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The Voices of Future Generations International Children's Book Series:

'The Epic Eco-Inventions' by Jona David (Europe/North America), illustrated by Carol Adlam 'The Great Green Vine Invention' by Jona David (Europe/North America), illustrated by Carol Adlam 'The Tree of Hope' by Kehkashan Basu (Middle East), illustrated by Karen Webb-Meek 'The Fireflies After the Typhoon' by Anna Kuo (Asia), illustrated by Siri Vinter 'The Species-Saving Time Team' by Lautaro Real (Latin America), illustrated by Dan Ungureanu 'The Sisters' Mind Connection' by Allison Lievano-Gomez (Latin America), illustrated by Oscar Pinto 'The Forward and Backward City' by Diwa Boateng (Africa), illustrated by Meryl Treatner 'The Voice of an Island' by Lupe Vaai (Pacific Islands), illustrated by Li-Wen Chu 'The Visible Girls' by Tyronah Sioni (Pacific Islands), illustrated by Kasia Nieżywińska 'The Mechanical Chess Invention' by Jona David (Europe/North America), illustrated by Dan Ungureanu





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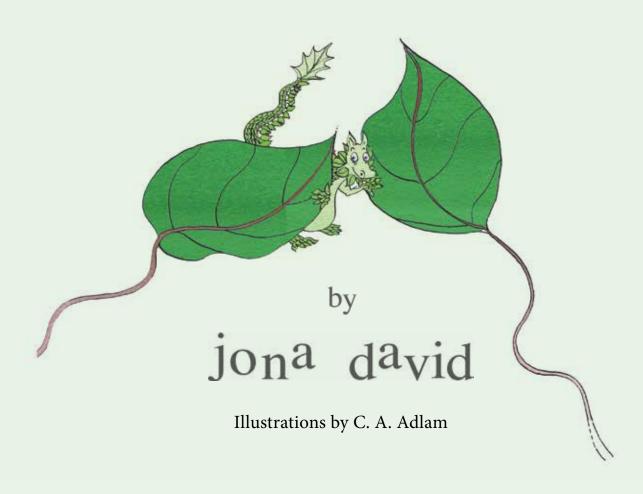


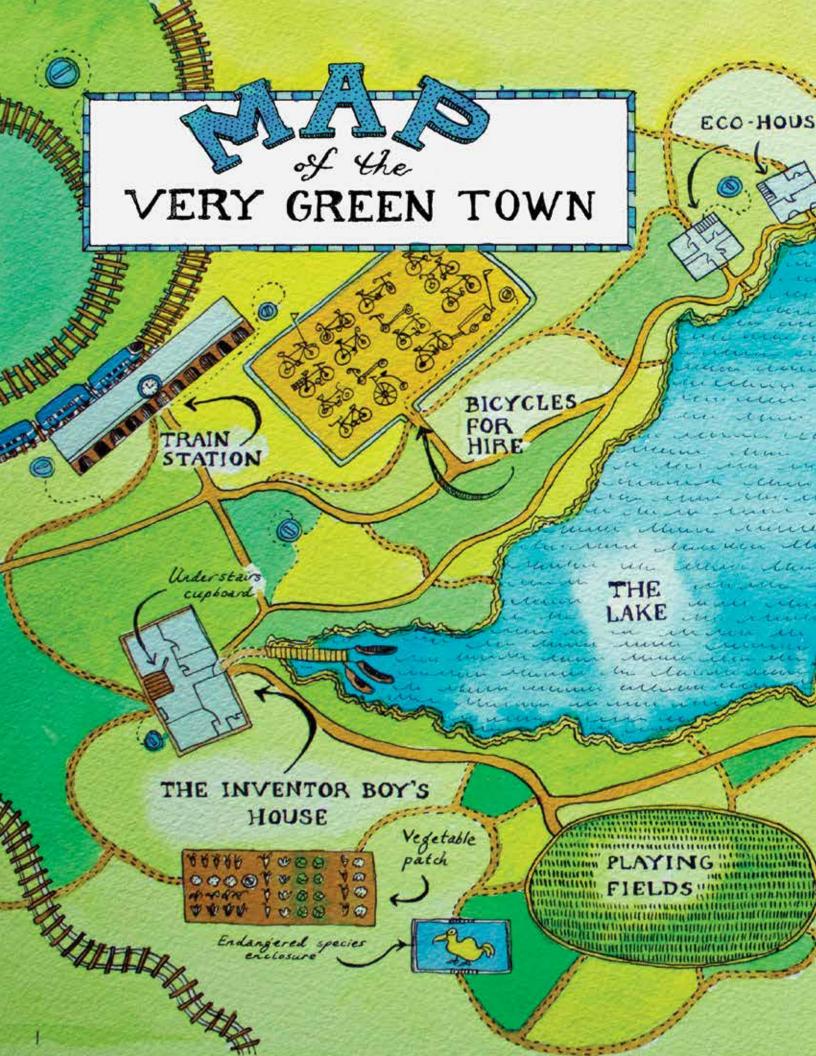


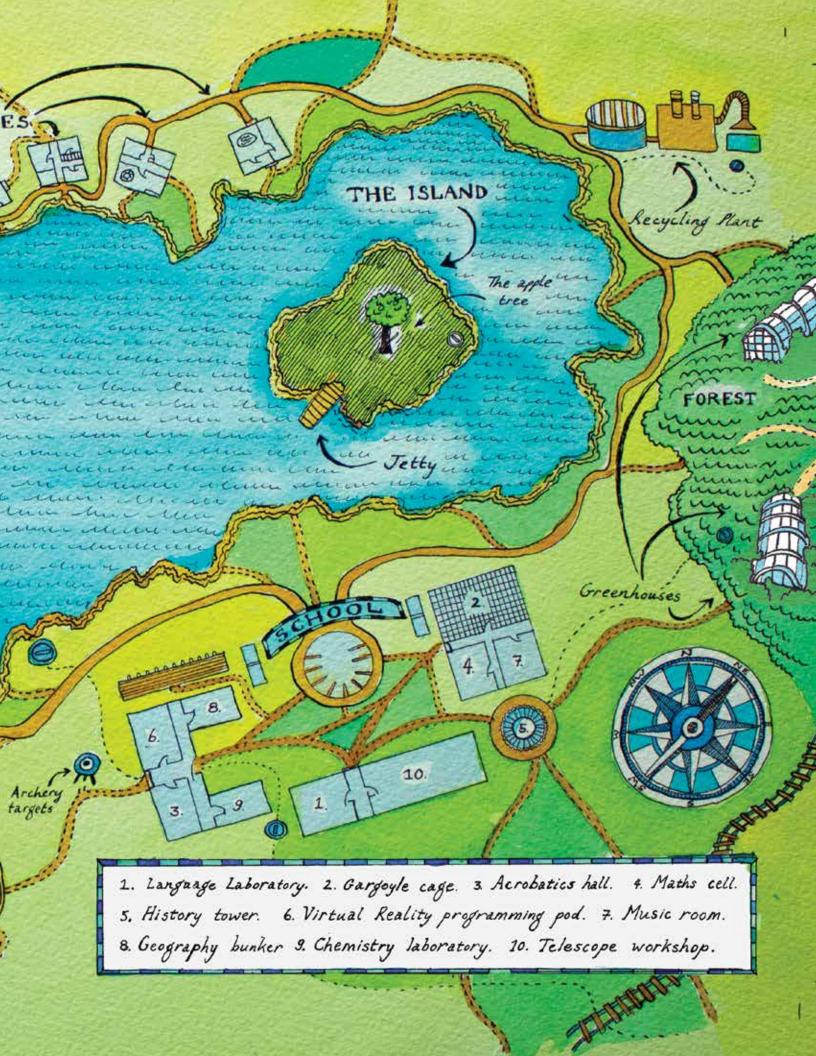


This book is printed on recycled paper, using sustainable and low-carbon printing methods.

great green vine invention









foreWord



At UNESCO, we like to say that there is no limit to the human imagination – what matters is that it is turned towards bettering the lives of people and protecting our planet. Invention often starts in solitude, and our Child Author's genius inventor boy is no exception. Thankfully, his curious little brother continues to break into the secrets of his universe, understands the value and implications of his inventions for humanity, and helps share them wisely.

We are all responsible for safeguarding our precious planet – from world leaders to children, parents and communities. Science, technology and innovation hold part of the answer. However, the starting point is to change values and attitudes so that everyone becomes aware that we are all connected and that every action carries an impact, whether it is related to how we produce, consume or relate to each other. School is the best place to start this cycle of positive change for the future. I have visited schools where students have led successful projects to harvest rain water, use solar energy, recycle waste and carry out community action, showing that every gesture can make a difference.

Over the past decade, UNESCO has been working actively with countries to integrate education for sustainable development into school programmes. Leaders have committed to continue this effort, because it is ultimately through education that we will be successful in bringing about a future that is beneficial for people and for our planet. This Child Author and the others in the Series, have a unique chance to share their vision and speak for the right of every child to an education and a future of dignity. These are the highest priorities for UNESCO. We wish all success to these children for their studies, their writing and their new projects to build a better world for all.

— Irina Bokova Director-General, United Nations Educational, Scientific and Cultural Organization

preface



This series of children's books *Voices* of Future Generations brings to life the importance of the sacred trust that each generation carries, to create a better world for our children.

