6-12. Platform: Smart Toy. Teaches/Purpose: science, electronics, engineering, STEM. Entry date: 12/15/2014.







## Curious Words

Easy to use, and powerful, this creativity video maker is like "Vine" for younger children.

After you give the app permission to use your camera (a one time process) you see an image, with a random word (like animal, fast, happy, beautiful or ugly) and are asked to press a red "record" button when you've matched your label with an image. The fun is when you try to find items to match. The app starts quickly moving and gets you creating; making an excellent app for a group of children.

The movie is finalized when all the words are recorded, assembled with voice over and music, resulting in a short movie.

The random words encourage exploration, as you search for an image, pattern color, object or movement inspired by the word. The interface is designed to allow you to navigate to new words (swipe left or right or double tap), change the camera filter (swipe up or down) or change the voice over (swipe diagonally). Our testers weren't able to figure this out. They also had trouble catching some of the segments. We've seen this UI challenge handled more elegantly with apps like MadPad (Smule).

The resulting movie can be saved to the camera roll, but don't worry, you can't save any more than 12 words per project (that's a maximum of 12 seconds). Visit <http://www.curioushat.com/curious-words/> for more information.

NOTE: It is possible to pick your own word instead of a random one. Double tap on the word to access the word list.

The recording is signaled by a red dot and red progress bar on the screen. If the recording was not good, you can retake (but if he/she moves to the next word the button resets to record) the new word.

Details: Curious Hat, [www.curioushat.com](http://www.curioushat.com). Price: \$1.99. Ages: 4-up. Platform: iPad, iPhone, iPod Touch. Teaches/Purpose: creativity, video, language experience, acting. Rating (1 to 5 stars): 4.4 stars. Entry date: 12/8/2014. [WB]



RETAKE

Ease of Use	8	88%
Educational	9	
Entertaining	N	
Design Features	9	
Good Value	9	



## Disney Imagicademy

According to the education expert Mary Poppins, "just a spoon full of sugar helps the medicine go down." That's the idea behind this new tablet-based early math curriculum. The teaser portion of this app will be free to download; and you'll need \$5 to unlock the first cluster of lessons. Additional content will be offered in the parent's menu, as IAP (in-app Purchases). There is also a parent's app that works on your smart phone, so you can track your child's progress, from anywhere.

The generic math curriculum rarely strays from colors, shapes and numbers found in most early math workbooks. We're always more impressed by multi-touch interaction with the math concepts, which is missing from this app. Our tester (age 3) found it fun to play, and we liked the adaptive features. He especially liked watching Mickey Mouse and the related characters, which are expertly presented in this app.

You start with a main menu showing five options that cover shapes, sorting, add & subtract, problem solving and counting, each presented in an interactive cartoon featuring Mickey and Minnie in outer space.

Each has Disney quality illustration and narration, and it looks great on an iPad. The downside to this is that the problem solving can get lost in some of the animation-rich screens. Those in search of pedagogical innovation, look elsewhere. But it also makes this fun, and a good informal language experience.

Features include the ability to store records for up to 68 children, and purchase more content as your child plays. If you like it, you can purchase more. The plan is to roll out all the content over a two year period.

Details: Disney Interactive, Inc., [www.disney.com](http://www.disney.com). Price: \$4.99. Ages: 3-8. Platform: iPad (parent app for iPhone and Android versions coming). . Teaches/Purpose: mathematics, math, sorting, colors, number lines, shapes, classification, counting, addition. Rating (1 to 5 stars): 4.2 stars. Entry date: 11/12/2014. [WB]



Ease of Use	8	84%
Educational	7	
Entertaining	10	
Design Features	9	
Good Value	8	



## Disney's Frozen Costume Pack for LittleBigPlanet

This add-on for Little Big Planet 3 lets you turn your sack characters into Frozen characters, specifically Elsa, Anna, Kristoff, Sven and Olaf. You can also create your own frozen themed level.

Content includes: Anna Costume (Sackboy / Sackgirl); Elsa Costume (Sackboy / Sackgirl); Olaf Costume (Sackboy / Sackgirl); Kristoff Costume (Sackboy / Sackgirl); Sven Costume (Oddsock); Marshmallow Costume (Big Toggle); and the Medicine Man Troll Costume (Little Toggle).

Additional costumes can be purchased individually for \$1.99 (Olaf not included).

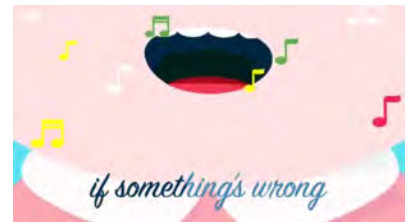
Details: Sony Computer Entertainment America, [www.us.playstation.com](http://www.us.playstation.com). Price: \$5.99. Ages: 6-up. Platform: PlayStation 4, PlayStation 3. Teaches/Purpose: creativity, programming, spatial relations, logic. Entry date: 12/16/2014.



