TEACHERS' NOTES

BECOME AN APP INVENTOR

THE OFFICIAL GUIDE FROM MIT APP INVENTOR

FOREWORD BY GITANJALI RAO, award-winning teen scientist and inventor

KAREN LANG AND SELIM TEZEL
MIT COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE LABORATORY

9781529504835 • Paperback • £9.99 • 7 years+

mit Kids Press
an imprint of Walker Books

MiTeenPress
an imprint of Walker Books

MITKidsPress @mitkidspress www.mitkidspress.com
@MITeenPress @miteenpress www.miteenpress.com

These notes have been written by the teachers at the CLPE to provide schools with ideas to develop comprehension and cross-curricular activities around this text. They build on our work supporting teachers to use quality texts throughout the reading curriculum. They encourage a deep reading of and reflection on the text, which may happen over a series of reading sessions, rather than in just one sitting. We hope you find them useful.

This engaging guide aims to help anyone to design and publish their own apps and get inspired by true stories of young app creators around the world. It is based on App Inventor, a free and revolutionary online program from MIT, which lets you build your own mobile apps. With the help of this companion guide chock-full of colourful graphics and easy-to-follow instructions, readers can learn how to create six different apps then use what they've learned to build apps of their own imagination. Readers will also learn about young inventors showing how curious young dreamers can become real inventors with real-world impact.

These notes have been written with children in Upper Key Stage 2 in mind, but you will need to adapt them as appropriate to the age and experience of your children.

Before You Start:

- As you read through the book it would be helpful to use a group Reading Journal to organise and store discussions and responses to the text. This can also be used as a workbook for their engagement with the six projects in the book. Children could also be asked to consider the writers' use of language associated with this kind of text, particularly considering specialist or subject-specific vocabulary.
- As you read through the book, pick out key vocabulary that the children may not be familiar with or may not fully understand in this context, for example, ***artificial intelligence, computer science, asset, geotag, block, event, box, code, editor, look and feel***. Note these in the Reading Journal and then support children in fully understanding this new and unfamiliar vocabulary. Use artefacts, photographs and video sources to bring these words to life and support the pupils in using them in context. Pupils can then begin to take ownership for picking out and discussing words, exploring possible meanings and finding ways to confirm meanings throughout the book, thereby enriching and enlarging their repertoire of technical vocabulary.
- The book would work best considered both as an example of a specific type of instructional writing, but also as a source of the programming activities associated with each chapter. If used in this way, you will need to allow time before or during the reading sessions for the pupils to undertake the activities in each chapter so they can consider the specific purpose behind this type of writing. You may also find it useful to enlist the support of the IT or Computing Lead Teacher in your school (or undertake the programming tasks in each chapter yourself) in order to foresee and troubleshoot any practical issues that might arise. Children will also need access to an internet-connected computer to access the App Inventor program website, and a mobile device on which to test the programs. Detailed guidance on the practical requirements for using the book is given in the book itself, as well as through the program's supportive website and the online community of users.

Reading aloud and key talking points:

Cover, Table of Contents and Foreword

- Begin by sharing the cover, and asking children to consider what messages it might contain about the book they are going to read. Ask the children to make predictions of what the book could be about and to justify their responses, drawing out any connections they make to other texts that they might know. Record the

mit Kids Press
an imprint of Walker Books
MiTeenPress
an imprint of Walker Books

children's responses around a photocopy of the cover and return to these as you read the book, comparing the children's initial thoughts to how the book turns out to be.

