Friending Fresh Air

Connecting Kids to Nature in the Digital Age



BE OUT THERE™

NATIONAL WILDLIFE FEDERATION®

To Tech or Not to Tech

"Look it up on Wikipedia" .... "Text me" .... "DVR it"
"I'll write on your Facebook wall" ... "Put it on YouTube" .... "Tweet me!"
"I'll email you" .... "Watch it on Netflix"

We have more ways than ever to access information and connect with one another. Technology has changed our lives, in many ways for the better. Facts and figures are, literally, at our finger tips; there's an app for everything and we can "reach out and touch someone" a million different ways, to paraphrase a now-antiquated phone company commercial. Previous generations could not have imagined the technological smorgasbord modern children take for granted. Some moms and dads remember watching only three TV channels, using rotary phones and the click-clacking of typewriter keys for term papers ("OMG," say their kids). Laptops and cell phones and tablets, not to mention social networking and the Internet, didn't exist.



1990s

- cable television
- music players
- VCRs
- home computers
- handheld video games
- Internet
- cell phones

2010s

- cable television
- music players
- VCRs
- home computers
- handheld video games
- Internet
- cell phones
- DVDs
- DVRs
- MP3 players
- interactive toys
- smart phones
- tablet computers

The dramatic media evolution over the course of just a couple decades has parents, educators and children's health experts concerned about how kids spend their time—much of it in front of screens. For years, NWF's Be Out There has been citing data that children spend on average more than seven hours per day in front of media.[1] However, according to a report by the Joan Ganz Cooney Center, which reviewed and analyzed seven different media studies, some never before released, total time per day for children 8-18 is now up to 10 hours, 45 minutes per day.[2]

> "There's so much positive about technology. The access to information, connection with other cultures, literature, music and media, the educational resources, the ability to create media and just plain fun of gaming."
>
> Rebecca Levey, Creator of Kidvuz.com

Some moms and dads remember watching only three TV channels ("OMG," say their kids).

It's not just how, but *where* children clock their hours. Children today are indoors far more than their parents were, with only a quarter of kids playing outside daily as compared to nearly three quarters a generation ago, even in rural areas.[4] While contemporary parents spent hours per day as kids exploring and playing in nature until they were called in for dinner, their children devote only minutes a day to unstructured outdoor play such as climbing a tree or playing a game of catch.[5-6]

Technology is not the only reason why kids tend to grow up indoors—reduced or eliminated school recess, overscheduled lives and concerns about children's safety have all contributed to a steady and dramatic decrease in the amount of time kids spend outside. However, technology, and the amount of time kids spend outdoors, are closely linked. According to a new survey of 2,600 parents commissioned by NWF, technology topped the list of reasons why kids are not getting outdoors.

Our favorite gadgets and screens have opened new and exciting avenues for learning and playing, but technology overuse, and the lack of exercise that comes with it, can lead to some serious problems like overeating and weight gain at a time when one-third of American children and adolescents are overweight or obese.[12-13] Too much tech can also impact kids' learning and social development as recent research on our oh-so-connected kids is beginning to show.

But don't ditch the devices just yet as technology has benefits for kids too. In fact, according to the experts, technological literacy is integral to children's future success. "Learning through technology is one way of ensuring children develop appropriate 21st century skills," says Professor Mark Brown, director of Massey's National Centre for Teaching and Learning.[14] On its web site **healthychildren.org**, the American Academy of Pediatrics says email, Facebook, and texting, have among their advantages "letter-like communication, updates, sending pictures, attachments, references, humor, and staying in touch."[15] But the academy also recommends limitations on technology use for children of all ages.

While technology is integral to growing up in the 21st century, we can't forget the simple truth that spending time playing and learning outside is just as important for kids' healthy development. Children who do spend time outdoors on a regular basis maintain healthier body weights, are less likely to be near-sighted and have healthier vitamin D levels. In addition, "green time" lengthens attention spans, improves critical thinking skills, enhances empathy and lowers stress.[7-11]

So how do parents balance the role of technology in their kids' lives with the simple pleasures and lasting benefits of outdoor play? Better yet, how do they use technology to get kids moving, exploring and interacting with the outdoor world around them?