## Easy Song Studio

Learn English words by making a clip, and then singing along to it, in Karaoke mode. The combination of images and pronounced words helps children make the connection between sounds and words. Content includes three musical genres and four voice effects. This version is recorded by Micky Green, the Australian pop-singer. Note that Edoki was formerly called Les Trois Elles Interactive.

Details: Edoki, <http://edoki.fr/>. Price: \$2.99. Ages: 7-up. Platform: iPad, iPhone. Teaches/Purpose: music, singing, language, English. Entry date: 12/30/2014.



## Elmo Loves You!

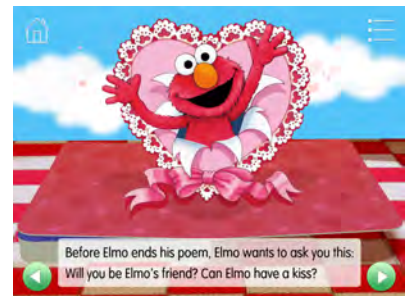
Here's another excellent release from Ireland-based StoryToys; this time with USA content, direct from Sesame Street.

Like previous StoryToys apps, Elmo Loves You! is organized around a book metaphor, with 3D popup pages that unfold with each swipe. There's also a 3D effect that is hard wired to your tablet's accelerometer so you can move the background, parallax style, as you move your screen. It's as if the book were on a 3D pedestal.

The "story" in this case doesn't have much of a plot (Elmo visits with friends) but that's not the point. Each page gives you something to do related to counting, such as plucking petals from a flower with the Count, for example. The graphics, narration and music are of excellent quality. That, combined with an easy to use interface, makes this an excellent addition to any child's virtual bookshelf.

Features include the ability to turn on/off update messages, word highlighting and store links. Words by Jon Stone, Bruce Hart and Joe Raposo; theme music by Joe Raposo. Don't miss the "Reading Tips" section of the parent's menu, with four wonderful video treasures, buried on YouTube.

Details: StoryToys, [www.storytoys.com](http://www.storytoys.com). Price: \$3.99. Ages: 3-6. Platform: iPhone, iPad. Teaches/Purpose: language, reading, counting (1 to 9). Rating (1 to 5 stars): 4.8 stars. Entry date: 12/4/2014. [WB]



Ease of Use	10	96%
Educational	9	
Entertaining	10	
Design Features	10	
Good Value	9	



## Endless Wordplay

The latest in the Endless series of learning apps, this release introduces starter spelling patterns in the context of rhyming words and animation routines that reinforce meaning and usage.

Each word reinforces letter and word sounds by way of "living letters" that sound themselves out when touched.

When they are dropped into place on a letter outline, they adapt to the context of the word. As children play, they progressively unlock more words. The app features three spelling lessons with nine words that are free to try, with 27 additional lessons (81 words) available as an in-app purchase for \$4.99. Ninety additional spelling lessons will be released covering 270 more words. See also Endless Alphabet (CTR February 2013) and Endless Reader and Endless Numbers (CTR May 2014).

Details: Originator, [www.originatorkids.com](http://www.originatorkids.com). Price: \$free, \$4.99. Ages: 3-7. Platform: iPad, iPhone, iPod Touch (iOS 5.0 or later). Teaches/Purpose: reading, spelling, phonics. Rating (1 to 5 stars): 4.8 stars. Entry date: 12/16/2014. [WB]



Ease of Use	9	96%
Educational	10	
Entertaining	9	
Design Features	10	
Good Value	10	



## FILIP 2

FILIP 2 is a wearable watch-like device for a child that might be too young to have a cell phone, yet old enough to wander away in a mall. Parents have the ability to call, text and locate their child from their mobile phone. Kids can call up to five pre-set numbers or activate an emergency call.

The device must be registered with AT&T services.

Details: Filip Technologies, Inc., [www.myfilip.com](http://www.myfilip.com). Price: \$100 + \$10/month. Ages: 3-12. Platform: iPhone, Android. Teaches/Purpose: A GPS child tracker. Entry date: 12/15/2014.



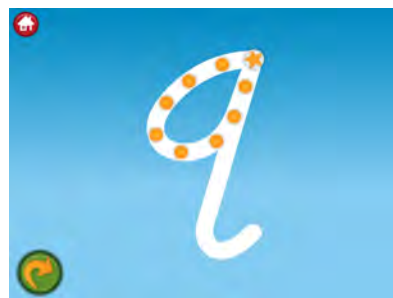
## Gappy Learns Writing

This is a guided tutorial for drawing each alphabet letter. There are three modes. Children will follow a star to reveal the letter on Gappy's mind ("Do you know what letter Gappy is thinking about? Follow the star to make a letter.")

They can then match the letter they drew to the correct letter tile. Wrong answers result in another try. There are three selectable handwriting styles, in upper or lower case and a free drawing activity with 52 coloring pages. The narration is a bit repetitive, but in general this could be a useful app for ECE settings.

Management features let you toggle the sound on/off, and offer a choice of different letter styles, and upper or lower case.

