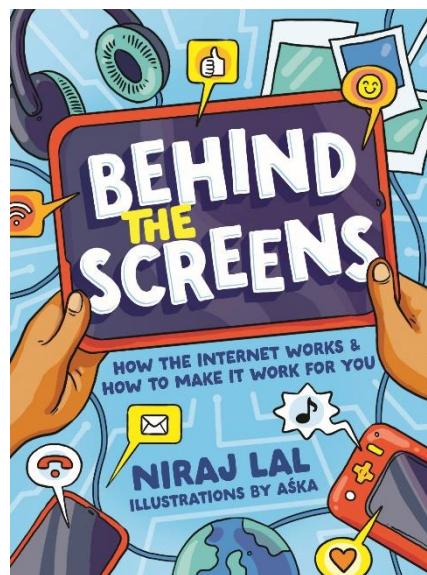


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BEHIND THE SCREENS*How the internet works
& how to make it work for you*

Niraj Lal

Illustrated by Aška

**Teachers' Notes**Prepared by Christina Wheeler, a practising teacher librarian
with a background in the Australian curriculum (English)

ISBN: 978 0 7022 6894 6 / AUS \$19.99

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SYNOPSIS

Behind the Screens is a must-read for all internet users. By clearly explaining how the internet works, acknowledging its many advantages and identifying its pitfalls, students, parents and teachers alike will emerge from this text feeling more informed, secure and empowered.

From the storage of data and metadata to the algorithms used to flood social media accounts and news feeds, *Behind the Screens* raises awareness about common strategies used to keep us online for as long as possible. It also champions critical thinking as a weapon against bias, echo chambers and disinformation. Offering practical advice without preaching to readers, it prompts important discussions that promote discerning and healthy tech use. It is suitable for readers aged 9+.

THEMES

- Algorithms
- eSafety
- Social media
- Cyberbullying
- Wellbeing
- Privacy
- Online addiction
- Gaming
- Misinformation and Disinformation; Deepfakes; Fake News

WRITING STYLE

Structured through digestible and engaging chapters, *Behind the Screens* breaks down the mystery of how the internet works and how tech companies operate in ways to keep users online. The writing is both conversational and informative, giving readers respect and space to draw their own conclusions. By doing this, it successfully raises awareness and provides effective strategies for safer use. Bullet-pointed lists offering practical strategies to maximise privacy and wellbeing are provided, as are several resources to support eSafety and healthy tech use. In addition, the text promotes the need for critical thinking in an age of misinformation, disinformation and deepfakes. As such, *Behind the Screens* is an important text that supports eSafety and wellbeing.

A NOTE TO SCHOOLS

Behind the Screens provides invaluable discussion prompts and resources suitable for inclusion in your school's wellbeing and pastoral care programs. Using the chapter sequence and learning experiences below as a guide, consider integrating the content and strategies shared in the text across various year levels. In addition, to further enrich discussion and critical thinking around misinformation, disinformation, deepfakes and fake news, consider creating a repository of appropriate and current examples as they arise in your personal online usage (see Chapter 8).

AUTHOR MOTIVATION

The internet isn't always what it seems. There are things happening behind the screens that change what we see to try change what we do: what we buy, what we believe and how much time we spend online. And they're actually really effective – they are changing us! The average Australian spends more than two hours on their phone each day – touching them more than 2000 times. We're hooked! But we're also more lonely than ever (more than 2 in 5 young Australians feel lonely), more polarised (global political polarisation is at record levels) and more surveilled too (nearly everything we watch, say, buy or see is tracked).

The internet is playing a big role in this, and I wrote this book to tell 9–13-year-olds about it. Illustrated by the brilliant comic artist Aśka, *Behind the Screens* explores how the internet works and beyond – what kids need to know about surveillance capitalism, the attention economy, phone addiction, polarisation, misinformation and disinformation, and lots more.

The internet obviously isn't *all* bad – far from it. It's one of the most liberating, life-changing inventions in human history! It has an unprecedented power for education, communication and change. The aim of this book is never to be too negative or apocalyptic or dull, but it is realistic about the dangers of the internet and everything that goes along with it (including AI). I wrote it for kids to read before they get a phone, because I figured: if we can give kids some knowledge about how things work, just as they're starting out independently on the internet but before they're too siloed, addicted and echochambered, they'll be empowered to make better online decisions than the generations before them and to shape the internet of the future.

