SMART MACHINES

TEACHER GUIDE

In *Smart Machines*, young readers will look at the history of AI, how it works, how it's used for good and bad and the ethical issues it raises. They'll also discover how the risks of AI can be managed through responsible design, regulation and in the individual choices people make about which tools to use or those to avoid.

ABOUT THE AUTHOR:

Helaine Becker is the award-winning author of more than 100 books for children, both nonfiction and fiction. She is the two-time winner of the Lane Anderson Award for science writing for children, as well as the Outstanding Youth Book Award (Science Writers & Communicators of Canada (SWCC) and the Picture Book of the Year Award (Canadian Booksellers Association). Two of her numerous math- and science-related books focus specifically on technology and robotics: *Zoobots: Wild Robots Inspired by Real Animals* and *Hubots: Real-World Robots Inspired by Humans.* Helaine's books have been translated into 14 languages, and she is a frequent speaker at schools, universities and conferences. The very first novel she wrote (and stuffed deep into a drawer, never to be seen again) was called *Robot Girl* and was about an AI clone of a teen prodigy.

ABOUT THE ILLUSTRATOR:

Pui Yan Fong is a Toronto-based illustrator. Originally from Hong Kong, she grew up in Toronto and studied illustration at Ringling College of Art and Design. She spends most of the day on her laptop, working on illustrations, reading or gaming. She is also a huge sports fan.

DISCUSSION QUESTIONS:

1. How often do you use social media apps? How long do you spend on each app? How does your usage compare to that of your friends?

2. How do you feel after using social media? Do you think socials have improved your life or made it worse? Why?

3. When you use the internet for research, how do you decide if the information on various websites is true, correct and/or unbiased? How confident are you in your ability to tell the difference?

4. What other resources can you use, besides the internet, to do your own research?

5. Overall, do you think AI (all types) is good for society or bad?

6. What laws would you enact to limit the downsides of AI?
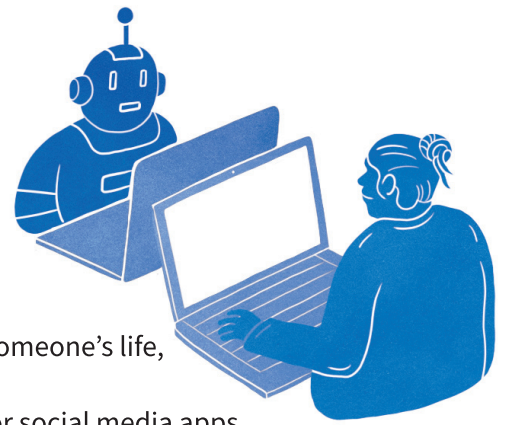
do dogs eat homework?

ACTIVITIES:

1. Read the transcript of the author's conversation with Meta's AI chatbot. Think about what you learned from the exchange, and how it made you feel. Then start an imagined "chat" with a social media executive. What would you say to them?

2. Draw a comic that illustrates one of the ways that AI can make a difference in someone's life, either positively or negatively.

3. Form a group with your friends or classmates to come up with a usage guide for social media apps. How much time should you spend on social media? What content should you—or should you not—post? Make a pact and stick to it.

4. Design an imaginary robot of the near future that is equipped with AI, like one of the robots on page 47, 49 or 58. What will your robot be designed to do? Build a model of it.

5. History is full of stories about artificially intelligent machines. Which of the ones outlined in *Smart Machines* intrigues you the most? What about the people involved in the real-world development of AI, like Ada Lovelace or Alan Turing? Do their stories intrigue you? Do some additional research on the topic and prepare a creative presentation about it for your class. For example, you can create a diorama or write a short story or play on the subject.

6. Count the number of AI-enabled devices your family uses at home/in the car, etc. Tally the class total in a chart.