

Green Teacher

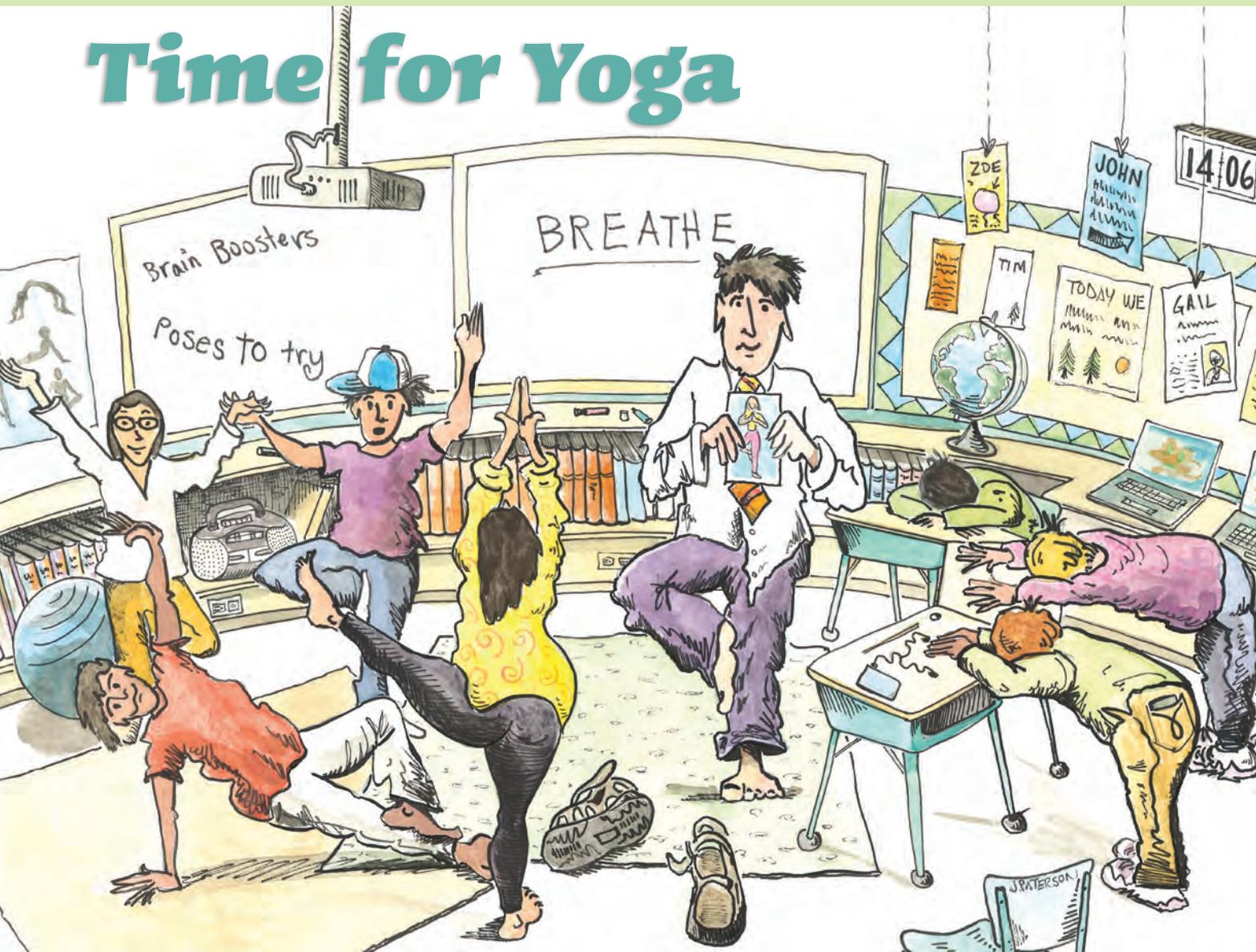
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Time for Yoga



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Slowing Climate Change with Biochar *Weighing the Tar Sands*
First Grade Farmers *Mystery of the Missing Mayflies*
South Africa Goes Green *Childrens' Rights and Climate Change*

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EDITORIAL

Finding Hope

EDMUND O'SULLIVAN, a University of Toronto emeritus professor, once said that despair is not the business of educators. I often think of this statement when conducting climate change education workshops. It is very easy to despair about the inability of world leaders to respond appropriately to the increasing harm being caused by climate change around the world.