Details: Spinlight Studio, <http://spinlight.com/>. Price: \$2.99. Ages: 2-up. Platform: iPad, iPhone, iPod Touch. Teaches/Purpose: letter recognition. Rating (1 to 5 stars): 4.3 stars. Entry date: 9/25/2013. [WB]



Ease of Use	8	86%
Educational	9	
Entertaining	8	
Design Features	9	
Good Value	9	





## GoldieBlox and the Builder's Survival Kit

One shoebox sized kit contains 1 Goldiblox storybook, 1 long pegboard, 1 quarter pegboard, 1 mini pegboard, 6 wheel hubs, 10 wheel ends, 2 big wheel ends, 6 blocks, 4 elbow joints, 4 corner joints, 4 T-joints, 2 cross joints, 7 5-way joints, 4 all-way joints, 5 coupler joints, 8 angle joints, 2 star couplers, 10 short axles, 13 little axles, 23 mini axles, 12 pegs, 4 short flexi axles, 4 long flexi axles, 6 washers, 12 spacers, 2 cord lengths, 1 crank, 2 suction cups, 12 star stoppers, 2 noodle belts, 4 tires, 3 character figurines, 1 character bouncy ball and 1 rubber band. The kit is designed to let you create simple machines.

Details: Goldieblox, [www.goldieblox.com](http://www.goldieblox.com). Price: \$60. Ages: 7-12. Platform: Smart Toy. Teaches/Purpose: STEM, robotics. Entry date: 10/2/2014.

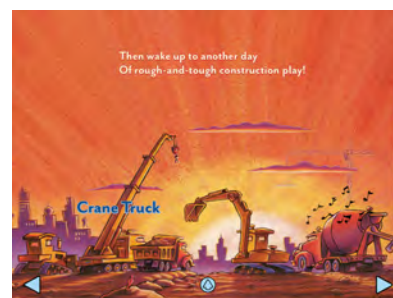


## Goodnight, Goodnight, Construction Site

Beautiful color illustrations by Tom Lichtenheld address a question that many children might have -- what happens to all the machines at a construction site when the workday is over. It's an appealing theme. Content includes 21 screens, animated pictures, Ken Burn's style page transitions, and the ability to personalize the story with your own narration.

Other features that can be toggled on/off include the read to me mode and the ability to hear the sound effects. The overall experience is an excellent language experience, with plenty of opportunities to learn new words.

Details: Oceanhouse Media, [www.oceanhousemedia.com](http://www.oceanhousemedia.com). Price: \$3.99. Ages: 4-8. Platform: iPad, iPhone, iPod Touch. Teaches/Purpose: reading. Rating (1 to 5 stars): 4.4 stars. Entry date: 11/11/2014. [WB]



Ease of Use	9	88%
Educational	9	
Entertaining	8	
Design Features	9	
Good Value	9	



## Hot Wheels RC Street Hawk Remote Control Flying Car

Relatively easy to control, and quite durable, this is perhaps the best attempt we've seen to create a driving/flying vehicle for a toy store price.

Inside the box, you get a remote, two spare propellers, a USB charging cable if you want to charge the device from your computer or phone charger (takes about 20 minutes). You can also charge from the remote if you like. Six AA batteries are required.

The bottom line? Of all the flying vehicles we've tested over the years, this is the least worst, and hardest to destroy.

Details: Mattel, . Price: \$60. Ages: 10-up. Platform: Smart Toy. Teaches/Purpose: fine motor control. Rating (1 to 5 stars): 4.3 stars. Entry date: 10/11/2014. [WB]



Ease of Use	8	86%
Educational	8	
Entertaining	9	
Design Features	9	
Good Value	9	



## LumiKids Park

Three timed, leveled logic puzzles are easy to play and generally well designed. There is no text or voice-over instructions -- children simply touch a toy in a side scrolling menu to get started. Games include: Sorting (feed a critter by matching shapes, while attending to color and shape); Visual Motor Coordination (attend to color attributes as you collect dots in a grid); and Attention (observe a series of critters, and touch where they hide). The more you play, the harder it gets. There's about 30 minutes worth of content in this free app.

If you register your child, you can track progress or get tips to help your child practice these skills when away from the screen. LumiKids is available on iPad in English, French, German and Spanish. For more information, visit [www.lumikids.com](http://www.lumikids.com).

LumiKids is available as a separate set of apps from Lumosity. In 2015, LumiKids plans to release additional apps in the series. The app comes from Lumosity, company that claims to sell "neuroscience, with continuing independent third-party studies being conducted by researchers at academic institutions around the world."

Details: Lumosity, [www.lumikids.com](http://www.lumikids.com). Price: \$free. Ages: 3-6. Platform: iPad. Teaches/Purpose: logic, memory, timing, spatial relations, fine motor skills. Rating (1 to 5 stars): 4.6 stars. Entry date: 12/4/2014. [WB]



Ease of Use	9	92%
Educational	10	
Entertaining	9	
Design Features	8	
Good Value	10	



## Mild and Mellow's Holiday Light

This is an interactive collage with illustrations made from real objects. The result is a visually interesting, responsive holiday app. Note that this is one of the "Windy & Friends" series. See also Windy's Lost Kite, Foggy's Big Fright and Sunny's Dark Night. Mild and Mellow's Holiday Light is a Christmas story that combines handcrafted paper dolls with stop-motion animation.