This report aims to arm parents with the information they need to understand:

1. How kids' media habits can both positively and negatively impact health, learning and social development.
2. How spending time outside regularly can strengthen the benefits and balance the drawbacks of screen time.
3. Real-world advice to help parents serve as positive role models and teach children to use technology in moderation.
4. Fun, fantastic tools to help families combine the best of both miraculous worlds, virtual and natural.

Friending Fresh Air: Connecting Kids to Nature in the Digital Age

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Information Please

When today's parents wanted to know something as kids, they checked an encyclopedia, fiddled with microfiche or asked mom and dad. Now, even small children can simply query Google, "Why is the sky blue?" and get an answer immediately—37,600,000 of them to be exact, the number of hits revealed by a recent search. With advances in how kids get information come potential challenges. Some pitfalls of learning via technology, aside from potential of inappropriate material, include problems comprehending or retaining information, lack of time for creative thought, reduced rest for over-stimulated minds and attention problems.

Studies show that as children get more of their information from online sources rather than books, there are changes in the way they process it. According to Dr. Jim Taylor, a psychologist who specializes in technology and popular culture, "Reading text uninterrupted by hyperlinks and ads results in faster completion and better understanding, recall and learning." Furthermore, Dr. Taylor says students who are allowed Internet access during class don't recall lectures or perform as well.

The new phenomenon of media multitasking—kids on their phones and computers while also watching TV—is a particular problem for teens, "whose brains are still developing in areas responsible for attention and self-control," says Dr. Seth Marshall, a psychology professor at Middle Tennessee State University.[18] According to Dr. Marshall, this new divided attention can also make it more difficult for young students to learn and really pay attention.

In addition to the processing of facts and information, technology impacts creative thought and the brain's ability to calm itself. According to Dr. Larry Rosen, author of *Rewired: Understanding the iGeneration and the Way they Learn*, human brains have a mechanism called the Default Mode Network (DMN), that operates during daydreaming, mind wandering and non-task oriented behavior. When a child is engaged and actively making decisions online, says Dr. Rosen, the DMN cannot be activated, which "does not allow for the types of 'ah ha' experiences gleaned during mind-wandering."

The good news is, data suggests a tech break in nature may be just the thing necessary to bring back creativity and rest for the brain.

According to a study by Dr. Richard Coyne and his colleagues at University of Edinburgh, a walk outdoors calms the brain to a state of involuntary attention, which rests the brain and also may enable the DMN, and creative ideas.[17]



Research also reveals that technology may, in different ways, actually help children learn. Some technology, particularly video games, has demonstrated positive effects on visual-spatial capabilities, reaction times and the capacity to identify details among clutter. [16]

A walk in the woods might be helpful for young attention spans, too. While not considered a cure for attention problems, exposure to nature may help teens focus. It has been shown to be "widely effective" in reducing attention symptoms in youngsters diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), according to researchers at the University of Illinois. The authors surveyed parents of more than 400 boys and girls diagnosed with ADHD about their children's performance in a wide range of activities, both indoors and in natural settings such as a tree-lined street or park. The "green" activities consistently received more positive ratings.[19]

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>
> Dr. Mark Brown,
> Director of Massey's National Center for Teaching and Learning

Communication



The use of computers not only affects and influences cognitive and academic skills, but also can help shape a child's social interactions and development, according to research published by Princeton University. Children who spend much of their time indoors watching television or playing video games can become isolated and withdrawn, even if they think they are connecting online.

And what about little kids? Even preschoolers are getting their fill of screens, despite the American Academy of Pediatrics' recommendation that children under two receive zero screen time. Today, children under one year are averaging 49 minutes of television per day, while children two to three years old watch for one hour and 51 minutes.