Hope – the opposite of despair – is a powerful thread that runs throughout this issue of Green Teacher. The re-emergence of biochar – and the efforts of pioneering educators to introduce it to young people – excites and fills me with hope. As you will read, this form of charcoal, used for millennia in the Amazon River basin, absorbs carbon from the atmosphere and stores it in soils for thousands of years. While doing so, it absorbs nutrients and water, thus enriching soils and helping plants grow. The word biochar has hope written all over it. Its re-emergence is one more reminder that climate change is a solvable problem.



The increasing number of schools and youth centres that are incorporating yoga into their programs is another reason to be hopeful about the future. As Marina Ebert points out, practicing yoga not only relieves stress, but it helps young people to focus, become more engaged and ready to learn. Too often, we ignore the fact that many young people have too many worries in their lives, which in turn prevents them from embracing the learning opportunities we put before them.

Educators often bemoan the lack of administrative support for outdoor, place-based education. In response, Stephen Skoutajan summarizes five studies which show that outdoor, community-based learning improves text scores and student motivation and generates renewed interest in traditional subjects. This is the sort of evidence that can and should impress all administrators, including those with little interest in environmental learning.

Finally, we're especially pleased to include in this issue a special feature on South Africa. Since the end of apartheid in 1994, environmental education has increased in importance at all levels in that emerging democracy and regional power. While only a minority of South African schools currently take advantage of the expanding array of programs, our five part feature leaves one hopeful that it is only a matter of time before most will do so.

It has often been said that having a sense of hope is essential for seeing the big picture and believing that a better future is possible. Despair does the opposite. The late British philosopher Bertrand Russell was once asked whether he was a pessimist or an optimist. He replied that he could afford to be neither. While none of us should be naïve, hope remains a crucial ingredient for making the world a better place. May you too find lots of hope in the many positive contributions found in the following pages.

—Tim Grant

Yoga in the Classroom

Increase focus, relieve stress, and help improve mental, emotional and physical well-being for yourself and your students



Photographs: Yoga 4 Classrooms

By **Marina Ebert**

CHILDREN OFTEN FACE very challenging environments in their everyday life which can be stressful, uncertain, and emotionally demanding. Science has shown, and educators have experienced first-hand, that when children are anxious, stressed, distracted or unbalanced it is nearly impossible for them to learn. A calm and present state of mind is a prerequisite for children to be psychologically and physiologically ready for learning. Yoga is increasingly proving to be a great way to achieve this state of mind, and work towards the goals of stress reduction, self-regulation, and better ability to focus and sustain attention necessary for learning.

The neuroscience of child development research highlights that excessive stress damages the developing brain architecture, leading to vulnerability to lifelong problems in learning, behavior and overall health¹. Yoga can help cultivate a set of mental skills central to the aims of education in 21st century: self-regulation, pro-social dispositions, mastery and positive attitude towards academic success².

The anecdotal benefits of yoga reported by practitioners are well known; however, carefully-controlled scientific research on these benefits is limited, especially in children. One recently published paper³ reported that secondary school students participating in yoga over 8 weeks improved their

anger control and fatigue/inertia and decreased negative affect. The researchers suggest that implementation of yoga is acceptable and feasible in a secondary school settings, and has the potential of playing a protective or preventive role in maintaining mental health.

Scientific evidence is accumulating that yoga and mindfulness training is an effective and cost-efficient way to promote healthy brain development and function, and to foster stress resilience. According to the most recent research⁴, self-regulation is strongly predictive of school readiness as it allows children better to adapt to classroom demands, such as sitting still, sustaining both attention and motivation toward a task, and using creative problem-solving skills, as well as allowing children to learn in a more mindful, reflective fashion.