A parents menu lets you select Read to Me or Autoplay modes, and you can toggle between English and French on-the-fly. Adult controls are hidden beneath a firewall puzzle. Made with the Verso story engine.

Need to know: It feels like there's a limited amount of content. We didn't like how the app promotes other Loud Crow apps from the first menu, and asks you to "rate this app" on the last page. These are minor criticisms.

Details: Loud Crow Interactive Inc., [www.loudcrow.com](http://www.loudcrow.com). Price: \$2.99. Ages: 3-up. Platform: iPhone. Teaches/Purpose: language, creativity. Rating (1 to 5 stars): 4.2 stars. Entry date: 12/1/2014. [WB]



Ease of Use	8	84%
Educational	8	
Entertaining	8	
Design Features	9	
Good Value	9	

## Moss

Sixteen cubic robot pieces, plus 56 steel spheres, let you create a variety of electrical/ mechanical inventions that can respond to proximity or light.

The Cubelets Six kit (\$150) contains 6 Cubelets for simple mobile and reactive Cubelet robots. Charging cable included.

The Cubelets Twenty Kit (\$500) has 20 blocks and an assortment of Sense, Action, and Think blocks. It obviously offers much greater opportunities for experimentation. A "Brick Adapter" lets you pair Cubelets with Lego parts (note that there is no business relationship with Lego).

Details: Modular Robotics, [www.modrobotics.com](http://www.modrobotics.com). Price: \$150 and \$500. Ages: 8-14. Platform: Smart Toy. Teaches/Purpose: robotics, STEM. Entry date: 12/14/2014.

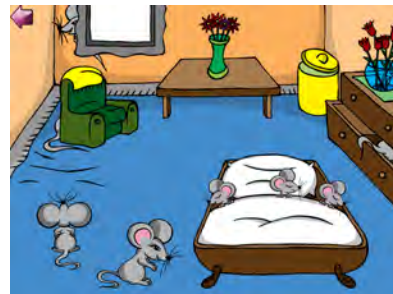




## Mouse Tales - Game for Kids

Help two parent mice clean up their home, by dragging and dropping items back into place. There are six rooms in the house; three of which are unlocked for free. The other three are shown, but require a password to unlock. There are 50 items to sort.

Details: Tobi Games, [www.tobigames.com](http://www.tobigames.com). Price: \$free, IAP of \$1.99. Ages: 3-5. Platform: iPad. Teaches/Purpose: classification. Rating (1 to 5 stars): 3.2 stars. Entry date: 12/30/2014. [WB]



Ease of Use	9	64%
Educational	7	
Entertaining	6	
Design Features	5	
Good Value	5	

## Multifly (Coming January 2015)

Flappy Birds meets the times tables, in this playful side-scrolling math app from Darren Murtha. This is the first app from his re-branded company.

Math problems start easy and get harder. Special powers let you vaporize wrong answers for a hint. If you run out of power-ups you can eat worms. Will contain IAP.

Details: Moe Bull Corporation, [moebull.com](http://moebull.com). Price: \$call. Ages: 8-up. Platform: iPad. Teaches/Purpose: times tables, temporal relations. Entry date: 12/30/2014.



## Musical Trees

Turn your iPad into a beautiful but busy musical mobile, where any touch adds to a rather busy chorus of tree-themed items. There are five nicely illustrated scenarios: Reggae, Folk, Chill Out, Lullaby and Electropical. Each is hosted by a different type of tree with items that move and sing. Content includes 100 interactive elements and sounds. The illustrations and sounds are good quality. After you choose a tree, you simply tap to see a tree; already moving and swaying.

Weaknesses include too much motion and sound (the scene doesn't let the child control the start of the events). There's so much motion that it's easy to forget what you touch. Contrast this type of app with Bubl Tap, where the child is in control of everything. Ideally, this type of app would start quieter and let the child take the first turn; and it might include an optional pop-up keyboard on the bottom of the screen for older children, so that a child could explore the musical relationships. As it is, the experience is rather random.

There are no language prerequisites. Created by the The BolognaRagazzi Award 2013 award-winning publisher DADA Company, from Spain.

Details: Dada Media, [www.dadamedia.com](http://www.dadamedia.com). Price: \$2.99. Ages: 5-8. Platform: iPad, iPhone. Teaches/Purpose: music, causality. Rating (1 to 5 stars): 4 stars. Entry date: 12/21/2014. [WB]



Ease of Use	9	80%
Educational	7	
Entertaining	8	
Design Features	8	
Good Value	8	





## Nick Jr. App

Blurring the definition of "TV" and "Tablet," this free app serves up a generous helping of well designed ad-free Nick Jr. TV content, with a dash of interactive content and some invisible behavior tracking codes; all built around show themes or characters.

The app won't even start without Internet access, because this app feeds off the Nick Jr. cloud. So a child using an iPad on a 3G network could run up some hefty data charges.