The *Great Green Vine Invention* illuminates how children care about growth, what it means, and its limits. Our Child Author offers a vision of development that is in harmony with others and with nature. In the face of a changing climate, the

destruction of global resources, the pollution of our environment and injustices in our human family, the younger generation represented in this volume offers a playful, creative voice, which carries hope for a better future. It is a gentle reminder that courage, kindness, innovation and responsibility are the keystones on which civilization flourishes. This is also the central message of the 2012 Rio+20 Conference, in which I served as Secretary-General of the UNEP World Congress on Justice, Governance and Law for Environmental Sustainability.

As a Judge for one of Brazil's highest courts, the founding President of the Green Planet Institute, the Chair of the IUCN World Commission on Environmental Law and a longstanding member of the Brazilian Environmental Council (CONAMA), I find myself contemplating our future with both concern and optimism. This book offers joyful, heartwarming perspectives on the same issues. By helping others to hear the voice of this Child Author, my honourary godson, we offer new perspectives to the world. I warmly commend the *Great Green Vine Invention* and the *Voices of Future Generations* series to your attention, as we continue our journey toward sustainability.

— Justice Antonio Benjamin Judge of the Federal High Court of Brazil and Chair of the IUCN World Commission on Environmental Law





The Inventor Boy came up to him. 'This might help', he said, dropping something bright green and sparkling onto the stones beside the beds.

The little brother looked down, just as the gift unfurled itself.



The something was shaped like a small dragon. It looked up at them with friendly purple eyes and little leafy paws.

'Hello', said the little brother. 'Would you like to see my baby strawberry plant? I just planted it today.'

The tiny green plant dragon crept over to the seedling and breathed on it. Immediately, its leaves shot up and red strawberries sprouted.

'Wow!', said the little brother.

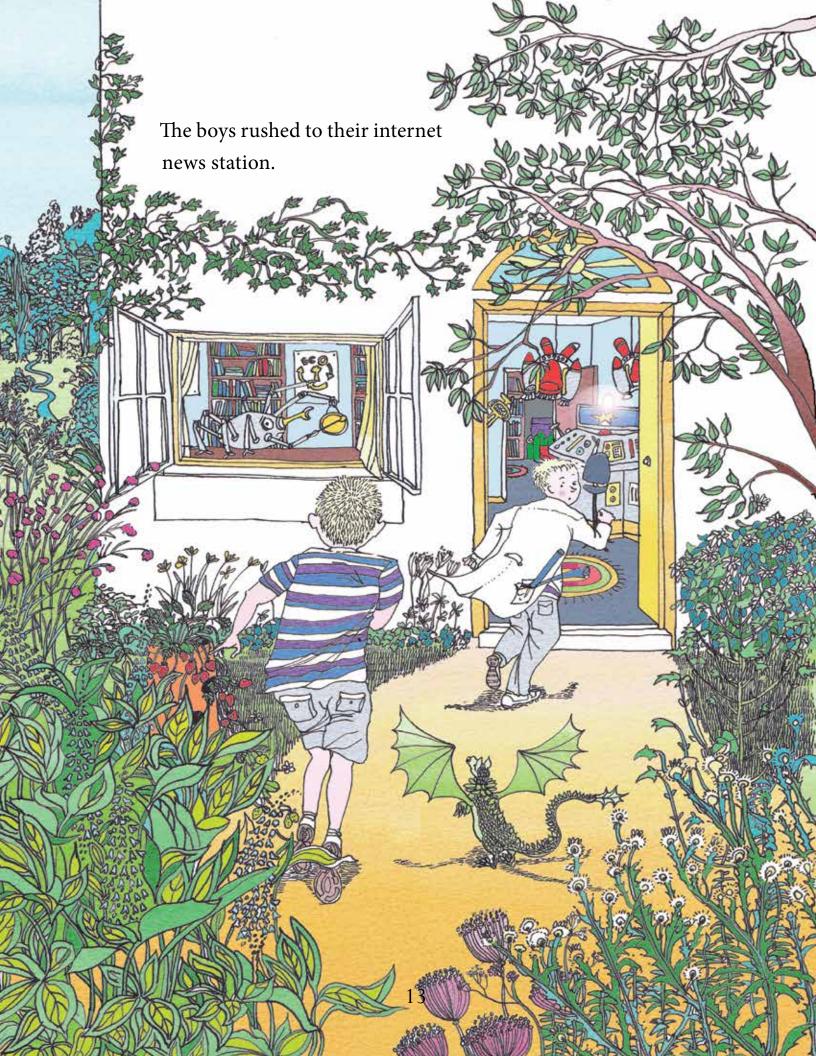


The Inventor Boy smiled and explained that he was becoming interested in botany.

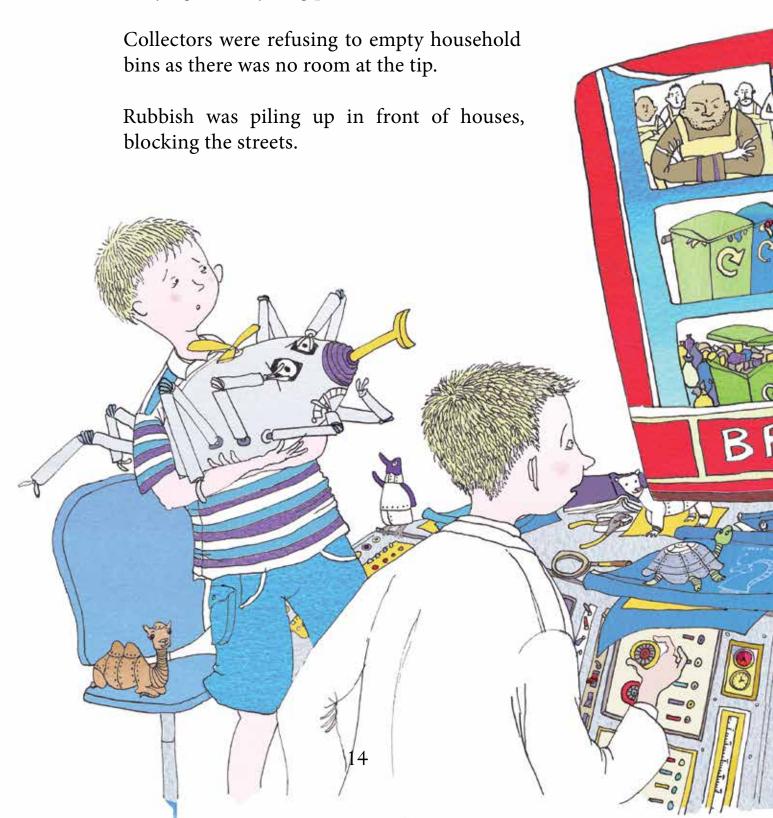
He had adapted the green plant dragon from a Venus Fly Trap and a Pumpkin Vine — adding some special features.



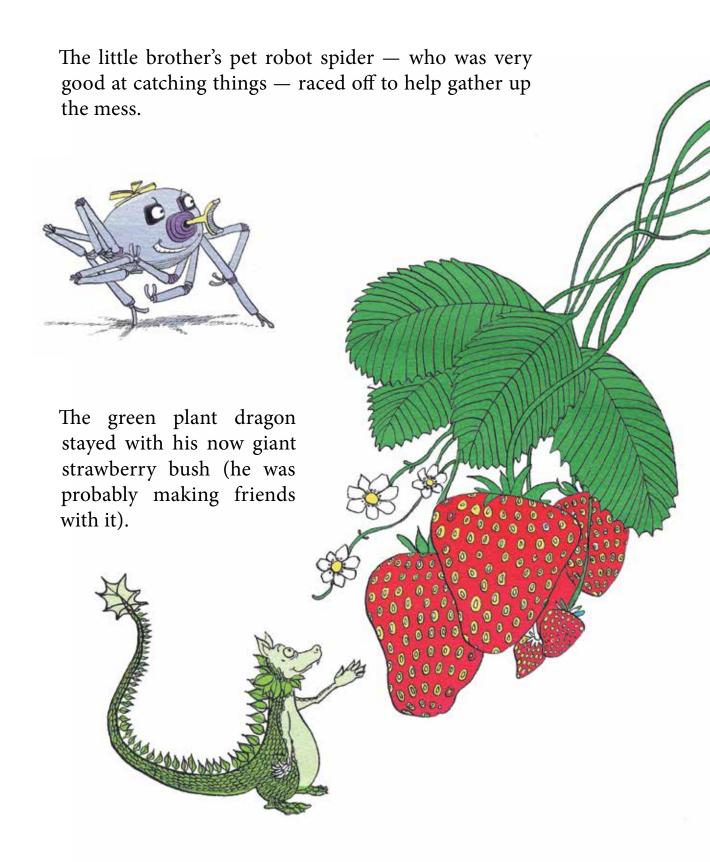
Suddenly, their pet robot spider became visible and sounded the alarm.



It was a broadcast about the city's garbage problem. A horrible accident had happened at the city tip. A mountain of rubbish had fallen, burying the recycling plant.