In line with core goals of social-emotional learning, short but regular formal yoga and mindfulness training exercises, combined with informal mindfulness awareness practices, can strengthen children's innate capacities for being mindful to any experience (whether pleasurable, neutral, stressful or difficult) in ways that are responsive rather than reactive and reflexive⁵.

It's also important to recognize the challenges that school professionals face themselves – and not surprisingly, those are very similar to the problems we try to “fix” for our kids! To improve teachers' personal and professional growth and well-being, they need the tools to become more mindful and emotionally capable of handling the classroom. Finding a



balance between teaching children and doing something for one's self is crucial while integrating contemplative practices into the classroom.

To enhance the professional development of educators, we must nurture the same skills and qualities we want them to teach the children – that is, to make fundamental changes in “longstanding mindsets and skill sets” of teachers to cultivate “habits of mind” that are more conducive to mindful classrooms⁶. Here is what a few teachers wrote after participating in one such in-school residency yoga-based program, Yoga 4 Classrooms, about finding this personal and professional balance:

“I am calmer, more in tune with my students’ needs and moods. They are able to feel confident, encouraged, empowered, relaxed - and able to take these strategies home”; “It will make me be more focused and aware of how my students are feeling especially if they are stressed”.

Yoga and mindfulness curriculum

Sample classroom yoga lesson plans typically include a mix of yoga postures, brain boosting movements, breath exercises, visualizations, mindfulness activities, creative movement and community-building games. All elements of the yoga curriculum work synergistically to teach strategies that help children develop resilience, positive perceptions, good health habits and mindful awareness. Wellness, positive psychology and character-building discussion points, such as the power of positive thinking, nutrition, and being a peacemaker, address the child's physical, social and emotional needs, while improving learning-readiness.

The activities should be suitable for the typical classroom

space and schedule, and be easily implemented in a variety of contexts. That means all activities can be done standing beside or sitting at desks, while bodies remain off the floor, away from dirt, germs and chemicals.

One aspect of contemplative yogic practices worth emphasizing is training of the mind through imagination. Imagination makes it possible to perceive our inner world. Problem-solving skills, creative and critical thinking, vocabulary enrichment, cooperative play, sensory release, relaxation and focus are just a few of the skills imagination develops in children.

Sadly, in this day of electronic stimulation and the fast-paced frenzy of our overscheduled lives, imagination is taking a back seat. The loss of imagination is so detrimental that a 2001 follow-up to a 1940's study (linking imaginative play to self-regulation skills) showed that an average 7 year old today (who, in 1940, could stand still as long as he was asked), is unable to stand still for 3 minutes (the length of time achieved by a 5 year old in 1940).⁷ Without imagination, our children are unable to focus into stillness. And without stillness, the brain and body become increasingly unable to relax, focus and learn⁸.

In educational settings, visual imagery can be an effective way to help children with reading and writing, word identification, verbal communication, understanding abstract concepts, memory development, planning and executive functioning skills, problem solving and social skills. Mindfulness aspects of yoga tap into and set free these vital imaginative resources.

Where do I begin?

As a classroom teacher looking to improve the classroom climate and help children focus, become more engaged, and subsequently more learning ready, you might be wondering: how do I start a yoga and mindfulness curriculum, and where do I begin to incorporate the activities with my children at school?

We suggest having a few sample yoga sequences appropriate for several occasions. Once you know the basics of age-appropriate yoga practices, you can begin to create your own sequences and use them as you see fit during the school day. An age appropriate yoga pose card deck can be an invaluable tool which can easily offer you a dedicated activity based on your needs at the moment, as well as a visual aid to capture the children's attention.