Another catch to note, the app offers streaming TV (with associated ads), and a nice selection of videos, but you must choose a cable provider in order to unlock the content. If you're not a cable subscriber, this could lead to a frustrating situation, especially when a child sees a character like Dora behind a locked velvet rope. The app collects information by way of a CFUUID (defined below) to send viewing information to advertisers.

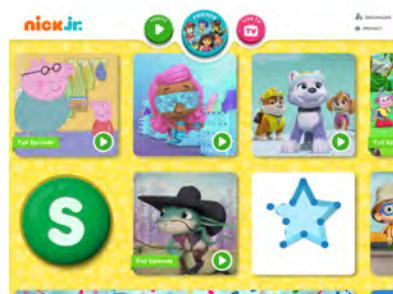
This is the kind of app that turns your child into a passive TV watcher, and your iPad into a linear-media delivery mechanism (aka TV), which has been known to promote the passivity that pediatricians discourage.

The good news is that there are some nice nuggets of interactivity interspersed between the video icons. We counted four mini-games, including a featured letter, a dot to dot puzzle, tangrams and set of stacking Russian dolls. Nice touches include closed captioning and the ability to move around within the video. There's an excellent selection of content available from within a well designed main menu.

Content includes videos from PAW Patrol, Dora and Friends, Peter Rabbit, Bubble Guppies and Team Umizoomi and others.

Personal user data as well as non-personal user data (including aggregated data) is collected. This means that Nickelodeon and/or a third party may generate an identifier that is unique to the application as downloaded to a specific device, known as the Core Foundation Universally Unique Identifier (CFUUID). Data collection is in accordance with COPPA, and it might be used to respond to personalize content and advertising. When cable television service subscribers authenticate their cable television service to view full episodes, a third-party token is stored on the device. Read the entire privacy policy at <http://www.nickjr.com/about/privacy-policy.html>.

Details: Nickelodeon, [www.nick.com](http://www.nick.com). Price: \$free. Ages: 3-8. Platform: iPad. Teaches/Purpose: letters, shapes, language. Rating (1 to 5 stars): 4.4 stars. Entry date: 12/11/2014. [WB]



Ease of Use	9	88%
Educational	7	
Entertaining	10	
Design Features	9	
Good Value	9	



## Off the Rails

Build roller coasters in real time by tilting your screen. When you are creating your coaster, you see the scene from a first person point of view. You control where the roller coaster track moves by tilting your screen forward, back, left and right, and can create loops, corkscrews, barrel rolls, jumps and more.

Jumps or bad gravity judgments can cause your vehicle to go "off the rails" (or crash). Because there are several cars riding the same track behind you, things can pile up, creating a rather dramatic crash. Tracks can be saved. The more objectives you meet (such as hitting a landing zone, or a target), the more money you make which can be used to purchase new vehicles. The app also features a "learn section" with information about roller coaster physics including centripetal force, G-forces and why roller coaster loops are teardrop shaped instead of circular.

There are five player profiles, 14 vehicles, 75 game objectives and multiple difficulty levels. After you finish a track, you can choose to ride it, or see it replayed in a 3rd person view. This app gets you thinking about the physics involved with roller coasters.

Need to know: There's a learning curve to this app due to the gross motor skill requirement as well as the ability to "visualize" your track. Younger children could grow frustrated; older children and adults will love it.

Details: Dan Russell-Pinson, <http://dan-russell-pinson.com/>. Price: \$1.99. Ages: 8-up. Platform: iPad, iPhone, iPod Touch, Android. Teaches/Purpose: creativity, physics, spatial relations, logic, roller coaster facts and history, engineering. Rating (1 to 5 stars): 4.7 stars. Entry date: 12/15/2014. [WB]



Ease of Use	8	94%
Educational	10	
Entertaining	10	
Design Features	9	
Good Value	10	





## Patchimals – First Lines

Well intentioned but cluttered with instructions, this set of leveled fine motor exercises is designed to "exercise pre-writing skills."

The main menu offers seven levels, ranging in difficulty from straight lines to free drawing. Each level contains five worksheets. There are no scores or failures, but it is easy to fool this app into thinking a correct response is an error. In English or Spanish.

Details: Netereo SL , [www.patchimals.com](http://www.patchimals.com). Price: \$1.99. Ages: 2-up. Platform: Android, iPad, iPhone, iPod Touch. Teaches/Purpose: fine motor development. Rating (1 to 5 stars): 3.8 stars. Entry date: 11/11/2014. [WB]



Ease of Use	7	76%
Educational	8	
Entertaining	7	
Design Features	8	
Good Value	8	

## Pepi Ride

Third in the Pepi series (see also Bath and Doctor), this silly, noisy app is ideal for the graduates of an app like Sago Road Trip.

You pick out a car, decorate it, and then drive it on different tracks. We liked how the jump control is on one side of the screen, and the speed controls (forward/back) are on the other. Because they both operate independently (thanks to multi-touch) two children can collaborate to drive the car. We also liked how the challenge presented by each track varies, starting easy and getting more challenging.

You start in the garage, where you choose a vehicle from four cars, give it a paint job, and accessorize with a horn or a rocket pack.