ABOUT THE AUTHOR

Dr Niraj (Nij) Lal is an ANU Visiting Fellow and host of the ABC's kids' podcast *Imagine This*. He graduated from the University of Cambridge with a PhD in physics as a Gates Scholar in 2012, and his awards include the 2021 Celestino Eureka Prize for Promoting Understanding of Science and the 2022 Royal Societies of Australia and New Zealand Piasecki Prize for Outstanding Writing on Social Change. He lives in Melbourne with his partner Sally and their three kids.

ABOUT THE ILLUSTRATOR

Aśka (pronounced *Ash-ka*) is creative dynamite, an award-winning graphic novelist, an ex-quantum physicist, and a hugely engaging and popular presenter. Having published more than a dozen books and comics Aśka is passionate about visual literacy and teaching people how to 'write with pictures'. Fun fact: despite being a fan of technology, to this day Aśka has never owned a smart phone.

STUDY NOTES

Before reading

- As a class, brainstorm all the things about the internet that you enjoy, dislike and are unsure about. In groups of 2–3, complete a Compass Points thinking routine (pz.harvard.edu/sites/default/files/Compass%20Points_0.pdf; see p.11 of these notes) about the internet, including social media, artificial intelligence, cyberbullying and the presence of misinformation/disinformation. Share your thoughts with another group before returning to a whole class discussion about the advantages and disadvantages of the internet

Welcome to the internet

- Project the following statement from *Behind the Screens*:
'Things are happening behind the screens that change what we see to try to change what we do; what we buy, what we believe and how long we stay online' (p.2).
Have you ever stopped to consider that your beliefs and behaviour may be influenced without you realising it? Share experiences of this happening to you or someone you know. Why is this something of which to be aware?
- How do the internet, artificial intelligence and other online technologies 'use' us? How does it make you feel to learn this? How does it make you think differently about the internet?

Chapter 1 – How the internet works

- List the types of information that become 'data'. What is the difference between data and metadata? How is metadata about you used by tech companies? How do you feel about this?
- What are cookies and what do they store? Why is this data valuable to internet companies? What is a cache? Demonstrate how to clear a device's cookies and cache.

Chapter 2 – FREE-dom!

- Even though using the internet is often free, how do tech companies make money? What has this got to do with you and your data/metadata? How do you feel about there being a detailed profile of you and your influences and interests?
- How has your understanding of giant tech companies changed from reading this section of *Behind the Screens*? What is your opinion towards marketing geared not only at you but also at people *like* you? How does the knowledge that you're being shown content that people like you enjoy help you think more objectively about what you are being fed online?
- Although the internet is 'free', why does it still come 'at a cost' (p.12) to users?
- How does the internet have the capacity to change your behaviour without you realising it? What are the consequences of ad-showing websites or apps keeping you engaged as long as possible? Explain what the terms 'surveillance capitalism' and 'attention economy' mean.

Chapter 3 – Where’s my phone?!

- Keep an audit of your device usage for a 24-hour period. Tally how often you check your device and how much time you spend on it. Use the Device Usage Audit table (see p.10 of these notes) to help track this usage. Create a class graph (de-identifying users) to show this information. What conclusions can be drawn from this data?
- Create an ‘Away for the Day’ campaign to be used at your school to encourage students to leave their phones in their lockers during the school day.
- With reference to the experiment of rats from the 1930s and ‘40s (p.17), explain why phones are described as ‘pacifiers’ that satiate the need for dopamine. How does understanding this process help you reconsider your habits? Create an infographic that shows the connection between dopamine and the ‘reward pathways’ that keep us hooked on our devices?
- How does your brain change after being online? How has ‘multitasking’ lessened creativity and the ability for our brains to ‘think less deeply with less focus’ (p.20)? Why is this problematic?
- Create a Device-Use Health Checklist (pp.20–21) to raise awareness about how to maximise focus and sleep.

Chapter 4 – Social (and unsocial) media

- Complete a PMI on social media (see p.12 of these notes). Share your ideas with a partner, then another pair, before having a broader whole class discussion. Complete Two Stars and a Wish (see below) about the Australian Government’s ban on people under 16 having social media accounts. Why is lying about your age to open social media accounts discouraged?
- The World Happiness Report (p.28) cites loneliness, unhappiness, anxiety and body image as major contributors to the unhappiness of young people. In addition, it highlights IRL connections as boosting happiness. What strategies can you use to better balance your online and IRL interactions?
- Explain how the ‘negativity bias’ that impacts mental wellbeing is often amplified on social media (p.32). What tips would you give your younger self about social media (p.33)?