Whether you have 15 seconds or 20 minutes, yoga and mindfulness provides a healthy break anytime during the school day. The following are some particularly useful times to take a yoga break:

- Morning meeting / start of day
- Between subject transition times
- Pre-Testing and / or mid-testing break
- Writing preparation or writing break
- After recess
- After lunch

- When students are tired or drained
- When students need a confidence or mood boost
- To alleviate negativity
- While waiting in line
- Anytime when focus and attention begin to diminish
- To celebrate / just for fun
- Community builder
- Close of day / conclusion

As you can see, yoga practices can be incorporated at any point in a school day, depending on the needs of your students. To make it easier for yourself, we suggest picking a specific time of the day to incorporate the routines on a regular basis. However, it is important to remember that there are no strict rules about the length of the practices, or set in stone regulations for the sequences. Yoga is not only a contemplative, but also a very creative process for everyone involved in it in any shape or form! Knowing your kids will help you find an appropriate teachable moment.

The following are proven, simple, multi-level combinations of yoga practice activities that work. If you are looking for a stress-free start, these will set you in the right direction.

Morning Meeting Sequence

The start of the school day sets the tone for the entire day. Depending on your students' energy levels on any given morning, you can choose to calm/focus them, balance/energize, offer a playful activity or a reflective one. The activities provide a morning stretch, build community and help ensure a positive start to the day.

Supposing you have about 10 minutes you can allocate to balancing and energizing your students for a positive day, try this sequence:

1. Do My Best

- Begin in Standing Mountain pose. Standing up tall with your arms at your sides and your feet about hip distance apart, inhale as you raise your shoulders towards your ears. Exhale and roll them back and down. As you do so, notice your weight go into your feet, anchoring you solidly to the ground.
- Reach the right elbow across the body to the left knee as you raise it, and then do the same thing for the left elbow to the right knee. Do not rush to alternate the sides, and continue at moderate speed for a minute or so.

Once this becomes easy for you, try adding the following •chant, coordinating your movements with your words.

Teaching Tips

- 1. Modeling.** Do the activities along with your students, especially since those are beneficial to all who use them. You may find yourself pleasantly surprised at the results of these activities on your own state of being. Your students deserve to feel and be at their best, and so do you!
- 2. Emphasize the Breath.** Be sure to emphasize the breathing instructions. Focusing on breathing helps calm the parasympathetic nervous system while helping release tensions in the body and mind.
- 3. Start Slow.** Do not feel pressured to teach an entire sequence at one time. If you have just 2 minutes, start with one stretch and a breathing exercise, or a quick visualization in Desk Rest Pose (heads down), depending on the situation and needs of the moment. You can also use the activity cards from any kids yoga card deck, which feature activities you can simply pull out for an on-the-fly yoga idea (with thorough instructions) depending on your classroom's needs.
- 4. Practice.** Seek out any and all opportunities to try out yoga activities. Over time, knowing the best activity to choose for a given situation will become second nature – for you and your students.
- 5. Have Fun.** The intention is to keep things simple and fun. Feel free to use your imagination, expanding upon any suggested poses and sequences however you see fit for your particular class group and teaching circumstances. There are no hard and fast rules (outside of safety). Have fun with it!
- 6. Empower Students.** As your class becomes more familiar with yoga activities, it can be fun and beneficial to allow your students to choose and lead them. When your class or a particular student is feeling anxious, is overly energetic, etc., begin to challenge them to choose the most relevant and beneficial activities for the situation at hand. As your students begin to connect the activities to their needs and current states of being, they will be empowered to assist themselves while learning to self-regulate both in and out of the classroom. Your students will also inevitably have ideas of their own! Whether it is sharing a new yoga pose, reading or telling a story for use as a meditation, students love to be involved in creating and leading the activities. Yoga can make wonderful use of children's imaginations, and can often serve as an educational tie-in, such as for a writing assignment, or math, social studies, art or science project.
- 7. Helpful tools.** One of the unique aspects of a yoga program in the classroom is that it does not require special equipment, expensive props or outside materials. However, there are a few items that can make the experience even more engaging. Music can be incredibly powerful in its ability to help calm, soothe and relax the nervous system. Studies have also shown that certain kinds of music, such as classical or calming instrumentals, can help integrate and regulate the way the brain works, helping with learning and mood management. Music plays a critical role in the process of "wiring" a young child's brain. With older children, music can create a good study environment and help a child learn information more efficiently. Music also increases emotional awareness, strengthens social skills, enhances creativity and aids in relaxation and stress reduction. Other helpful tools may include yoga card deck, chime, reflection journals, books, mandala coloring pages.