As you drive, you unlock new tracks, from nine available. There's a nice variety of challenges, from a sunny beach with simple hills to stumps, tree ropes, footbridges and rocks.

Although there's no reading required to use this app, the instructions come in English, Czech, Dutch, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, Turkish. Need to know: Sadly you can't turn down the repetitive background music.

Details: Pepiplay, [www.pepiplay.com](http://www.pepiplay.com). Price: \$2.99. Ages: 3-7. Platform: iPad, iPhone, iPod Touch. Teaches/Purpose: mechanics, spatial relations, cars, driving, cooperation. Rating (1 to 5 stars): 4.7 stars. Entry date: 12/2/2014. [WB]



Ease of Use	10	94%
Educational	9	
Entertaining	10	
Design Features	9	
Good Value	9	





## Playmation Spanish

The main menu is confusing, the background music bothersome and the voice quality grainy. There's also in-app sales. But these shortcomings are not what's important about this innovative app, specifically designed to give you an introduction-level Spanish course. Note: A sister app is also in French.

The secret is that you can build your own sentences by actively manipulating sentence parts. In other words, this is not your typical flash card language model (finally). Instead, you learn new Spanish words in an active, meaningful way as you fluidly explore the semantics and syntax of the language. The visual scaffolds make it all possible. An example is below (plus we've made a video to help you see how it works, at <http://youtu.be/eZrFt8Xq57o> ).

You might see and hear a sentence like "La mujer cierra la ventana" or "she closes the window" with five items shown on the bottom of the screen. Two items are needed to make the sentence -- a woman and an open window. When you drag and drop the items into the screen, a "draft" sentence describes what you are doing. You learn that you can build the sentence by arranging the items correctly (in this case, when the woman touches the window, it shuts automatically, complete with sound effects). There are three modes: free play, reading challenge and listening challenge. Each offers a target sentence and set of items that you can use to make a match.

Features let you adjust the read back speed, read back volume and sound effects volume.

The initial app costs \$1.99 to download (which includes 4 puzzle sets with associated practice challenges for both reading and listening comprehension). You can then upgrade to unlock an additional 8 puzzle sets for \$3.99. Created by a brother/sister team: Jen and Justin Helms.

Note that a French version is also available.

Details: Playmation Studios Inc., <http://playmationstudios.com>. Price: \$1.99 plus IAP. Ages: 6-up. Platform: iPad, iPhone, iPod Touch (iOS 7.1 or later). Teaches/Purpose: Spanish. Rating (1 to 5 stars): 4.4 stars. Entry date: 12/22/2014. [WB]



Ease of Use	8	88%
Educational	9	
Entertaining	N	
Design Features	9	
Good Value	9	



## PuzzlePuzzlePuzzle

Here's a new twist on the very common genre of sliding jigsaw puzzles. This app contains 16 hand drawn puzzles based on recognizable scenes and objects, such as a map or face. There are always nine square parts to shuffle. When the puzzle is completed, it comes to life with a short animated scene.

You can change the color of all the puzzles on the fly, and change the rotation of the pieces to increase the challenge level. The interface is rather unconventional and the art is hand drawn. Note the app is \$2.49 on Google Play.

Details: Studio Lassa, [www.lassa.nl/en](http://www.lassa.nl/en). Price: \$1.99. Ages: 2-up. Platform: iPad. Teaches/Purpose: spatial relations, memory, matching, logic. Rating (1 to 5 stars): 4.2 stars. Entry date: 6/19/2014. [WB]



Ease of Use	8	84%
Educational	9	
Entertaining	9	
Design Features	7	
Good Value	9	





## Sago Mini Fairy Tales

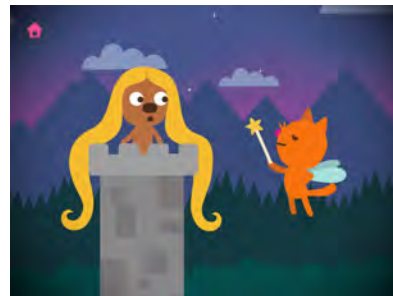
Simply touch the screen to explore 30, no-fail animated routines inspired by popular fairy tales like Jack and the Bean Stalk, Humpty Dumpty, Robin Hood, Rosie the Witch, Rapunzel.

Your host is a magical flying cat around. As you explore, you collect fireflies and meet various characters. There's no way you can fail with this app. You can go any direction -- up, down, left or right -- as you find new animated hot spots. As a result, it is an excellent starter experience.

There is no reading or language prerequisites. The app provides a nice no-fail starter experience for young children, and an exercise in memory and spatial relations. There is no scary or worrisome content (the playful giant is friendly).

This is the fourth and largest of Sago Mini's series of exploration apps. We've reviewed all the apps in the series, and can vouch for the formula.