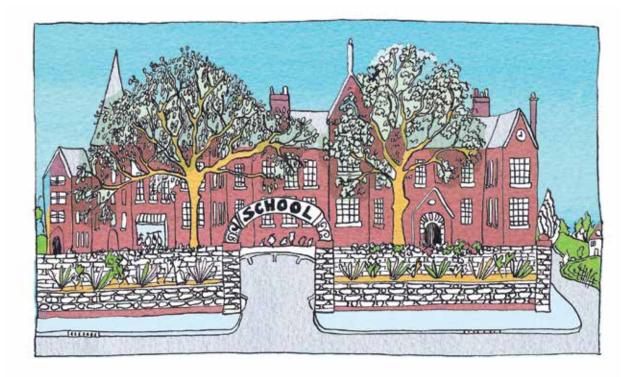




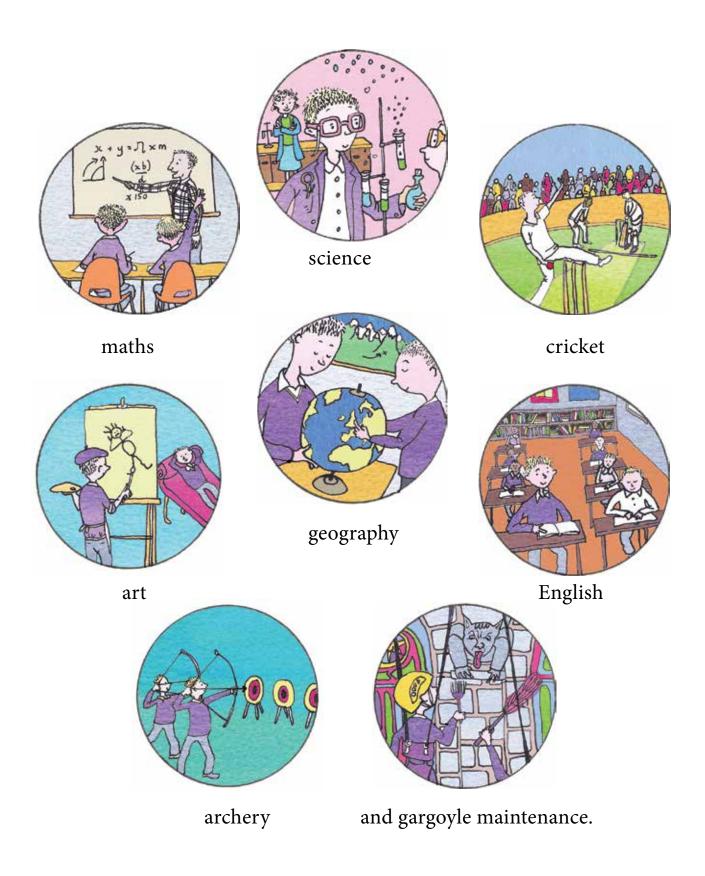


chapter 2

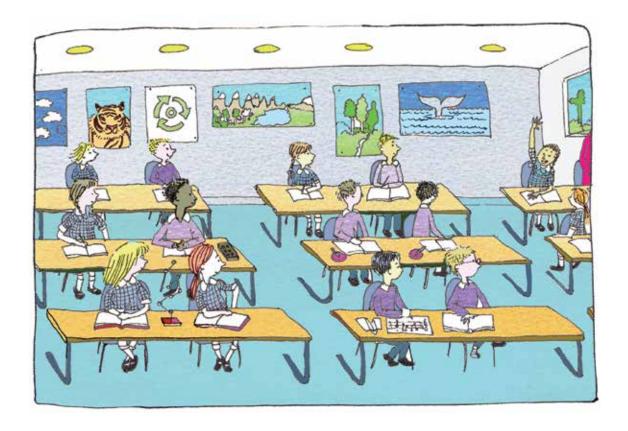
The two little boys studied in a Terribly Good School not far from their house by the lake.



On the first day back after Spring break, the boys had classes in —

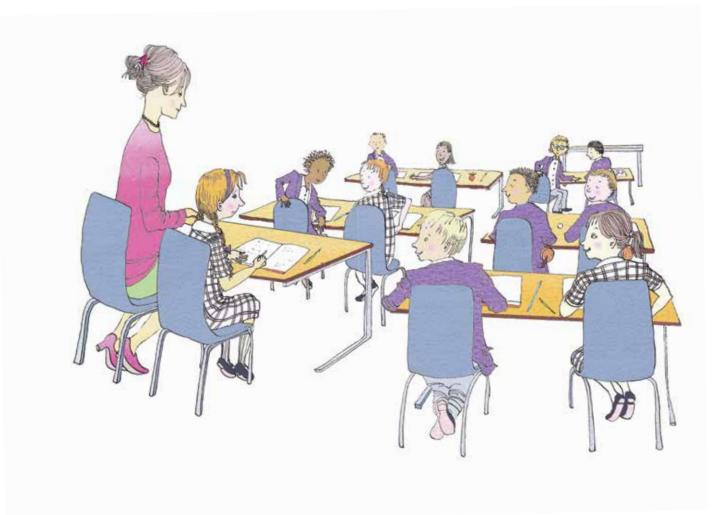


The Little Brother's class talked about the terrible rubbish problem in their science and geography classes, but no one seemed to have a solution.



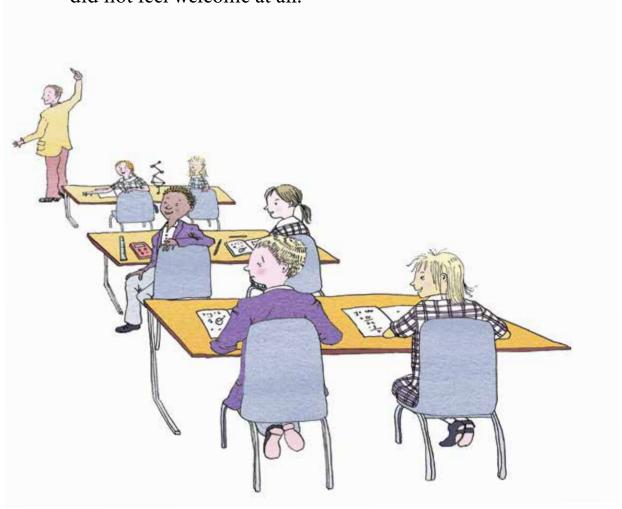
Then a voice from the back of the class said, 'What if we could make something to eat up all the rubbish? Then we would not even need tips, and there would be no pollution.'

It was a new girl, who had only just arrived at the school. She was deaf and a sign language interpreter came to school with her.



No one knew what to answer, so they laughed like she had made a good joke.

The new girl saw their faces laughing and fell silent. She did not feel welcome at all.



At break, no one included her. They did not know if she would like their games. After school, she had no playmates. There was no sign of the big brother Inventor Boy. He was probably working on something new. So the little brother (who was friendly and joyful) invited the new girl to come home with him.