Repeat 3 times or more.

*Opposite Elbow, Opposite Knee
I stand up strong, just like a tree.
I use my mind, and body, and breath,
To focus myself, and do my BEST!*
(from Yoga 4 Classrooms® Manual)

2. Sitting Mountain Pose

- Sit down in a chair and scoot forward slightly to bring your back and bottom away from the back of your chair. Adjust yourself as needed to ensure that your feet are flat on the floor and your posture is straight and tall. Your knees should be directly above your ankles. Rest your hands on your thighs.
- Close your eyes or find a focus point. A focus point is a small, unmoving object upon which you can focus your gaze.
- Breathe slowly and deeply in and out. Focus on the sound and feeling of your breath. Continue for at least one minute or until you feel centered and relaxed.

Peace Breath

- Close your eyes and breathe slowly and deeply in and out through your nose.
- Begin to imagine that your heart is filling up with love and peace. With each inhale, watch it fill up to overflowing so that now you have plenty to share. Can you feel it?
- On your exhale, breathe out *very* slowly, as you silently say, “Peeeaaccceee.”

- Repeat several times, and as you say the word, “peace,” feel peacefulness and love flowing out from your heart into the room, to touch your classmates, your community and the world. Imagine this flow of peace reaching all of the people, places and animals that need it the most.
- Optional: have a discussion with your kids around the idea of peace if time allows. Start with saying: “When we feel peaceful, we help those around us to feel peaceful, too. Why do you think this is so? Try it and see what happens!”

Pre-writing and writing break sequence

Writing requires focus, concentration, postural strength and control, and of course the fine motor ability. In addition, most writing assignments require some level of reflection and use of imagination. The following suggested sequence nurtures these abilities while teaching students self-regulation and self-care.

Suppose you have about 5 minutes to prepare your students’ minds for the upcoming assignment.

1. Desk Puppy

- Stand behind your desk with your chair pushed in. Place the palms of your hands on the middle of your desk.
- Take a step back and bend forward so that your head comes down between your arms.
- Check your alignment. Your arms and legs should be straight. Your back is flat with your hips pressing backward. Your heels are on the floor.
- Let your head hang and relax between your arms. Feel the stretch in your shoulders, arms, hamstrings and calves. Release into the stretch a little more with each exhale: “Ahh”.
- When you are finished, step forward and roll your spine back up to standing. Shake out your limbs as needed.
- Here’s an idea! Puppy Friends is the partner version of this pose. Stand facing your partner and place your hands on each other’s shoulders. Continue from Step 2 above.

2. Open Heart

- Begin in Sitting Mountain Pose and reach back to hold onto the sides of your chair.
- Inhale as you roll your shoulders back and lean forward opening your chest towards the sky.
- Hold this pose for 3 – 5 full breaths, imagining each exhale is sending love from your heart out into the world.
- Slowly exhale and return to Sitting Mountain. Repeat as time allows.

3. Lightbulb Brain Imagination Vacation™

There are plenty of available resources (books, CDs, websites) that offer guided meditations for children you can use, or you can create your own. Below is a shortened version of a Yoga 4 Classrooms™ Imagination Vacation, representing a modified, child-friendly approach to meditation. Through



guided visualization, we invite students to use their imaginations to connect to their own inner wisdom. Students become empowered as their sense of self is improved and the connection between their mind and body is enhanced. Tension is released, and students learn strategies for dealing with life's emotional challenges.