Chapter 5 – Game on or game over?

- Using sheets of butcher’s paper placed around the classroom, conduct a hot potato circuit that gives student voice to the topic of online gaming. Allow students a minute or two at each station before rotating to the next. Likewise, at the end of the rotations, allow students to revisit each station to view the responses. Hold a circle time to discuss these topics. Label each station’s paper as follows:
 1. What is currently your favourite online game? What is so appealing about this game?
 2. Thinking about your favourite online game now, what makes it so difficult to stop playing?
 3. What are the best things about gaming online?
 4. What are the worst things about gaming online?

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5. How do you feel when you are asked to stop gaming? How often do you game when you shouldn't?
6. How is gaming online different from hanging out with friends IRL?
7. From 1–5 (5 being the highest), how would you rate your sleeping habits when absorbed by a game?

- Discuss Internet Gaming Disorder (World Health Organisation), a condition where gaming takes over the other things you need to do to be healthy such as getting enough sleep, being active and connecting IRL (p.36). What strategies can help you swap 'screen time for green time' (p.39)? What are examples of things you can do IRL that 'scratches the same itch as your favourite game'? Why is this important?
- How can you help make gaming work for you while also safeguarding your health (pp.40–41)?

Chapter 6 – (e)Safety first

- Why do you think in a world-first, Australia appointed an eSafety Commissioner? What does this role entail?
- Visit the eSafety site, esafety.gov.au, which has information about almost every app, game and possible hazard on the internet. Check out the tips on privacy, reporting inappropriate content and generally staying safe online. Using the jigsaw strategy, assign groups of 2–3 students to various parts of this website. Have each group prepare and share a short summary of their section with the class, thereby constructing a collective understanding of this resource. Also visit behindthescreens.me.
- It is recommended that every child has a Safety Network of 3–5 adults (one of whom is outside the family and at least one of whom lives outside the family home). Discuss the role of the Safety Network and encourage students to share Chapter 6 of *Behind the Screens* with them.
- Create a business card to share strategies to use when faced with stressful, frightening or dangerous content online (see 'fight, flight, freeze, fawn' – pp.45–46). Print and keep in a suitable location.
- Discuss the advice on pp.48–51, about interacting with people online whom you don't know in person.
- Discuss strategies to help manage cyberbullying, especially if images or videos of you are posted without your consent.
- Consider integrating lessons from the Alannah and Madeline Foundation into your eSafety and Pastoral Care program. Visit their website for resources, podcasts, projects and lesson plans. Become an eSmart school and participate in National eSmart Week.
 - alannahandmadeline.org.au/learning-resources/esmart-resources
 - alannahandmadeline.org.au/what-we-do/prevention-programs/esmart/esmart-schools
 - alannahandmadeline.org.au/what-we-do/prevention-programs/esmart/national-esmart-week.

Chapter 7 – Being healthy with tech

- Discuss the following excerpt from *Behind the Screens*:
 ‘The 2023 World Happiness Report found that young people who spend more time on the internet, listening to music online, on social media and playing computer games are generally less happy than those that spend more time getting adequate sleep, playing sports, exercising and having in-person social interactions.’ (p.56)
 Reflect on this research. How does it make you reconsider your own online habits?
- Together with your family, complete a Family Tech Agreement (see esafety.gov.au/parents/resources/family-tech-agreement and a completed example on pp.58–59).
- Create a poster for your school that gives top tips for healthy tech use (pp.60–61).
- With your family, class or whole school, participate in Offtober offtober.org – an initiative designed to ‘switch off from technology – to whatever level you’d choose – for one month a year’. Alternatively, try Tech-Free Tuesdays.
- What is meant by the term ‘digital greens’? Give examples.
- Check the questions on p.64 that help identify whether you’re spending too much time online. What are you giving up IRL to spend time with tech? How might you replace some tech time with IRL connections?

Chapter 8 – What to believe

To further enrich discussion and critical thinking around misinformation, disinformation, deepfakes and fake news, consider creating a repository of appropriate and current examples as they arise in your personal online usage. If suitable, also invite students to collect examples for whole class discussion.