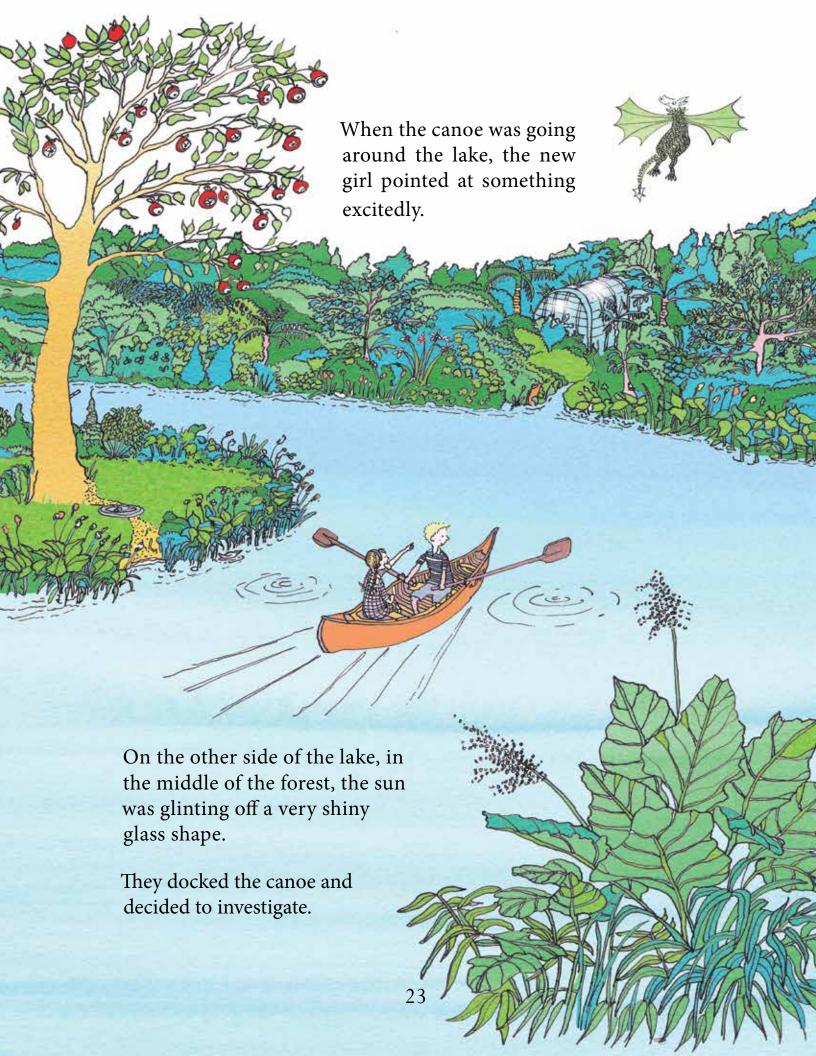


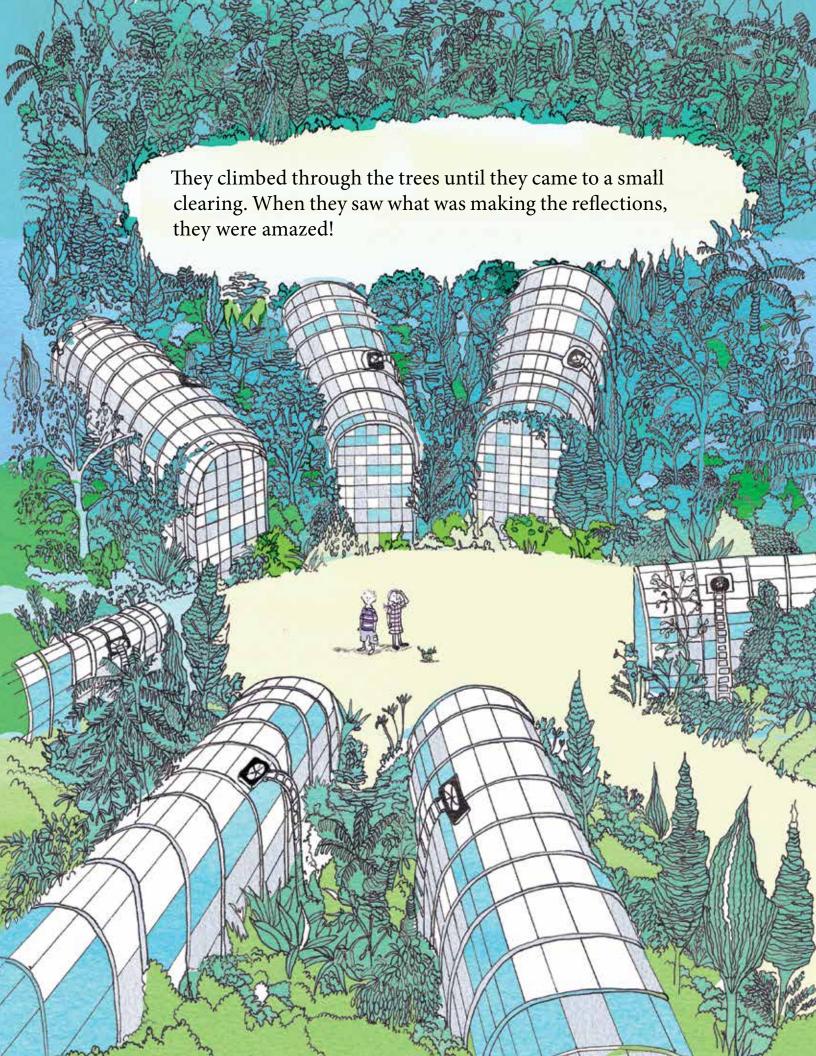
She smiled and signed 'yes, please!' to him.

On their playdate they had lots of fun, even though the little brother only knew a few words of sign language.

They took the canoe out to explore the lake in the springtime sun. The little brother tried to explain — using hand signals and making happy faces — that his big brother was a Mad Genius Inventor with a secret laboratory under the island, in the middle of the lake.

He wasn't sure if the new girl quite understood.



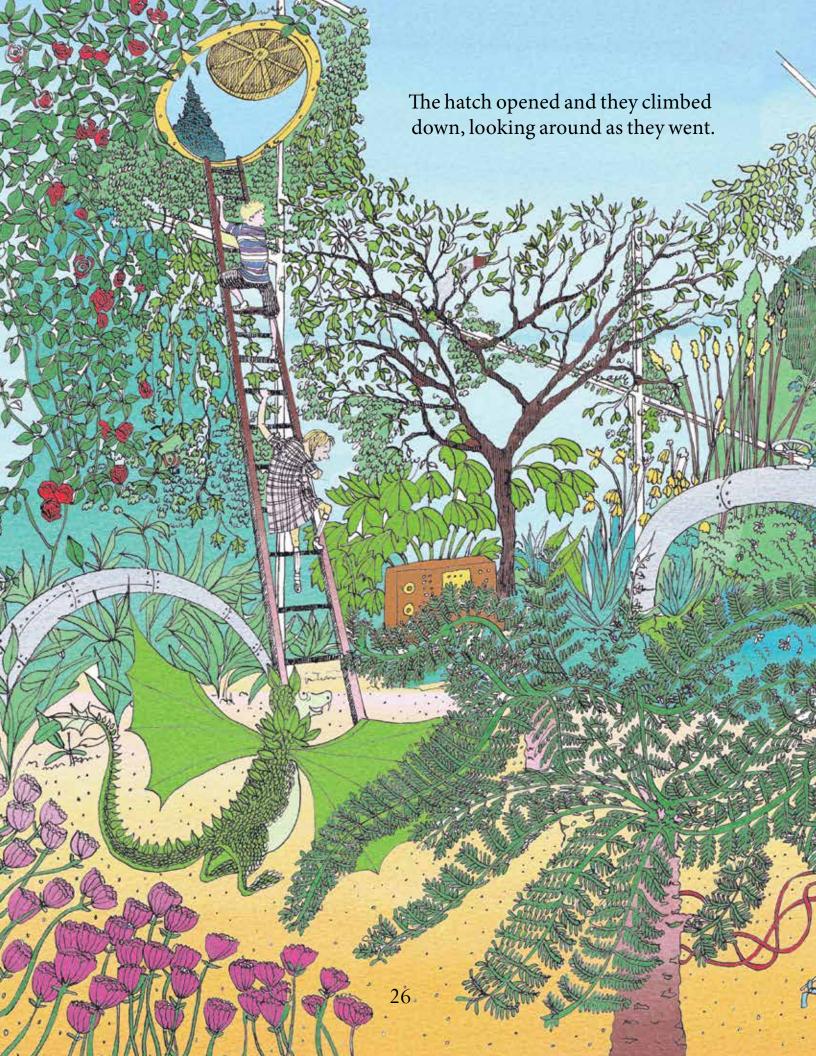


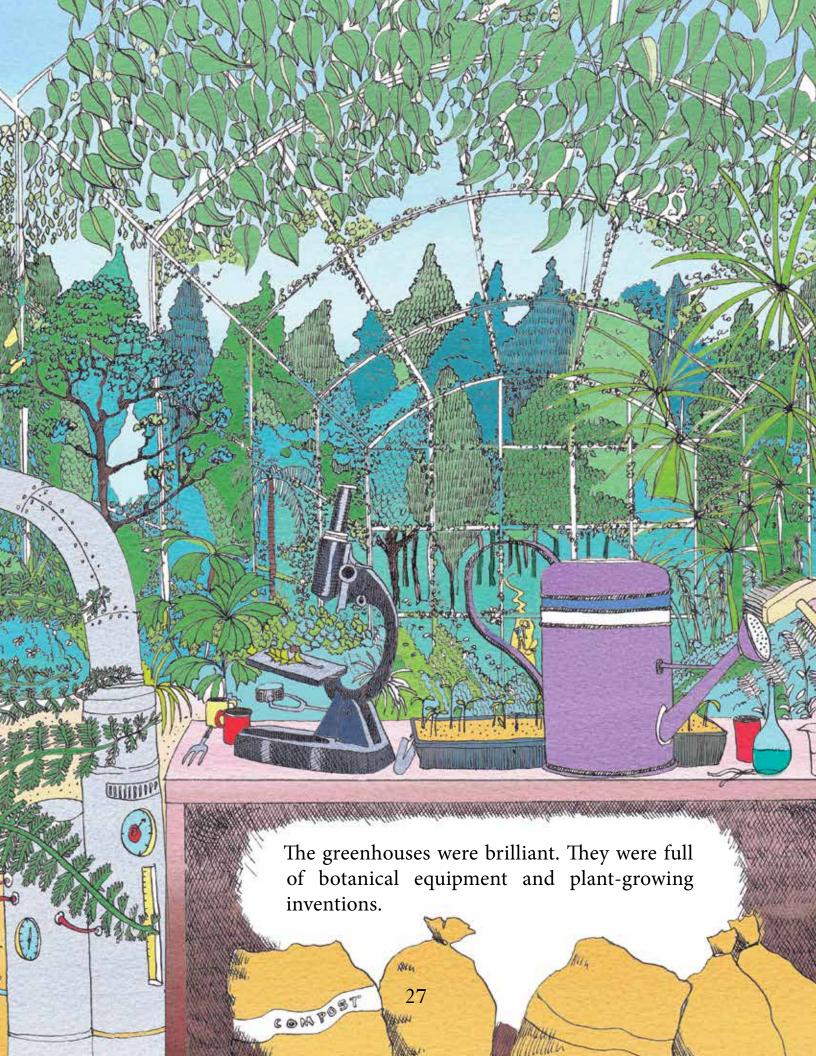
chapter 3

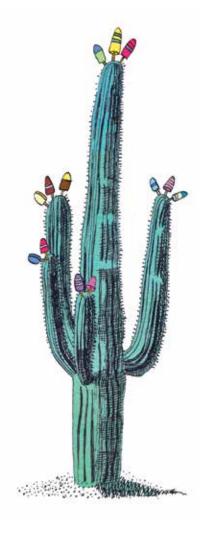
The children had stumbled across a complex of greenhouses! Only the roofs showed through the trees as they were completely hidden in the lakeside forest. The green plant dragon scrambled ahead — he seemed to know the area.