Dim the lights and play soft music (optional). Invite your students to go to Desk Rest Pose and guide them to slow, deep breathing. Say, *"With each exhale, ask your mind and muscles to relax completely. When you are still and listening, I will begin...Imagine your brain is like a light bulb. Your light bulb brain is very hard at work all day, every day. It shines very brightly, filled with energy, thoughts, ideas and creativity. Sometimes, it gets very, very tired... Notice now that your light bulb brain has a dimmer switch. Ever so gently, turn the dimmer switch down so that the light from the bulb begins to dim. Feel your light bulb brain begin to relax and settle down. Oh, that feels good! Feel your head begin to relax...your thoughts slow down, your ideas go to rest. Breathe in deeply now, and on the exhale, turn your dimmer all the way to 'OFF.' The light is turned off and your light bulb brain is now completely at rest. Take moment and let your light bulb brain recharge and restore itself...(After a minute or more). When you are ready, slowly begin to turn your light bulb brain back on, so that the light becomes a little brighter with each inhale until light and energy have filled your brain and body once again. When you are ready, take a nice deep breath in through your nose. Exhale, "Haaa"*

through your mouth. Very, very slowly sit up now. Breathe in and out deeply once again before gently opening your eyes. Notice how you feel." (from Yoga 4 Classrooms® Manual)

Pre-testing and testing break sequence

The word *test* can instill anxiety in even the most confident adults and children. When we are anxious, it becomes physiologically impossible to recall information, focus and concentrate on the work or task at hand. In addition to requiring a calm body and mind, testing typically involves writing, and therefore requires postural strength and control and fine motor ability. The following sequences work to reduce any feelings of anxiety and provide a physical release of stress and tension, while enhancing memory, promoting clarity, and building confidence. These sequences also prepare the physical body for task of test-taking.

Suppose you allocate about 15 minutes for yoga break this time. Use a combination of active physical yoga poses (asanas) and breaths (pranayama) to help you achieve your goals for the classroom.

- Mountain Pose
- Conductor Breath
- Rag Doll Pose
- Triangle Pose
- Power Breath



Take these simple tools and suggested sequences and start by trying them. Let your children guide you as to what works for them and when, and introduce new activities slowly, following the recognizable poses to establish a routine at first.

Yoga and Well-Being

Implementing yogic practices and life-skills in the classroom environment requires a thorough understanding of children’s emotional, social and spiritual needs, being sensitive to developmental challenges facing them, and mindful to different styles of learning, coping with stress and relating to others.

Contemplative yogic practices provide tools for learning by helping children develop self-awareness, emotional intelligence, compassion, self-regulation and coping skills, teaching healthy habits and guiding them through movements that optimize their strength, flexibility and balance.

Overall, researchers² recommend an early start on healthy mind-body practices during the potential developmental “windows of opportunity” – hypothetically the periods when contemplative practices are particularly likely to produce habits conducive to learning, health and well-being. Rooted in the concept of neuroplasticity, any practice, including mind-body practices, occurring over extended periods of time, has the potential to induce both structural and functional changes in the brain – and at any point in life! These neural changes affect psychological functions and ultimately influence behavior, and the cutting edge scientists are now

proving that explicit systematic training can be used to promote adaptive brain functioning and prosocial behavior as well. This is why healthy habits are so important in learning and other domains in life – they literally change your brain!

The goal of yoga activities implemented in the school context is to provide children with important skills they can use in and out of the classroom for life-long health and well-being. Case studies show that embracing yoga in a school has the potential to change the whole school culture. As one school principal put it after one of our programs: “*They are doing it on their own, independently. I get stories pretty regularly about the kids doing this at home and how it’s helping them, or on the playground. They’ve really incorporated it into their repertoire to help them cope with all the stresses that they go through.*” ~ D.F., School Principal.

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Yoga 4 Classrooms & ChildLight Yoga

Materials used in this article were partially taken from the comprehensive Yoga 4 Classrooms® Manual, created and written by Lisa Flynn, the Founder of ChildLight Yoga and Yoga 4 Classrooms. ChildLight Yoga and Yoga 4 Classrooms provide evidence-based yoga education to children in schools and communities, and to professionals whose work supports the well-being of children. To learn more about Yoga 4 Classrooms Professional Development Workshops, becoming a Licensed Yoga 4 Classrooms Trainer or bringing the Yoga 4 Classrooms to your school, call 603-343-4116 or visit <www.yoga4classrooms.com>. At the website, you can purchase the above-mentioned Yoga 4 Classrooms Activity Card Deck, which was favourably reviewed in the last issue of *Green Teacher* (#96).

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