- Encourage them to look in detail at all aspects of the cover, the layout and typography as well as the illustration. Invite them to begin by considering the phone screen, the hand icon dragging a block of text, the keyboard and folded map stemming from it. Consider what clues this graphic offers. Look more widely at the layout and invite them to make connections with their own experiences: *What else do you notice about the cover, the typeface used for the different parts of the title* **App Inventor** *and* **BECOME AN***? Do you have access to a mobile device, and do you use apps? What apps do you or family members use most often? Have you ever wished for an app that no one has invented yet, and that you could invent yourself if you knew how? What might these apps do?*
- Consider the subtitle **THE OFFICIAL GUIDE FROM MIT APP INVENTOR**, with the last three words in a larger typeface. What do you think it means that this is the **official** guide? What might this mean in terms of how authoritative, reliable or comprehensive the guide might be? Consider whether there are other contexts in which you have heard the adjective **official** used in this way, e.g., official spokesman, official statistics, an official letter. Ask whether the pupils use or have heard of MIT App Inventor, and if they do, what they use it for, and if they don't, what they think it might do.
- Support pupils in understanding, if necessary, that MIT is an acronym (*How do we recognise acronyms when reading?*) and what the initials stand for (namely Massachusetts Institute of Technology, in Cambridge, Massachusetts; one of the most respected universities in the world and home of 96 Nobel Prize winners; also associated with the invention of a wealth of innovations we now take for granted, including wind tunnels, the World Wide Web, email, the Human Genome Project, GPS technology, air-conditioning, Technicolor, lithium-ion batteries, radar and condensed soup!). Children might be most familiar with MIT as the college that Peter Parker and his friends are applying for during the most recent Spider-Man movie (2021).
- Discuss the text constructed inside the blocks on the phone's screen: **Your Guide to / Designing, / Building, / and Sharing Apps**. *What kind of a book is a guide? What features do you expect a book like this to have? Have you ever used a guide before for any other activity?* Ask children to explain the drag-and-drop blocks the hand is arranging in the screen. They may be familiar with this type of drag-and-drop programming interface if they have used App Inventor, or the programming environment Scratch or LEGO Mindstorms, which were both also products of the MIT laboratories. *What do you understand by Computer Science and Artificial Intelligence (AI), in which the two authors specialise? What do you think might happen in a* ***Computer Science and Artificial Intelligence Laboratory****?*
- Discuss the title's exhortation to **Become an App Inventor**, asking children how it feels to be addressed like this, whether it is seen as an invitation, a command or an instruction. Ask the children to consider what they think an app inventor might be like. *What kind of knowledge, skills or characteristics would they need?* You could present them with a diverse selection of photographs of MIT graduates and tech innovators – including the app inventors featured in the book – and ask them to choose who they think might fit in with their ideas. When you reveal that all of them are involved in this field of work, take the opportunity to discuss with the children if anything surprised them or challenged their preconceptions and what this might tell us about becoming an app inventor.
- Finally, ask pupils about the call-out "sticker" which references Gitanjali Rao's foreword, establishing what the aim of it might be. *What do you think a foreword might do? Have you read forewords in other books you know?* Explain to less experienced readers what the purpose of a foreword is, showing them examples in other books

mit Kids Press
an imprint of Walker Books
MiTeen Press
an imprint of Walker Books

and discussing how they help the reader to engage in certain kinds of books. Explore who might be asked to write such a foreword. *Have you heard of Gitanjali Rao? Why do you think the publisher makes a point of telling us that she is* ***an award-winning teen scientist and inventor****? Why might this be important or relevant to the children as readers?* Discuss what it tells us about the audience that MIT want to reach and what the children will expect to find in the book.

- Share the Table of Contents and invite the pupils to scrutinise them and speculate about the book they are going to read, considering what clues the page gives to the structure of the book. *How do you think the seven chapters might support you as a reader to navigate the book?* Discuss what the inset titles under each Chapter heading might be, e.g., **Apa Pura**, **Hello Navi** and the three stories **Vanessa's/Arjun's/Chinmayi's Story**, and how they might relate to the main body of each chapter. *What might the unnumbered chapter called* ***Conclusion*** *contain? Have you read this kind of chapter in any other books? What purpose does it serve?*
- Ask the pupils whether they think this is a book to read in sequence, like a work of fiction, or whether they can dip in like a poetry anthology or encyclopaedia, or whether they can read back and forth. Ask how they think they might use the **Bibliography** and **Index**. *What do you expect to find there? How does it relate to the subject matter and purpose of the book?*
- Share with pupils the **Foreword** on pages 6-7, and allow time and space for them to reflect on and discuss what they have read, then ask them to summarise. *What more do we learn about the inspiration, aims, content, organisation and features of the book?* Ask if this is like other forewords they have read, and what purpose it is serving here.
- Having read the foreword, return to some of the prompts raised by the cover: *Why did the authors not write their own foreword? What does it add to the book to have it written by Gitanjali? Why might the publishers be anxious to promote her foreword on the cover of the book?* Ask the pupils how what they have read reinforces or extends – or possibly contradicts – what they had predicted about this title, and what they now expect to go on to find. *How does reading Gitanjali's foreword prepare you for reading on? How do you feel about the book you are about to explore? What would you like to get out of reading this book?*