Though texting, emailing and social media use is not yet prevalent for small children, Dr. Rosen expresses concern that too much technology prevents them from spending quality time with caregivers and friends. Besides, it might just be a matter of time: "As these young children grow up and embrace electronic communication, as do their older preteen and teenage siblings (a typical teen would rather connect with their friends through texting and media than face-to-face), they are sending and receiving messages behind glass screens."

"Playing outside person-to-person allows young people to share, cooperate and resolve problems"

The concern with communicating primarily electronically, says Dr. Rosen, is the absence of context. Without contextual information from those receiving your messages, it's difficult for kids to learn how to communicate civilly and effectively.[22]

What if there was an activity proven to alleviate loneliness and improve kids' social interaction and development—and it was right outside parents' doors? That's right, studies show that spending time outside helps children feel happier and facilitate social bonds. According to one study, children's stress levels fall within minutes of seeing green spaces, while another demonstrates the connection between playing in the dirt and rising serotonin levels (the brain's "happy chemical").[23-24]

In addition, playing outside person-to-person allows young people to share, cooperate and resolve problems. Researchers have found kids who play together and organize games experience a constructive way to avoid social isolation. This type of group interaction also helps children learn teamwork and how to problem solve with others.[25]

"The problem with communicating primarily electronically is the absence of context."

Dr. Larry Rosen

Moderation

The nature of balanced media use



How can parents achieve a healthy equilibrium when it comes to technology?

With the fast-pace of technology and the demands of a seemingly 24/7 work week, parents are sometimes equal offenders in being too connected. It is too tempting to "quickly" respond to a text at the sound of the ding during dinner, check for that one urgent email and end up spending 20 minutes paring down your inbox. Our kids, at all ages, see these actions and emulate them. All the more reason for caring parents to imitate the behavior expected of our children. [26]

"If you're on 27 devices at one time... the TV and your iPad and your phone and not engaged in one activity, then certainly your [child] thinks that's normal," says Mary Romano, adolescent clinician at Monroe Carell, Jr. Children's Hospital at Vanderbilt University.

By monitoring good technology hygiene – taking breaks, making sure to communicate face-to-face and not just screen-to-screen – and spending time outdoors and active each day, parents can lead kids down a healthier, happier path.

For every one minute of technology use, kids should spend an equivalent five minutes doing something else.

Dr. Rosen recommends parents introduce moderation in technology use when children are little. He suggests mandatory tech-breaks to let kids' brains rest, face-to face communication happen and creativity to spark—initially at a rate of one to five. For every one minute of technology use, kids should spend an equivalent five minutes doing something else, such as talking to others, interacting with toys or just letting the mind wander. So, if a child spends 30 minutes playing on an tablet or watching TV, he or she should do other activities for 150 minutes.

At NWF, we can think of a few ways to encourage moderation and fill those tech breaks: How about a walk, drawing with sidewalk chalk or looking at ants build an anthill? Dr. Jane Belsky, professor at MTSU, agrees the outdoors can be a great ally in the work to build moderation in kids' technology use. She suggests rewarding them with a technology-free day by having fun outdoors. For teens, she suggests something adventurous such as whitewater rafting.[27] "It's hard to be on Facebook when you're going down the river," Belsky says.

The first step, experts say, is to make like a tween and take a "selfie." That is, parents should take a look at their own media over-usage and how they're modeling it for your kids.[26]

Application

The nature of great outdoor-friendly technology

More and more, parents are learning technology tricks and shortcuts from their kids. Children are the masters of this trade and parents are often the students. Exploring the outdoors, as many of us did as kids, provides parents an opportunity to "trade places" and teach children shortcuts and tips for outdoor adventures like building a fort, reading animal tracks, listening for bird calls, building sandcastles or packing for a hike. In addition to the narrative, let your children learn from you how to experience the texture of Mother Nature by appealing to their five senses and even more, the positive emotional responses outdoor time can bring like serenity, laughter, joyfulness, rejuvenation and connectedness to nature. Nature has her own touch screen, volume, colors and her own taste, scents, and personality. The latter three you just can't get from an electronic device!