Details: Sago Sago, [www.sagosago.com](http://www.sagosago.com). Price: \$2.99. Ages: 2-5. Platform: iPad. Teaches/Purpose: language, spatial relations, causality, logic. Rating (1 to 5 stars): 4.8 stars. Entry date: 12/18/2014. [WB]



Ease of Use	9	96%
Educational	9	
Entertaining	10	
Design Features	10	
Good Value	10	



## Sonic Boom: Shattered Crystal

Sonic Boom is a new branch of the Sonic the Hedgehog universe that is coming to TV, video games and merchandise. It features a new "look and feel" for Sonic, Tails, Amy, and Knuckles, and introduces a new friend, Sticks. The games serve as a prequel to the stories in Sonic's first CG-animated series, which runs on the Cartoon Network.

In the 3DS version of the game, Amy discovers a secret ancient language and manuscript detailing the history and whereabouts of a Lost Crystal of Power. The evil villain, Lyric, kidnaps Amy in an attempt to get his hands on this power hat has been hidden throughout the jungles and canyons of a mysterious new island. Sonic teams up with Tails, Knuckles and new friend Sticks to trace Amy's footsteps and save her from Lyric and his army of robots. Key features include the ability to switch between four characters (each with unique moves) and a StreetPass mini game. The Nintendo DS version will unlock special upgrades on the Wii U version (Sonic Boom: Rise of Lyric) via local communication. Developed for the Nintendo 3DS by Sanzaru Games of San Francisco.

Details: Sega, [www.sega.com](http://www.sega.com). Price: \$40. Ages: 8-up. Platform: Nintendo 3DS. Teaches/Purpose: logic, fine motor skills, racing, logic. Entry date: 7/24/2014.



## Super Nano Trucks

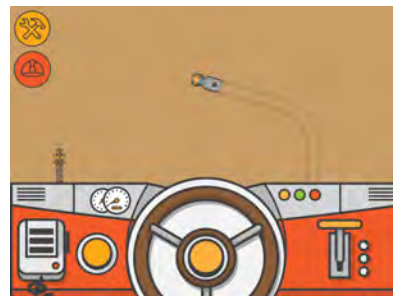
Here's an app that presents a unique spatial relations problem solving situation; not unlike the challenge presented by backing a trailer down a driveway.

You start with a bird's eye (top) view of a construction site containing six small vehicles and a menu of about 20 items that include parts of roads, bridges and decorations. Each vehicle has different features, and can be driven around the screen using a large steering wheel. You can also back up, honk the horn, operate the crane (or bucket) and talk on the radio. The illustrations are accurate and proportional, but rather plain. The biggest potential shortcoming of this app is that there is no zoom, so the vehicles look small, even on a larger sized iPad. Also, the scrolling is less than elegant; there is no screen boundary, which contributes to feeling disoriented. We'd think twice before using this app on an iPad Mini.

To drive, you touch a vehicle, and then tap the steering wheel. Movement is automatic; other controls let you pick up and push dirt, create roads, and use the CB radio to talk to drivers. You can earn hard hats by completing challenges, such as filling a truck with dirt. Machines include a Dump Truck, Cement Truck, Bulldozer, Steamroller and Earth Mover. There's also a crane. The "Build Mode" lets you complete challenges to learn what you can do on the construction site.

Parental controls (found in your iPad settings) include a timer, the ability to toggle on/off the truck sounds as trucks startup, accelerate, backing up and so on. Graphics by Nicholas Slater.

Details: Bughouse, LLC, <http://bughousekids.com>. Price: \$2.99. Ages: 7-10. Platform: iPad. Teaches/Purpose: spatial relations, logic, creativity, construction equipment, machines. Rating (1 to 5 stars): 4.2 stars. Entry date: 12/18/2014. [WB]



Ease of Use	8	84%
Educational	9	
Entertaining	9	
Design Features	8	
Good Value	8	



## Toca Kitchen 2

If you liked the first Toca Kitchen (CTR, Dec 11 at <http://reviews.childrenstech.com/ctr/review.php?id=15090>) you'll like this update. While the play pattern and the content are about the same, you can now do more with the food items you have. There's a set of food storage trays so you can mix and match food items, and a salt and pepper shaker.

Content includes 14 ingredients (most the same as the last version).


Weaknesses include some dropping and dragging that is sometimes non-intuitive (you can drag things off the table, but not back on). The joy with this app is in the dishes you make, and the way your three customers (one male, one female and one monster) gobble the food.

If you're looking for manners when eating, this isn't your app. Preschool and Kindergarten teachers, take note. Noteworthy features include multi-touch features that make it possible for two children to collaborate together. This app is nicely free of licensed content and purchase links.

Need to know: explore your iPad's setting menu to turn on/off meat items. You can also adjust sound and turn off the Toca Boca store icon.

Details: Toca Boca, <http://tocaboca.com/>. Price: \$0.99. Ages: 3-up. Platform: iPad, iPhone, iPod Touch. Teaches/Purpose: cooking, socialization. Rating (1 to 5 stars): 4.7 stars. Entry date: 12/15/2014. [WB]



Ease of Use	9	94%
Educational	8	
Entertaining	10	
Design Features	10	
Good Value	10	

## Up to 100

Ideal for early childhood learning settings, this early number app is designed to help children learn to identify and pronounce each number from 0 to 100. The activities were inspired by Maria Montessori's original beads, and the clever design lets children actively construct the number, as they hear the label.