Introduction and Chapter 1

- Read aloud, or ask the pupils to read, the **Introduction**, from page 8 to page 10, sharing also the **//Note** at the bottom of page 8 and the illustration at the bottom of page 9. As before, allow time and space for them to reflect on, discuss and summarise what they have read. *How does this section of the book prepare you for the activities to come? How does it connect with points that were made in Gitanjali's foreword?*
- Consider what features of the text and layout have been designed to make the message clear, easy to understand and encouraging. For example, the author compares the pieces of code to puzzle pieces, while the colourful accompanying diagram might lead the children to draw connections with jigsaws or LEGO blocks. *How do those choices make you feel about coding or app design?* Pupils might associate this with being fun, playful and creative, perhaps without a set of rules or clear outcome: *which of these do we associate with IT or programming?*
- You might also discuss the use of bold text to highlight key terms that may be new or used in a subject-specific way – **apps, programmers, code** – and the **//Note** panel used to define **computer** and **program**. *How do these*

mit Kids Press
an imprint of Walker Books
MiTeenPress
an imprint of Walker Books

features clarify what you are reading? Why might the authors have chosen to define, clarify or highlight these terms?

- Consider again what the **Introduction** says about Gitanjali as a source of App Inventor inspiration, also re-reading her foreword if necessary. As you read through the book, use a **Role on the Wall** to consider what makes a great programmer. Children may be familiar with this technique from engaging with fictional texts to understand a character and their development through a narrative, but it can be used equally well here to identify and reflect on the traits and characteristics that we might associate with programmers as well as the types of things that programmers might do and say. The difference here is that the pupils will refer to multiple coders, as they read on, beginning here with Gitanjali Rao. Have a life-sized outline of one of the children prepared, onto which you can record their ideas. Ask the children to consider words or phrases describing what they know about Gitanjali's actions, projects, activities and achievements around the outside of the outline. Then, use these to begin to infer and deduce her internal feelings and characteristics (e.g. hard-working, dedicated, imaginative, creative, etc.) and note these on the inside of the outline.
- To promote a higher level of thinking, ask the children to consider what we know from what they say and what is said about them by other people, and what we have to infer from their actions. Support the children in making explicit links between the external and internal. For example, *what does something Gitanjali does – her concern about water quality in Flint, Michigan, her sensitivity to issues around cyberbullying – tell us about her personality?* Or, *how does her personality – her strong motivation and work ethic or her sense of community – make a specific action seem most likely?*
- Return to the **Role on the Wall** as you continue to work through the book and encounter other inspiring programmers. Use a different colour each time to highlight the knowledge they gain as they read on. *Are there characteristics which appear unique to a particular programmer? What characteristics appear to be shared by many programmers? What hypotheses can we develop about what it takes to be a successful programmer?*
- Read aloud the first page of **Chapter 1 Let's Get Started** (pausing after**…whenever you use App Inventor** on page 12). Ask the children to reflect on and discuss how this passage compares with the kind of texts they might normally have read aloud to them, such as fiction, traditional tales, poetry or non-fiction. *How does it sound? Is it easy to understand, and follow along?* Ask them to consider what features of the content or writing affect how well they are able to engage with what you have shared. Invite them to consider how they might prefer to use this text – *is it one they need to have sight of, to be able to read and re-read, to flick back and forth, to skim and scan, and possibly to annotate? What might dictate the way they choose to engage with it?*
- After they have read the rest of the chapter (up to the end of page 29) and familiarised themselves with the layout and appearance of the program and the functions of its different windows, allow them time and space to reflect on what they have read, and the features of what has been presented. It would be most beneficial if children are able to engage with the program alongside the reading so that they can reflect authentically on which elements of the text were most supportive in preparing them to use the program. *How have the authors and book designers collaborated to support readers/users of the book, and to make it easy to navigate a program that might be new to them?*
- Provide a photocopy of selected spreads (such as pages 16-17, pages 20-21 and pages 24-25), inviting them to **text-mark** and **look at language** to identify the multiple features of layout and language that a text of this kind makes use of so as to be as clear and easy to follow as possible. Encourage them to consider the use of arrows, labelled screenshots and friendly graphics like the palette on page 20 or the telescope on page 21.