- In your own words, explain how algorithms are used to feed you opinions and ideas that you already believe and agree with. How do you know what to believe and who to believe? How does the use of algorithms have consequences for user behaviour and beliefs?
- Research shows that posts containing falsehoods spread 6 times faster than truthful posts and reach more than 10 times as many people (p.70). This is because people share something shocking without realising it is fake. Discuss the following:
 - the difference between misinformation and disinformation (p.71)
 - the impact of fake news on the world
 - strategies to help check discern between fake and reputable information
 - the importance of critical thinking and evaluation of sources
 - trusting your gut
 - considering who benefits from the information being shared and what they benefit from publishing that information (see p.72)
 - e.g. X, Instagram and YouTube have been tweaking their algorithms to prioritise or deprioritise different news stories based on govt orders (p.73). Discuss the fact that moderation of normal content is very likely happening behind the screens.

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- extraordinary claims require extraordinary evidence (p.74)
- considering the source of information, e.g. domain names
- confirmation bias (seeing only feeds from those who agree with your opinion and affirm your beliefs), thereby creating echo chambers and polarisation (see pp.75–77)
 - Echo Chambers make it difficult to come across different ideas and perspectives, polarising people and creating extreme sides (e.g. gender, racism, health, politics).
 - We need to consider other perspectives: It's helpful to ask:
 - What do the best people on the other side think?
 - What information are they seeing?
 - What are the shared facts?
 - What are the good ideas from people we wouldn't normally agree with?
 - We must work hard to keep different ideas in front of us by:
 - deleting our data and starting again
 - seeking out content that wasn't chosen for us by an algorithm
 - talking to peers about what you and they are seeing.
- Most of what is published is done so with good intent, but a little scepticism and critical thinking is healthy (p.78).
- The more aware you are of potential sources of misinformation and disinformation, the more critically you'll be able to decide what to believe for yourself.
- When using information, apply the CRAAP (Currency, Relevance, Authority, Accuracy, Purpose) or SIFT (Stop, Investigate the Source, Find Better Coverage, Trace the links, quotes, claims and media to the original context) strategies to evaluate reliability and bias.

Chapter 9 – Artificial intelligence and you

- What impact does knowing how AI tools such as Siri operate (e.g. tracing your location, listening to everything you say) have on your online habits (see pp.85–87)?
- Use current examples of deepfakes to explore how difficult it is to identify them. Discuss the importance of seeing the same thing from many different trusted sources.
- Discuss the virtues of human cognition and the emotional, decision-making and creativity skills unique to humans. In addition, discuss the inability of computers to contribute meaningfully to local communities (p.90).
- Complete an I Used to Think, Now I Think thinking routine (see p.14 in these notes) about artificial intelligence.

Chapter 10 – Who's watching?

- Create a digital poster that informs internet users how to maximise their security while online, such as keeping their home address, phone number and health information private. See also the advice below:
 - alternative search engines (p.98)
 - open-source software (p.98)
 - password managers/passphrases (p.100)

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- when there's no alternative (pp.102–103)
- advanced privacy (pp.104–105).
- Discuss the fact that once data is online, it can be very hard (often impossible) to erase later, therefore you must be careful what you post about yourself and others online.

Chapter 11 – The future internet

- Use the list of questions on p.107 about the future of the internet to prompt class discussions and debate.
- Discuss the environmental impacts of storing data and using generative AI (p.108).
- To promote agency, discuss examples of communities successfully changing laws and protocols concerning the internet (pp.110–111).
- What is the future of the internet that you want to see? See p112 for conversation starters and actions.

After reading

- How does reading *Behind the Screens* empower you as an internet user and digital citizen?
- What are three things you plan to adjust about the way you use the internet?
- With a partner, create and record a podcast aimed at raising awareness about online safety and discretion.
- Create a board game (such as Snakes and Ladders) that educates young people about the pros and cons of the internet.
- After reading *Behind the Screens*, repeat the Devise Usage Audit from Chapter 3. What has changed? What could you still improve? Share in a reflection.
- Build your algorithmic literacy by visiting algorithmliteracy.org.