There is no question that zoning out in front of a screen for hours on end isn't good for anybody, but at Be Out There, we believe technology can also be a valuable tool to help families balance the lure of "screen time" with the importance of regular "green time" time for kids. The key word here is balance. Today's connected world enables children to experience nature in ways never before imagined!

Here are the three simple criteria to use technology as a bridge between the indoors and outdoors:

1. Use technology to help plan outdoor time or inspire your next outdoor adventure
2. If they love it, embrace it, and take it outside!
3. Keep a record of your experiences with the help of electronics to take photos, make videos or keep an electronic journal of adventures and discoveries.



Be Out There's favorite tech-friendly ways to connect kids with nature and tools to help:

1. Try a New Outdoor Activity at Home

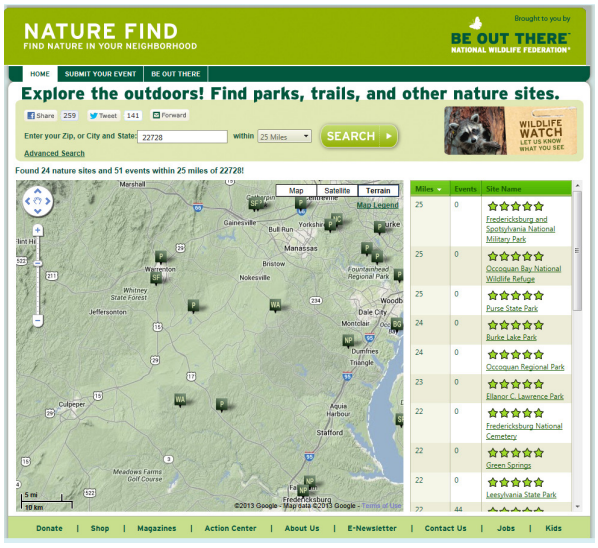
Sometimes, the hardest part is taking that first step out the door. Give your kids some extra motivation to Be Out There by picking a fun outdoor activity, craft or game from NWF's Activity Finder. Search through hundreds of activities by season, age, type and more!

Activity Finder Website - Search NWF's Activity Finder for hundreds of outdoor or nature-themed games, crafts, recipes and activities. **nwf.org/activity-finder**

2. Plan a Weekend Outing

Have your child research your family's next outdoor adventure by searching online with NatureFind, which offers location information about wonderful parks, hiking trails, and other outdoor recreational spots near your home when you input your zip code.

NatureFind Website – Use this search engine to find a variety of exciting nature sites with interactive maps and engaging and affordable events for all age groups.



WeatherBug Mobile App - Free, All Ages. Get real-time weather reports for your very own neighborhood or around the world before you head out, or for last minute outings!

3. Calling All Kid Photographers!

Do your kids love Instagram or stealing your phone and taking pictures of everything under the sun? Foster that love of the camera:



Photo Scavenger Hunt Activity – Download our scavenger hunt or make your own with our helpful tips, and snap away!

Ranger Rick's Photo Contest - Kids can submit their best nature photos in the monthly contest. Their pic could end up in an edition of *Ranger Rick* magazine! There's no deadline and great prizes, so go out in each season and snap away. **nwf.org/rrphotocontest**

> "I have found that I get a far better reaction when I have a plan for a specific type of play, rather than saying, 'ok, let's go outside and do whatever we want.' I can say, 'let's go Play!' – or I can say, 'let's go play tag or find leaves or have an adventure,' and the response is totally different."
>
> Andrea Updyke, Li'l Kid Things

4. Homework and Learning are Better Out There

Many activities we do daily inside are just as easily done outside. Take homework, for example. Power up that Wi-Fi and set up a homework station outside, or lay out a blanket for reading. There are lots of ways to learn outside using technology as a handy tool:

Read About Animals, Online - NWF's *Ranger Rick* and *Ranger Rick Jr.* magazines are available on Nook and there is a Ranger Rick Appzine with game center, video screening room, and a comic book, all rolled into one.