They found a hatch in a greenhouse roof, but it was locked. The Little Brother looked around him in despair. Luckily, the new girl was very good at maths and decoding things. She put in the password —









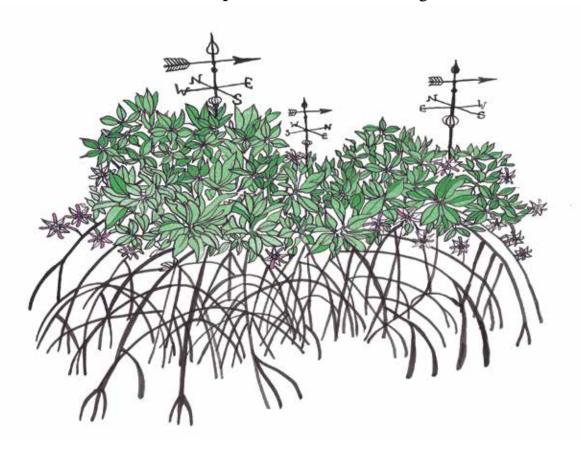
There were cacti that grew ice-lollies for desert travellers ...



and soft green herb bushes that grew marshmallows.

JEPRINT NOTES	BLUEPRINT NOTES	BLUEPRINT NOTES	BLUEPRINT NOTES
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water in dese	rt soils Nopale Paddle	2. Modified fr Bush	om Oregano
STRICTLY CONFIDENTIAL		28	

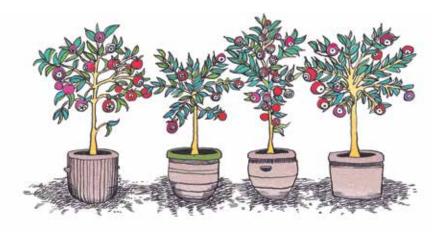
There were mangrove trees with weathervanes which warned about and also prevented storm damage.



UEPRINT	NOTES	BLUEPRINT	OTES	BLUEPRINT	NOTES	BLUEPRINT	NOTES
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	(Rhis	ophora tem	pestpro	teget)			
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	of hur 3. See buttre	ricanes dlings that c ssing roots rid of Red Ma	lone tree	s with ex	tra strong	Y	
			29				



There were creepers shaped like sturdy ladders that gave rainforest nut snacks to the climber ...



and small apple trees that grew spy cameras in many different reds.

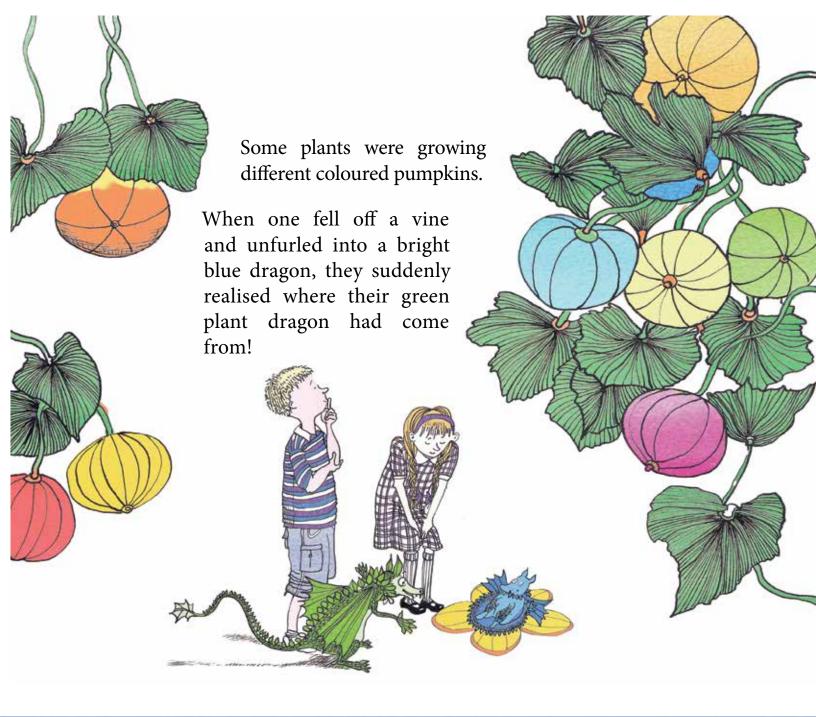
JEPRINT NOTES	BLUEPHINI NOTES	BLUEPRINT NOTES	BLUEPRINT NOTES
	NUT-LADDER tia scalanucis)	APPLE SECURITY (Malus securit	
soft easy-to 3. Stabilizi 4. Hybrid of	Brazil nuts in -open shells ng roots Brazil Nut Tree	1. Spy cameras 2. Strong and so hold tree on is 3. Heavy electr wood to carry h	table roots to land icity-resistant idden wires
and Xiquima STRICTLY CONFIDENTIA		4. Modified from 30 Apple Tree	Royal Gala



There were ferns that hung from transmission lines and absorbed roadside air pollution ... and mushrooms that seemed to munch up petroleum and oils, purifying contaminated soil.



UEPRINT NOTES BLUEPRINT NOTES BLUEPRINT NOTES BLUEPRINT NOTES PETROL-MUNCHING MUSHROOMS CARBON-ABSORBING EPIPHYTES (Platycerium emissionepurus) (Pleurotus solvasordibus) 1. Root strands that hyper-1. Fast-spreading leafy CO2accumulate pollutants absorbing fern that lives on 2. Myco-remediators to grow in telephone wires soil or water 2. Modified from Staghorn Fern 3. Pearls that concentrate pollution in delphiniorite EYES ONLY shells 31



PET DRAGON PLANT (Dionaea dracus)

1. Sweet breath that makes other plants grow super fast
2. Super-light body for flying, smart little plant brain, and cheerful personality
3. Tough bendy peel to prevent damage from tumbles (but vulnerable to viruses)
4. Hybrid of Venus Fly Trap and Pumpkin Vine

STRICTLY CONFIDENTIAL

There was even a large green vine with many gold berries and leaves, growing out of a rubbish heap. The berries would pop off the vine like popcorn to seed new vines alongside.



'So this is what my little brother meant by being interested in botany!' said the brother, laughing. Then they heard footsteps.

LUEPRINT NOTES		BLUEPRINT NOTES		BLUEPRINT NOTES		BLUEPRINT NOTES	
	GREAT G	REEN VINE	(Hedera	viridim	undus)		
	to break 2. Hyper 3. Explo	very hasti down rubbi -accumulato ding 'popco d of Englis	sh or plant t orn' berri	hat absor es to sta	bs pollut rt new vi	ne-lings	
			35	3	EYES C	DNLY	



It was the Inventor Boy. He was worried.

'It isn't safe here', he said, 'Some of these plants are still experiments, and are alive. Come on, I'll take you home.'

As they left the greenhouse, the dragon sneezed on the rubbish vine.

Only the new girl saw what happened.

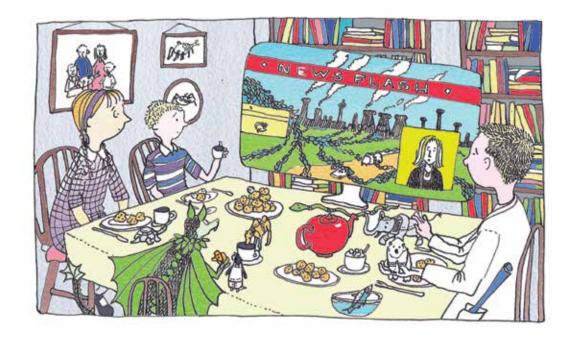
She saw the vine start to move and tried to signal a warning to her new friends.

But the brothers didn't understand. They locked up the greenhouse and canoed home together across the lake for tea.