mit Kids Press
an imprint of Walker Books
MiTeenPress
an imprint of Walker Books

Scrutinise also the different fonts, sizes and weights to show section headings – such as **The Components Panel** on page 22, terms the program uses, e.g., **Button1** on page 23, buttons enclosed in rounded rectangles such as **OK** on page 17, text shown in bold against grey background , e.g. **+** and **/** on page 25 – and consider what these graphics and typographical conventions do to make the text intelligible and clear, as well as possibly making it more fun and less daunting for those who lack confidence or experience.

- This book offers a meaningful context in which to discuss various issues around the use of computers, phones and tablets, and including internet safety and the safeguards around privacy and age-restriction that will be a feature of your school's internet safety policy. CLPE has written a series of teaching notes to support four titles by Jeanne Willis, illustrated by Tony Ross – *Chicken Clicking*, *#Goldilocks*, *Troll Stinks* and *Old Macdonald Had a Phone* – that could support further work on the way in which pupils engage with technology. If logging in without a google account, pupils will also need to make a note of their revisit code.
- End the session by reading the section **Two Sisters** on pages 30 to 33. Allow them time and space to consider what they have read and to discuss what this text adds to what has gone before. *How is it similar and different from the technical introduction to App Inventor that you have just read? Why do you think the authors might have chosen to include this story? What does it add to your engagement with or enjoyment of the book? What impression do you form of Bethany and Ice? Why do you think we are shown their conversation, rather than say, a journalist's summary after interviewing the sisters? Why do you think it is important to hear their voices?* In a new colour add your reflections from discussing Bethany and Ice to the Role on the Wall you began for Gitanjali, deepening your understanding of what makes a great programmer. *For example, what do they say about teamwork, and the how to deal with the frustration of debugging code?*

Chapter 2 Hello, It's Me! And Chapter 3 Translation App

- Begin the session by inviting the pupils to explore their responses to the text so far with the help of what Aidan Chambers calls **'the four basic questions'**. These questions give children accessible starting points for discussion:
    - Tell me…
    - was there anything you liked about this text?
    - was there anything that you particularly disliked?
    - was there anything that puzzled you?
    - were there any patterns, any connections that you noticed?
- The openness of these questions, unlike the more interrogative 'Why?' question, encourages every child to feel that they have something to say. It allows everyone to take part in arriving at a shared view without the fear of the 'wrong' answer. As children reply it can be useful to write down what they say under the headings 'likes', 'dislikes', 'puzzles', 'patterns'. This written record helps to map out the children's view of the text and the important themes and ideas around the book from their perspective and is a way of holding on to ideas for later.
- Before reading on, allow the pupils time to discuss how well they have been able to familiarise themselves with the program and its layout and functionality, as covered in Chapter 1.
- Then invite pupils to read on through **Chapter 2 Hello, It's Me!** on page 34 to 49. Discuss whether the book can be read in this way, or whether it makes sense only when it is read alongside the App Inventor program.