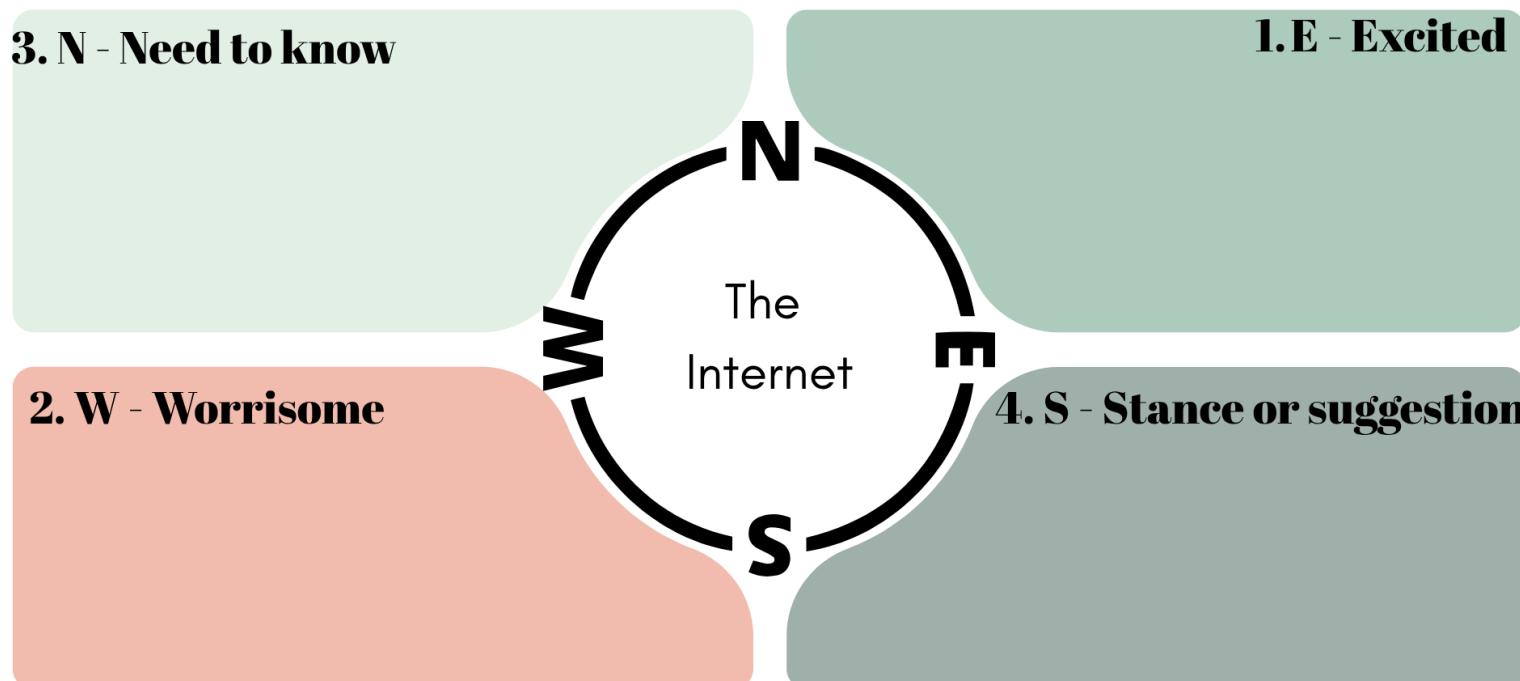
Device Usage Audit – 24 Hours	
Name:	Date:
Time device first checked	
Tally of times device checked	
Amount of time spent online	
Names of apps checked	
Time spent online for schoolwork	
Time device last checked	
Total time spent on device	

Device Usage Audit – 24 Hours	
Name:	Date:
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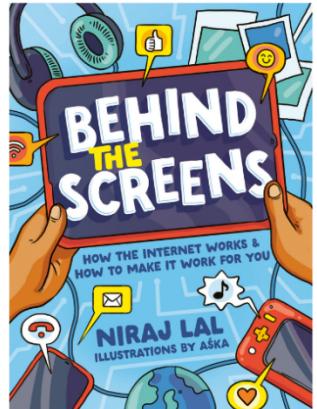
Compass Points

In groups of 2-3, complete the compass points below to share your thoughts about the internet.
Complete in the order shown below.

1. E = Excited - What excites you about the internet? What are the upsides?
2. W = Worrisome - What do you find worrisome about the internet? What are the downsides?
3. N = Need to Know - What else do you need to know or find out about the internet and how it works? What additional information would help you to evaluate things?
4. S = Stance or Suggestion for Moving Forward - What is your current stance or opinion on the internet? How might the use of the internet be improved or made safer/more ethical?



https://pz.harvard.edu/sites/default/files/Compass%20Points_0.pdf



Record the pluses,
minuses and
interesting
aspects of social
media.

P

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I

Thinking Routine - Artificial Intelligence

I Used to Think ...

Now I Think...