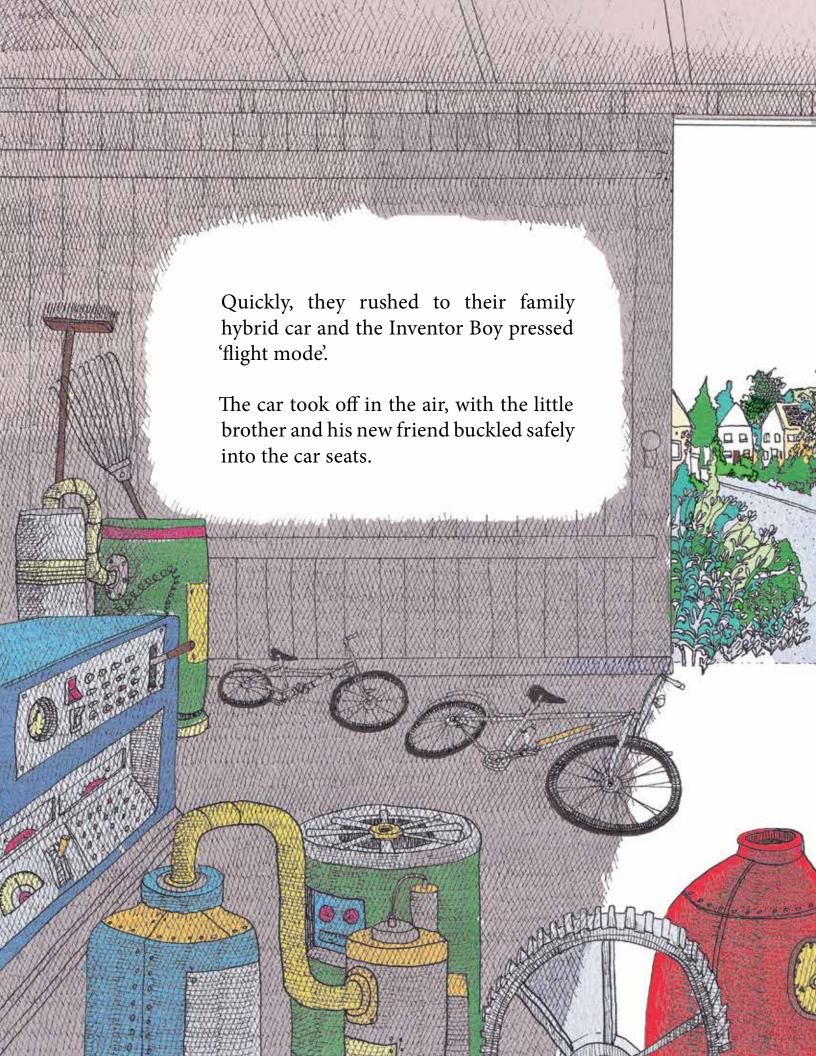


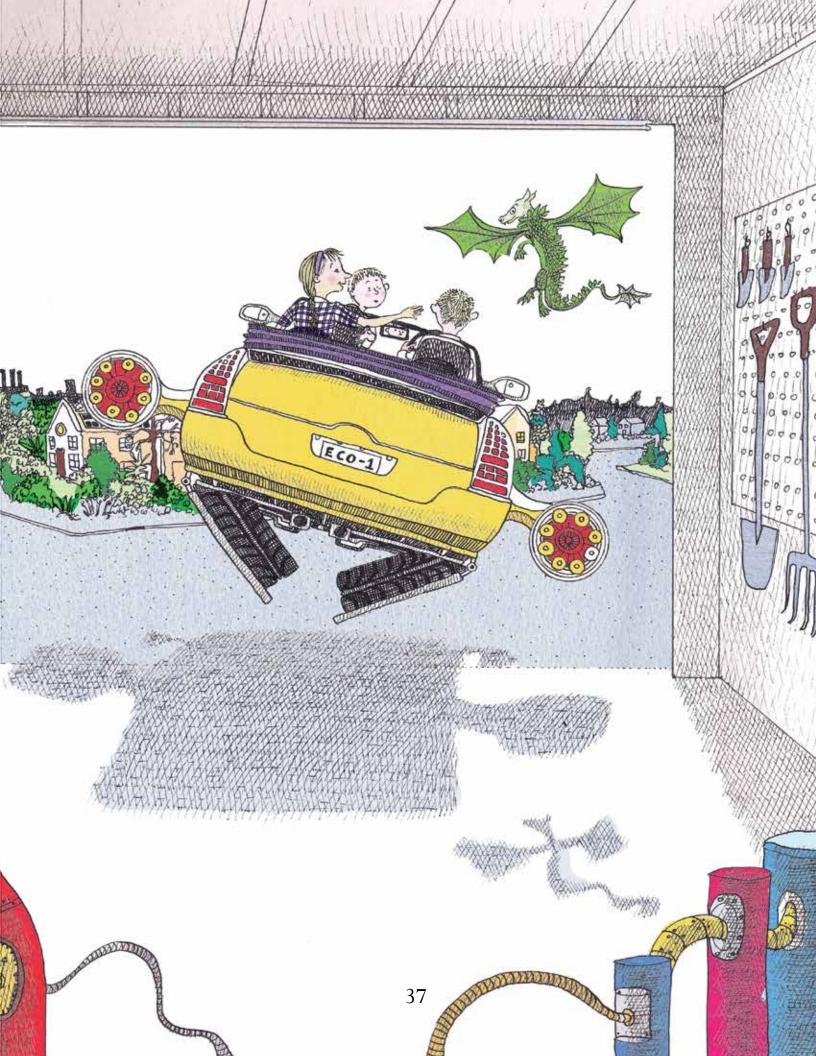
chapter 4

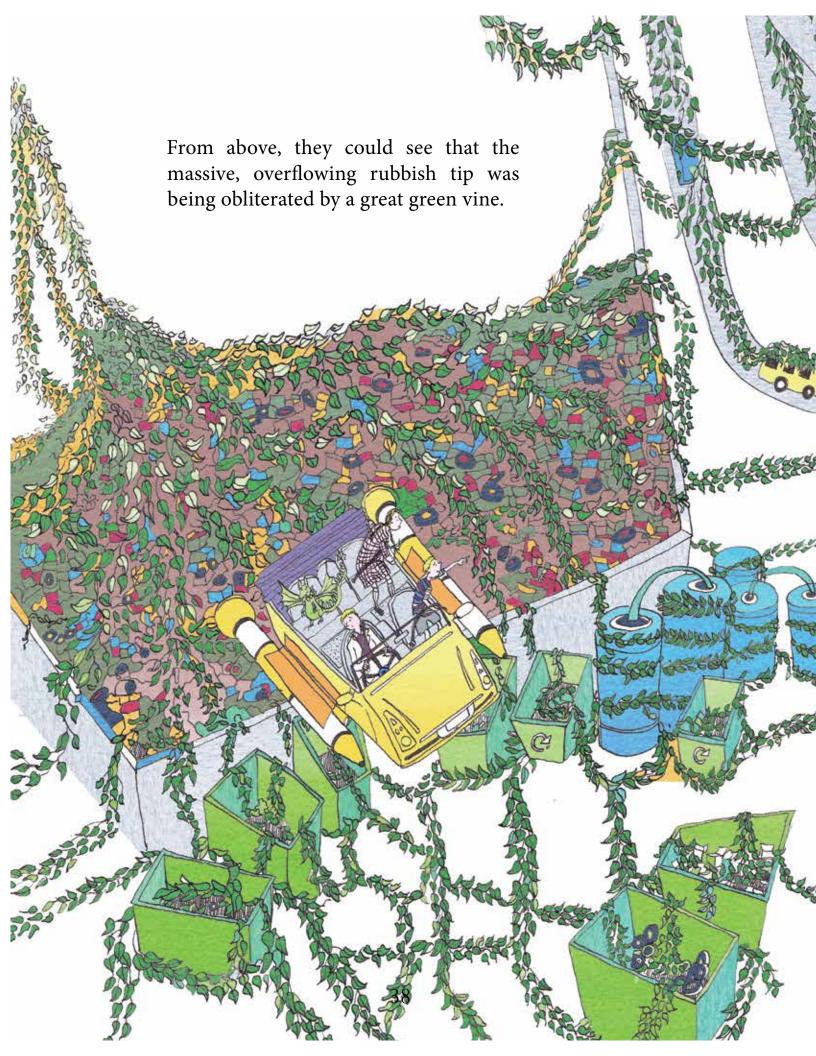
As they drank their tea, the alarm sounded again and the internet news beacon came on with a new story.

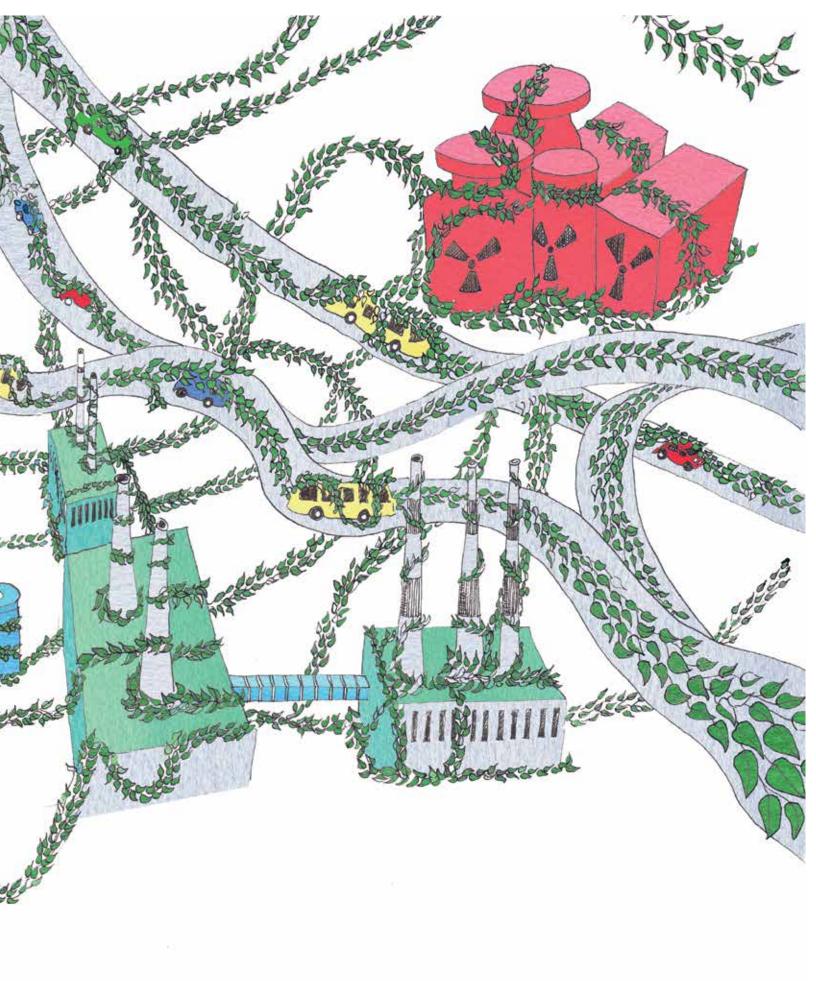


Somehow, the motorway outside their home was all blocked up! And the factories and rubbish tips nearby were disappearing!