Seek 'n Spell App - Free, All Ages. Combine the outdoors with spelling to get this creative app that uses your GPS to allow you to collect virtual letters and spell words. You can even challenge your friends.



Kid Weather App - $1.99, Ages 4 and up. Designed by a 6 year old boy and his meteorologist dad, this app gives you real time weather, fun facts and is interactive! It'll even show you the suggested clothing for each weather condition.



Click-the-Birdie App - $.99, Ages 7 and up. Get your fast fingers and sharp eyes ready to join Ranger Rick in scoring points while traveling to wild places and discovering awesome birds.

5. You've Always Wanted to Go on a Treasure Hunt

Now you can! Geocaching is a high-tech treasure hunt game played by adventure seekers equipped with GPS devices. Hidden treasure, or geoaches, are all over the country waiting for you to find them. NWF has their own series of kid-friendly caches featuring Ranger Rick and his pals. Find an affordable GPS device or download the app below:



Ranger Rick's Geocache Trails – NWF's kid-friendly educational take on geocaching. Find a trail near you on geocaching.com.

Geocaching.com App - Free or $9.99, All Ages – Get access to thousands of geocaches hidden near you. Log your finds, share pictures or hide your own caches.

Ubooly - $29.95, Ages 4-10. The innovative, app-based learning toy that can turn a walk in the park into an interactive experience. Complete with two Ranger Rick® Outdoor Adventure Play Packs that include scavenger hunts, nature hikes, physical challenges and more!

For more wonderful outdoor activities visit: BeOutThere.org/ActivityFinder

6. Look for the Wildlife in Your Neighborhood and Beyond

In the city or the suburbs, nature is all around you. Birds, insects, trees, squirrels, encourage your child's curiosity about animals and plants with these awesome apps:



WildObs – Free, All Ages. Record wildlife encounters, learn what other animals are around you, and lookup 1000s of species by names.



Project Noah - Free, All Ages. Highly acclaimed app to explore wildlife as a community and contribute by sharing your own great nature finds!



MyNature Animal Tracks - $6.99, All Ages. Walking along a trail and find a set of animal tracks? No worries! Just open this app and use the loaded database to determine what's lurking just around the corner.



Chirp! Bird Song USA - $2.99, All Ages. An entertaining way to learn bird characteristics. Try to earn a high score by testing your memory.



Leafsnap - Free, All Ages. One of a kind app that allows you to snap a picture of a leaf and quickly provides feedback of what type of plant you found!





7. Venture out at night

When days are busy, after dark can be a perfect time to slow down and connect with nature. Admire the stars together and remember how great this planet really is! Go on a backyard campout.



Star Walk App - $2.99, All Ages. Just launch the app and point it skyward to locate stars, planets, satellites and constellations, and learn more about them.



SkyView Free App - Free, All Ages. Point your phone towards the sky and get ready to learn about the universe above you with this interactive app!

Great American Backyard Campout – Spend a night under the stars! Get packing lists, activities and recipes to plan your very own campout from NWF.

GREAT AMERICAN BACKYARD CAMPOUT™
NATIONAL WILDLIFE FEDERATION®

There's a Reason They Call it The Great Outdoors

"Everything in moderation" is a wise old saying that applies to many aspects of our lives. As much as we love chocolate, a diet of cookies and candy bars just doesn't cut it in the nutrition department. Likewise, technology can be a wonderful tool for learning and playing, but kids require a balance of screen and green experiences to grow up happy and healthy. Kids, and even parents, need time to recharge their own batteries, so don't forget the importance of unplugging completely and enjoying some disconnected connection with nature, too. Smartphone or not, it's good for kids to Be Out There!

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There's a reason they call it the GREAT OUTDOORS!



Be Out There is a national movement to give back to American children what they don't even know they've lost – their connection to the natural world.

With a wealth of activities, events, and resources, Be Out There reconnects families with the great outdoors to raise happy, healthy children with a life-long love of nature.

Join us and take the pledge to Be Out There

BeOutThere.org/Pledge

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