mit Kids Press
an imprint of Walker Books
MiTeen Press
an imprint of Walker Books

They may well say that as a how-to guide it is most effective when used in conjunction with the program. Encourage them to identify what it is about the book that makes it special in this way, and whether they can think of other forms of writing that work best alongside an experience or activity, e.g., tourist guide books, maps, dictionaries, instruction manuals. *Do you think some manuals can be separated from the experience they seek to facilitate, e.g., recipe books, travel guides, gardening manuals?*

- After reading Chapter 2 and creating the **Hello, It's Me!** app as outlined in the book, invite the pupils to take time and space to reflect on the text. Consider what features supported them in being able to create the app, such as the section headings, labelled and annotated screenshots, the text conventions, the numbered directions, the **//Note** panels.
- If relevant, invite children to share ways in which they extended the app as suggested on page 49. What refinements or improvements can you think of to make this app more useful or enjoyable? How easy would it be to implement these? Reflect also on how easy they found the task, and the level at which the instructions were pitched; if they have previously used the program or done some programming, what features of the writing did you find useful, and if you are new to coding, how did the authors allow you to succeed? Pupils may mention the structure and clarity of the instructions, as well as the tone of voice and level of formality.
- Go on to read the story **Apa Pura** on page 50-52, about the app of that name that five Moldovan girls built to enable their community to find safe sources of drinking water. Invite the pupils to discuss why this story has been included, and what it adds to our understanding of the application of technology to solve real-world problems. Update the Role on the Wall with anything they find out about the traits of the programmer from the story of the five girls and their success, such as the hard work they had to put in, their determination to find a solution to a problem that was affecting people like them, the confidence they gained in talking to others and presenting their ideas.
- Go on to repeat this process – reading the chapter, completing the coding task, then reflecting on and discussing the ways in which the activity is presented – for **Chapter 3 Translation App** page 54 to 71. Again, invite pupils to consider ways in which they could improve the app in line with the extension activities on page 71, and how someone might make practical use of the app they build. As the coding activities increase in size and complexity, ask them to consider how the authors make the learning manageable, for example by continuing to use typeface conventions and annotated screenshots, and how they build on what has already been learned, avoiding repetition. *How do you feel about having completed the first two coding tasks? How do you think the authors want you to feel? How do you know? Which words and phrases in the text convey what they want readers to feel about their progress?*
- End the session by reading **Vanessa's Story**, pages 72-73, allowing time and space to reflect on and discuss what they have read about Vanessa Tostado's journey into being a software developer. *Are you surprised by the route Vanessa took into coding, and the difficulties she faced along the way? Why do you think the authors chose to include her story?* Update the Role on the Wall in a new colour to reflect what you learn from Vanessa's experience about what makes the ideal programmer, such as her resilience when she found it hard to get into coding, her use of mentors to support her, her refusal to give up on her dream, and her ambitions for the future.

Chapter 4 My Piano and Chapter 5 Find the Gold

- As the complexity and length of the programs the pupils are coding increase, be sure to allow enough time for

mit Kids Press
an imprint of Walker Books
MiTeenPress
an imprint of Walker Books

them to read, complete the programming activities, and reflect on the text they are working their way through.