And it was still growing! It was spreading across the land, munching up polluting factories, rubbish bins, motorways and even nuclear waste facilities.

'The vine is from my botany project!', said the Inventor Boy. 'It wasn't complete! How did this happen?'

The new girl pointed to the little green plant dragon, who sneezed again, onto an apple core left on the back seat.



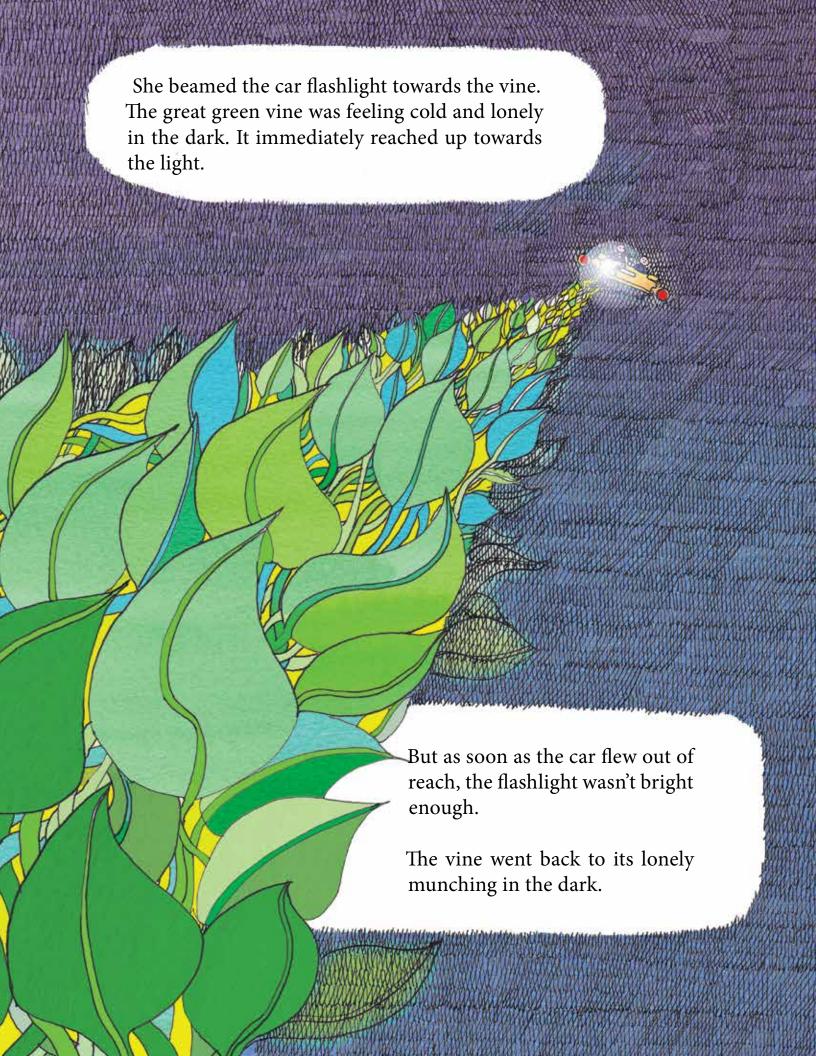


The apple core sprouted into an apple tree seedling.

'Oh no!', said the Inventor Boy. 'This vine was meant to help clean up the environment and solve the rubbish problem. Not to munch up civilisation! But now it is growing totally enormous and out of control, eating up everything! We have to stop it and save the town!'

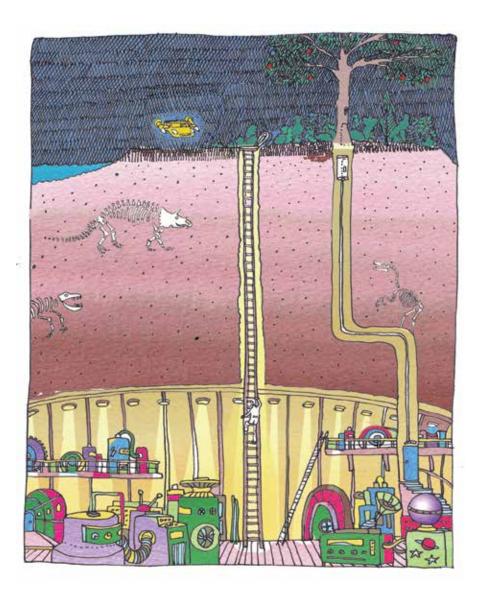
They tried shouting instructions to the Great Green Vine, but because vines have no ears, it could not hear them. It just kept growing.

As the sky grew dark, the new girl (who knew what it was like not to hear) had a brilliant idea.



'There is only one solution', thought the Inventor Boy. Quickly, he flew the car to the island in the middle of the lake, and landed next to the trap door.

The Inventor Boy jumped out and raced down to his secret laboratory under the lake.



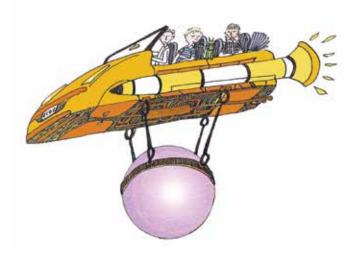


He appeared a moment later, carrying one of his largest gas fuel cell inventions.

The globe was all charged up with energy from nebula gas that had been collected by satellite from the universe. It was beaming warm purple light in all directions!

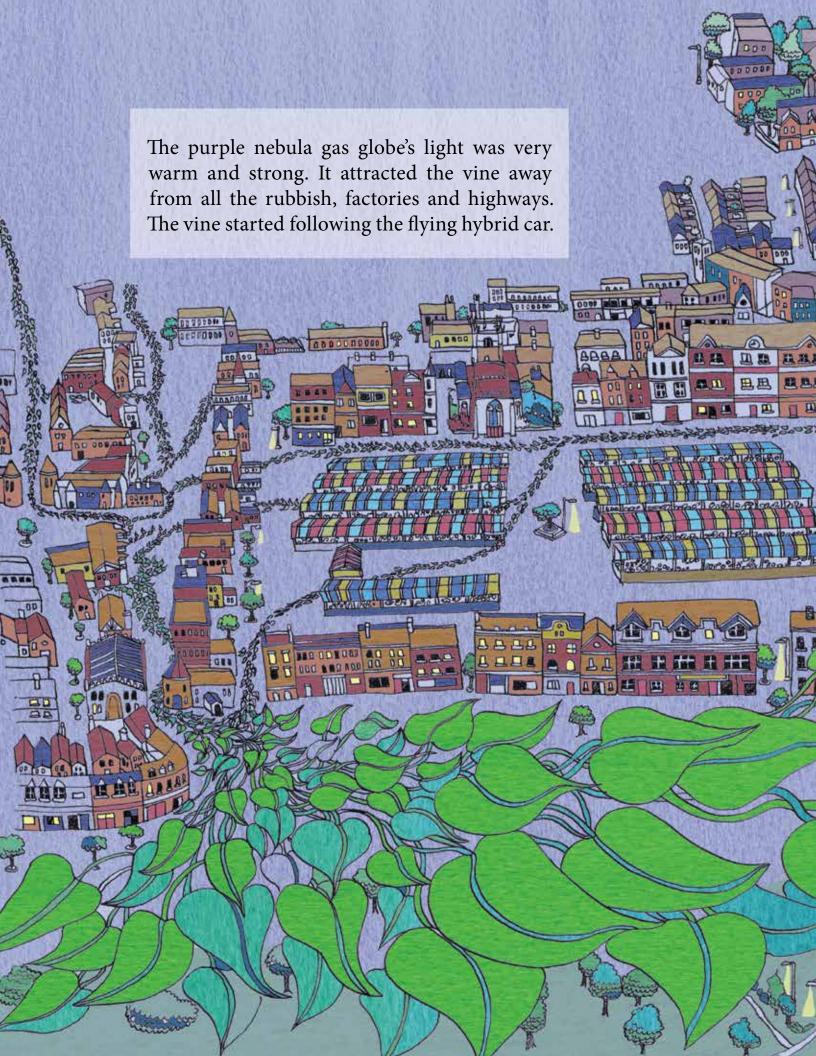
chapter 5

The boys' new friend laughed when she saw the globe because the amazing gas fuel cell was the same purple as the special colour of their Terribly Good School!



They hung the globe carefully from special brackets on the flying hybrid car and took off again.

The light beam shone down as they flew above the dark town.