There are three activities (each with three levels). They deal with the ten and one places; find a number in a series of digits; recognize numbers written out; recognize the pronunciation of numbers; and manipulate quantities with a set of beads.

A control panel lets parents or children toggle between different languages (English, Dutch, French, German, Italian, Portuguese and Spanish), change the font, and adjust the number line, in case you want to focus on numbers greater than 50, for example. There is also a wooden toy available that interacts with your tablet. If you purchase the toy, the app can be downloaded for free.

From a pedagogical point of view this is a very exciting app. But you need to know that there is no game element. Think of this app as a math tool.

Details: Marbotic, [www.marbotic.fr/en](http://www.marbotic.fr/en). Price: \$2.99. Ages: 5-7. Platform: iPad, Android. Teaches/Purpose: math, counting, number sounds, language, base ten. Rating (1 to 5 stars): 4.7 stars. Entry date: 12/15/2014. [WB]



Ease of Use	10	94%
Educational	10	
Entertaining	8	
Design Features	9	
Good Value	10	



## Winky Think Logic Puzzles

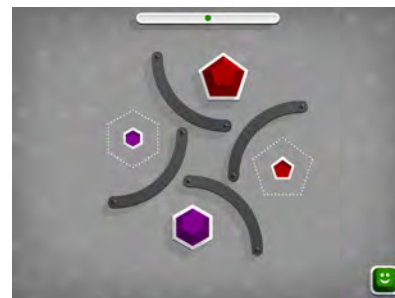
Simplicity meets the perfect type of complexity in this collection of 180 bite-sized logic puzzles.

The first level begins quickly, with no introduction, and the familiar "Angry Birds" type of leveling menu makes it easy to choose a level. To start, you drag a shape to a target as quickly as you can (see also *Busy Shapes*, for a similar design). This unlocks level 2, which is a bit harder. The level select menu is innovative but unconventional, which takes some getting used to.

Once you've solved a level, you can go back to a previous challenge; but you can't jump ahead. The background music is well designed, can be toggled on or off, and it doesn't get in the way of the game sounds. There is no language prerequisite. The only thing missing is a hint system. In some of the puzzles, multi-touch features are employed, which requires two fingers (or players) working cooperatively to solve a puzzle. Some puzzles require using simple machines and chain reactions. The bottom line? This is an extremely exciting logic challenge.

Note that this is a "Sprang" app, which promotes additional apps by way of in-app advertising. In this case, additional apps are promoted on the level select menu, and the age-gating system is not appropriate considering the challenge presented by this app. So be careful.

Details: Spinlight Studio, <http://spinlight.com/>. Price: \$2.99. Ages: 5-12. Platform: iPad (iOS 8). Teaches/Purpose: logic, multi-touch, social, color, shape, pattern recognition, spatial relations. Rating (1 to 5 stars): 4.8 stars. Entry date: 12/5/2014. [WB]



Ease of Use	9	96%
Educational	10	
Entertaining	9	
Design Features	10	
Good Value	10	



## Wonder Bunny Math Race

This is a free, fun math drill app that is actually four different apps, all based around the same design. There are levels for kindergarten, 1st grade, 2nd grade and 3rd grade.

Your objective is to help your bunny win a race over hurdles, by directing them toward the correct answer. Each hurdle has a number; the answer to a math problem. This is a timed challenge that rewards accuracy with carrots.

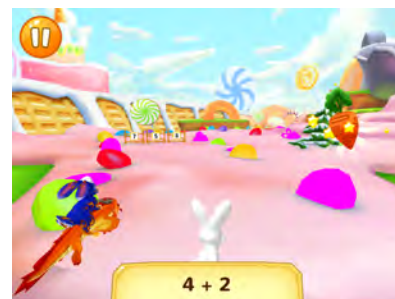
You can also tap on floating sparkly carrots on either side of the track to temporarily speed your bunny up.

The first three levels are unlocked from the beginning, and they are identical. The only difference in the levels is the numbers, and they don't really increase in difficulty as you beat the levels. Note that the gates move around, presenting an additional fine motor challenge for younger children. Once you get to the third level, you hit the paywall. Features let you choose the gender of the bunny (boy or girl), and toggle music on/off.

The game is free to download and try. Additional race tracks are sold as in-app purchases. The price of the whole game (all 30 tracks) is \$7.99. Visit <http://www.wonderbunnygame.com/>

Created by Juha Väisänen, a former teacher, who is now CEO of Fantastec Oy, in Finland.

Details: Fingerprint Digital, [www.fingerprintplay.com](http://www.fingerprintplay.com). Price: \$free with IAP. Ages: 5-8. Platform: iPad, Android, Kindle. Teaches/Purpose: math facts (addition, subtraction, multiplication, division). Rating (1 to 5 stars): 4 stars. Entry date: 11/25/2014. [WB]



Ease of Use	7	80%
Educational	8	
Entertaining	9	
Design Features	8	
Good Value	8	