- Begin the session by asking the pupils whether they have music or gaming apps on their phones or tablets, how they engage with them, how much time they spend using them and what it is about these kinds of apps they enjoy. Explain that in this session they will be reading about coding a music app and a game. As before, allow time and space for the pupils to read **Chapter 4 My Piano** and **Chapter 5 Find the Gold** and to complete the activities, including the potential extensions to **Find the Gold** on page 135. Invite them to reflect on what new aspects of the program they have learned to use, e.g. procedures, importing templates, testing and refining, understanding screen resolution, and so on. *How is new information presented, and how do the authors make it easy to build on what you already know?*
- Discuss with the children the concept that coding is a very specific and highly specialised kind of writing, with its own languages and grammar, and that computers expect the syntax of a language to be used accurately and consistently – indeed, they stop cooperating and crash when we write something ungrammatically! In other engagements with writing, pupils are likely to be encouraged to consider purpose and audience, and it might be interesting to reflect that in coding the purpose is to make the computer carry out a specific task, and the audience is the computer itself. *How does this compare to the purpose and audience for the kind of writing you normally do? How flexible are the people you write for, in terms of your use of grammar and syntax, compared to the computer?*
- End the session by reading **Potholes of Malden** on pages 102-103 and **Arjun's Story** on pages 136-137, allowing time and space for the pupils to reflect on and discuss what each example of the use of an app created in App Inventor offers the reader. *Why do you think they might have included these stories? What do the offer in terms of inspiration, role models, and real-world problems the coders were able to address?* Ask pupils if they can think of some aspect of their local environment that they might like to track and monitor, as Ryan and Daniel did the potholes. Consider how Arjun's app for tracking the school bus started him on a path to becoming an entrepreneur, founding his own company to capitalise on his coding skills. *Can you think of an app for children or parents that people might pay to use?* Update the Role on the Wall in a new colour, adding any insights into the traits of the ideal programmer that you can acquire from reading about these three coders.

Chapter 6 Tour Guide, Chapter 7 Chat App and Conclusion

- In this final session, pupils have the opportunity to create two more apps, to reflect on what they have learned to do as a result of reading the book, and to step back from the coding experience to reflect on the text as a specific type of writing, what is special about it, and how it sits with and possibly extends their reading diet.
- Invite the pupils to share whether they use maps and chat/IM apps on their phones or tablets, how they engage with them, how much time they spend using them and what it is about these kinds of apps they enjoy or find useful. Explain that in this session they will be reading about coding an app for maps and one for communication. As in previous sessions, allow time and space for the pupils to read **Chapter 6 Tour Guide** and **Chapter 7 Chat App** and to complete the activities, including the potential extensions to **Tour Guide** on page 183 and to **Chat App** on page 205. Invite them to reflect on what new aspects of the program they have learned to use, e.g., co-ordinates (which might differ from their understanding of how these work in their mathematics or geography lessons), external components, and using databases. *How is this new information presented, and how do the authors make it easy to add to your rapidly increasing stock of knowledge about the program?*
- Creating these apps provides a good opportunity to discuss age restrictions on messaging and social media

mit Kids Press
an imprint of Walker Books
MiTeenPress
an imprint of Walker Books

apps. Ask pupils if they know the age of use for common and popular social media apps, and why they think these limits are in place. If necessary, share the age limits for popular social media sites used to share photographs and videos. Facebook, Instagram, Snapchat, TikTok, Twitter and YouTube all have a minimum age of 13. WhatsApp has its minimum age set at 16. Further details and information can be found at https://www.net-aware.org.uk/networks/). *Why do you think these age limits have been set?* Make a note of the children's ideas and pick up on any misconceptions or learning points as necessary, in line with your school's acceptable internet use policy and guidance for children.