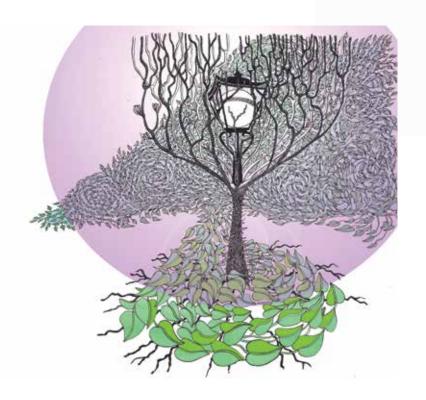




Soon they were back in the countryside, across from the boys' lake.

They lowered the nebula gas globe into the field near the lake. They attached their special brackets in a lantern-tree that the Inventor Boy grew from a seed with the

plant dragon's help.



The great green vine surrounded the glowing globe, purring. It created a new forest.

LANTERN TREE (Ceiba illuminatus)

1. Grows iron lantern brackets to hold Nebula Gas globe
2. Tough fire-resistant trunk with sharp spines, and stable buttressed roots
3. Night-blooming flowers to attract protective fruit bats
4. Hybrid of Black Ironwood, Hemlock, and Kapok trees

EYES ONLY

The Inventor Boy, his little brother and their new friend had saved the town! They were heroes!

When they went back to school the next day their friends were really happy.

Everyone in the school decided to re-use everything they could and to recycle all their rubbish more carefully.

This way, the garbage problem would never be so bad again.



The overflowing rubbish was all gone. So was the great green vine, which had made everyone a bit nervous.



And the old, polluting factories were never rebuilt because new solar power stations were set up instead, in carefully chosen locations that did not cover up green land.

The Inventor Boy's botanical discoveries were shared with the Royal Botanical Gardens and with biology laboratories across the world.

To thank her for all her help, the Inventor Boy gave the little brother's friend her very own dragon plant a purple one!



The little brother's class, who had realised that the new girl was kind and had really good ideas, all decided to learn sign language immediately. This way, they could understand their new friend better and make sure that all the children in their class were always fully included and welcome.

The End (for now)



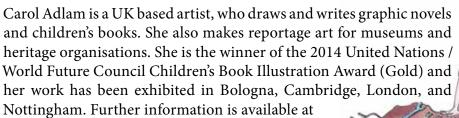
about the author

Jona David (11) lives in Cambridge, UK and studies in King's College School. He is a citizen of UK, Canada, Switzerland and Germany, and has authored several books about the Inventor Boy and his Little Brother.

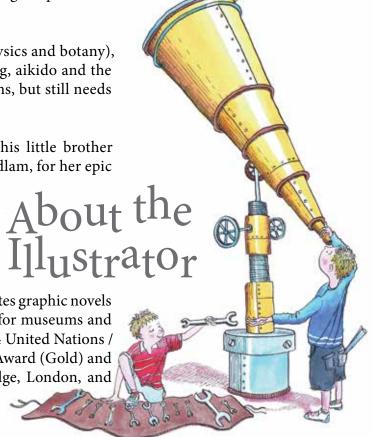
A Child Delegate to the 2012 UN Conference on Sustainable Development, he holds a medal and second place worldwide trophy from the TSL International Schools Debates and Essay Competition on Sustainable Living, a Gold UK Primary Maths Competition Award, and King's College School Academic and the Global Education prizes, among other awards. A speaker on eco-science and technology education for kids, he is also Climate Justice Ambassador, having made a UNEP Billion Trees Future Generations pledge to plant over 1000 trees across the world.

Jona enjoys maths and science (especially astro-physics and botany), as well as chess, reading, polo, swimming, canoeing, aikido and the flute. He loves creating blueprints for eco-inventions, but still needs to figure out how to build them.

He thanks his mother and father and especially his little brother Nico for all their inspiration and help, and Carol Adlam, for her epic drawings.



www.caroladlam.co.uk.









Thanks and Inspiring Resources

'Voices of Future Generations' International Commission

Warmest thanks to the International Commission, launched in 2014 by His Excellency Judge CG Weeramantry, UNESCO Peace Education Research Award Laureate, which supports, guides and profiles this new series of Children's Books Series, including Ms Alexandra Wandel (WFC), Dr Marie-Claire Cordonier Segger (CISDL), Dr Kristiann Allen (New Zealand), Ms Irina Bokova (UNESCO), Mr Karl Hansen (Trust for Sustainable Living), Ms Emma Hopkin (UK), Dr Ying-Shih Hsieh (EQPF), Dr Maria Leichner-Reynal (Uruguay), Ms Melinda Manuel (PNG), Ms Julia Marton-Lefevre (IUCN), Dr James Moody (Australia), Ms Anna Oposa (The Philippines), Professor Kirsten Sandberg (UN CRC Chair), Ms Patricia Chaves (UN DSD), Dr Marcel Szabo (Hungary), Dr Christina Voigt (Norway), Ms Gabrielle Sacconaghi-Bacon (Moore Foundation), Ms Marcela Orvañanos de Rovzar (UNICEF Mexico) and others.

The World Future Council consists of 50 eminent global changemakers from across the globe. Together, they work to pass on a healthy planet and just societies to our children and grandchildren. (www. worldfuturecouncil.org)

United Nations Education, Science and Culture Organization (UNESCO) which celebrates its 70th Anniversary throughout 2015, strives to build networks among nations that enable humanity's moral and intellectual solidarity by mobilizing for education, building intercultural understanding, pursuing scientific cooperation, and protecting freedom of expression. (en.unesco.org)

The **United Nations Committee on the Rights of the Child (CRC)** is the body of 18 independent experts that monitors implementation of the Convention on the Rights of the Child, and its three Optional Protocols, by its State parties. (www.ohchr.org)

United Nations Environment Programme (UNEP) provides leadership and encourages partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. (www.unep.org)

International Union for the Conservation of Nature (IUCN) envisions a just world that values and conserves nature, working to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. (www.iucn.org)

Centre for International Sustainable Development Law (CISDL) supports understanding, development and implementation of law for sustainable development by leading legal research through scholarship and dialogue, and facilitating legal education through teaching and capacity-building. (www.cisdl.org)

Trust for Sustainable Living and its Living Rainforest Centre exist to further the understanding of sustainable living in the United Kingdom and abroad through high-quality education. (www. livingrainforest.org)

Environmental Quality Protection Foundation (EQPF) established in 1984 is the premier ENGO in Taiwan. Implementing environmental education, tree plantation, and international participation through coordinating transdisciplinarity resources to push forward environmental and sustainable development in our time.





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About the 'Voices of Future Generations' Series

To celebrate the 25th Anniversary of the United Nations Convention on the Rights of the Child, the Voices of Future Generations Children's Book Series, led by the United Nations and a consortium of educational charities including the World Future Council (WFC), the Centre for International Sustainable Development Law (CISDL), the Environmental Quality Protection Foundation (EQPF), the Fundacion Ecos and the Trust for Sustainable Living (TSL) among others, also the Future Generations Commissioners of several countries, and international leaders from the UN Division for Sustainable Development, the UN Committee on the Rights of the Child, the UN Education, Science and Culture Organisation (UNESCO), the International Union for the Conservation of Nature (IUCN), and other international organizations, has launched the new Voices of Future Generations Series of Children's Books.

Every year we feature stories from our selected group of child authors, inspired by the outcomes of the Earth Summit, the Rio+20 United Nations Conference on Sustainable Development (UNCSD) and the world's Sustainable Development Goals, and by the Convention on the Rights of the Child (CRC) itself. Our junior authors, ages 8-12, are concerned about future justice, poverty, the global environment, education and children's rights. Accompanied by illustrations, each book profiles creative, interesting and adventurous ideas for creating a just and greener future, in the context of children's interests and lives.

We aim to publish the books internationally in ten languages, raising the voices of future generations and spread their messages for a fair and sustainable tomorrow among their peers and adults, worldwide. We welcome you to join us in support of this inspiring partnership, at www.vofg.org.









Cultural Organization

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The United Nations Convention on the Rights of the Child

All children are holders of important human rights. Twenty-five years ago in 1989, over a hundred countries agreed a UN Convention on the Rights of the Child. In the most important human rights treaty in history, they promised to protect and promote all children's equal rights, which are connected and equally important.

In the 54 Articles of the Convention, countries make solemn promises to defend children's needs and dreams. They recognize the role of children in realizing their rights, being heard and involved in decisions. Especially, Article 24 and Article 27 defend children's rights to safe drinking water, good food, a clean and safe environment, health, quality of life. And Article 29 recognizes children's rights to education that develops personality, talents and potential, respecting human rights and the natural environment.

Dr. Alexandra Wandel
 World Future Council

The UN Sustainable Development Goals

At the United Nations Rio+20 Conference on Sustainable Development in 2012, governments and people came together to find pathways for a safer, more fair, and greener world for all. Everyone agreed to take new action to end poverty, stop environmental problems, and build bridges to a more just future. In 283 paragraphs of *The Future We Want* Declaration, countries committed to defend human rights, steward resources, fight climate change and pollution, protect animals, plants and biodiversity, and look after oceans, mountains, wetlands and other special places.

In the United Nations, countries are committing to 17 new Sustainable Development Goals for the whole world, with targets for real actions on the ground. Clubs, governments, firms, schools and children have started over a thousand partnerships, and mobilized billions, to deliver. The future we want exists in the hearts and minds of our generation, and in the hands of us all.

— Vuyelwa Kuuya Centre for International Sustainable Development Law (CISDL)