- Share and discuss the two final real-life examples of **Hello Navi** on pages 184-185 and **Chinmayi's Story** on pages 206-207, allowing time and space for the pupils to reflect on and discuss what each example offers the reader. *Why do you think they might have included each story? What further examples do they offer in terms of inspiration, role models, and the real-world problems the coders were able to address? How could you use your understanding of co-ordinates and mapping your environment that you learned in **Tour Guide** to support people new to your school or town, as Andres Salas's classmates did for him? How did Chinmayi's love of coding become a real and relevant benefit to her community? Can you think of an app that people where you live might find useful?* Update the Role on the Wall in a new colour, adding any insights into the traits of the ideal programmer that you can acquire from reading about these two examples.
- Read the **Conclusion** on pages 210-215, and consider the final message the authors are leaving you with. *Do you think this is an effective way to end the book? What do you take away from their final words? Can you summarise what each of its sections – **More Components** (page 210), **Find More Inspiration** (page 213) and **Share with Others** (page 214) – offers the reader who has got this far? Which of the messages appeals most to you, and why?*
- Share the **Acknowledgments** (page 216), **Bibliography** (page 218) and **Index** (page 220) and discuss what role each of these parts of the book is playing, what they add and why they are included in this kind of text. *What more do they tell you about the authors, about the writing of this book, and about the App Inventor community?*
- Invite them to reflect on the journey they have taken as coders, how they have used the same drag-and-drop interface to create code structures of increasing complexity, and gone from using the architecture of the device, its screen (Chapter 2: Hello, It's Me!) and internal gyroscope (Chapter 5: Find the Gold) to incorporating sophisticated external components like a translation service (Chapter 3: Translation App), multimedia files (Chapter 4: My Piano); camera, maps and database services (Chapter 6: Tour Guide) and a cloud database (Chapter 7: Chat App). *Why do you think the authors chose to teach the app using these specific purposes? What do they suggest about its range and power? Did you enjoy making and using these apps? Which tasks were easiest to accomplish, which were most complicated and which were most satisfying? Can you think of others you would add? Would you like to extend or adapt the programs you have already written?* Reusing and recycling code is another feature of being a good programmer.
- Revisit the Role on the Wall adding any insights you have gained into the character of the ideal programmer, which takes on all of the character traits of Gitanjali; Bethany and Ice; the five girls from Moldova; Vanessa; Ryan and Daniel; Arjun; the six girls who built the app for Andres Salas; and Chinmayi. Invite the pupils to consider the role of these examples/stories in the book: *Why do you think these were included in a technical manual or guide? What do they add to the book? What do they tell you about the personality traits that make up a programmer? How many of these do you think you share?*
- Revisit Aidan Chambers' four basic questions (from Session 3) giving the children the opportunity to reflect on

mit Kids Press
an imprint of Walker Books
MiTeen Press
an imprint of Walker Books

the book as a whole.

- Invite them to consider who else might like to read this book – would it appeal to those who are new to coding, or to more experienced programmers? How would you describe the book to someone in your class who hadn't read it?

After reading, you could also:

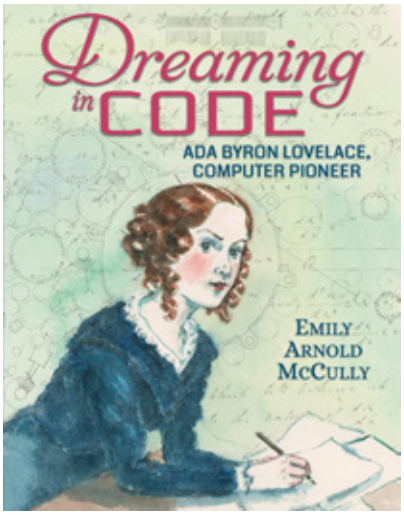
- If possible, leave copies of the book in the book corner for the children to revisit and re-read in independent reading time if they want to, by themselves or socially in a group or to take home and re-read for themselves.
- Through modelling, ask the children to describe their favourite part of the book, which might be an app or one of the stories. Provide the children with an oral scaffold for example: *the most memorable part of the book was ... because... ; my top moment in the book was ... because...* and in pairs ask them to identify their favourite section. Encourage children to give reasons for their choices and invite some children to share these.
- Find out more about the MIT App Inventor from its own website and the large community of users.
- The **Bibliography** (pages 218-219) also contains links to a number of associated news articles about the impact of the app and its users.
- Find out more about *Time* magazine's 2020 Kid of the Year Gitanjali Rao, for example reading the magazine's own website which features her in conversation with Angelina Jolie.

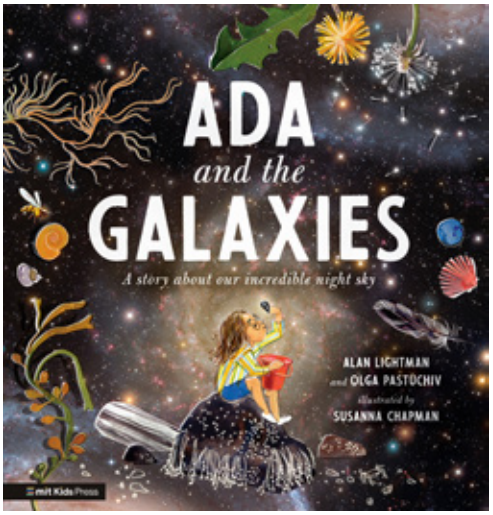
Other titles to further support the exploration of themes in the book:

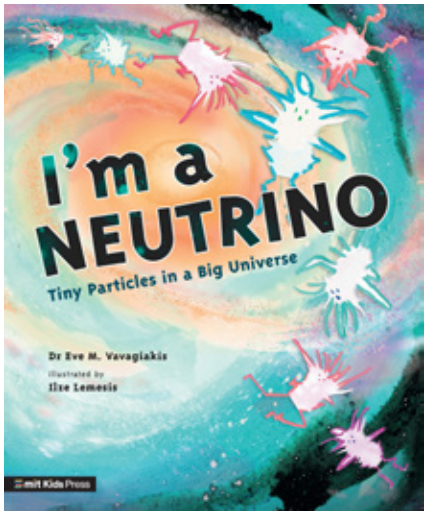
Computing and programming

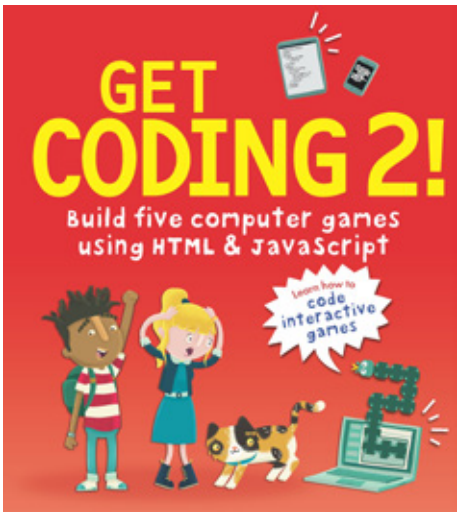
- *Agent Asha: Mission Shark Bytes*, Sophie Deen, illustrated by Anjan Sarkar (Walker Books)
- *Create with Code: Build Your Own Website*, Clyde Hatter, illustrated by Gary Lucken (Egmont)
- *Dot.Common Sense: How to Stay Smart and Safe Online*, Ben Hubbard, Illustrated by Beatriz Castro (Wayland)
- *Hackers*, Tom Jackson and Cristina Guitian (QED)
- *Ada Lovelace*, Ben Jeapes, Illustrated by Nick Ward (David Fickling Books)
- *Dreaming in Code: Ada Byron Lovelace, Computer Pioneer*, Emily Arnold McCully (Candlewick Press)
- *Ada's Ideas: The Story of Ada Lovelace, the World's First Computer Programmer*, Fiona Robinson (Abrams Books)
- *Chicken Clicking*, Jeanne Willis, illustrated by Tony Ross (Andersen Press)
- *Old Macdonald Had a Phone*, Jeanne Willis, illustrated by Tony Ross (Andersen Press)
- *#Goldilocks*, Jeanne Willis, illustrated by Tony Ross (Andersen Press)
- *Get Coding! Learn HTML, CSS, and JavaScript and Build a Website, App, and Game, Young Rewired State*, illustrated by Duncan Beedie (Walker Books)
- *Get Coding 2! Build Five Computer Games using HTML and JavaScript,* David Whitney, illustrated by Duncan Beedie (Walker Books)
- *Swift and Hawk: Cyberspies*, Logan Macx (Walker Books)

mit Kids Press
an imprint of Walker Books
MiTeenPress
an imprint of Walker Books









MITKidsPress @mitkidspress www.mitkidspress.com

@MITeenPress @miteenpress www.miteenpress.com

mit Kids Press
an imprint of Walker Books

MiTeen Press
an imprint of Walker Books