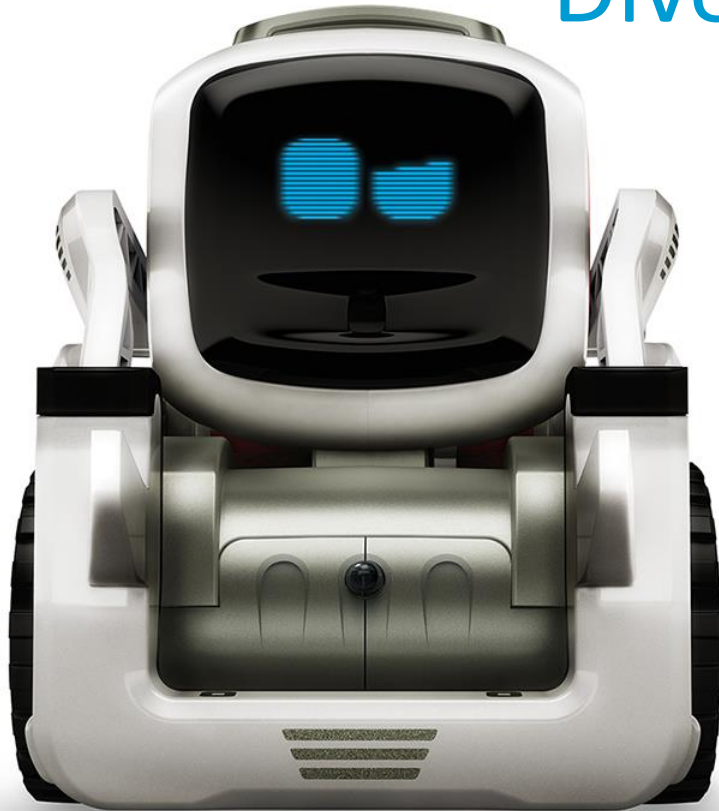


# COZMO®

## Cozmo, the Digital Pet Robot, to Differentiate the Diverse Classroom.



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Figure 1: Cozmo (Anki, Inc., 2018).



# Ashwood School

- P-12 specialist school for students with mild intellectual disabilities
- All students have an Individual Learning Plan (ILP) and we follow the Victorian Curriculum
- We schedule 45 minutes of computer lab time for every class each week
- We offer a specialist DigiTech subject for students in years 6 to 10
- We integrate Digital Technologies curriculum across all years and subjects



# Range of abilities

- Typical class size is between 10 to 12 students
- When possible, we use visuals and tangible/concrete ways to teach
- Need to adjust/modify the curriculum (typically to levels C, D, F, 1) and differentiate curriculum to meet range of social, academic, and technological abilities in a class



# Adjusting the (Victorian) curriculum

## **Year 9 Digital Systems**

Investigate the role of hardware and software in managing, controlling and securing the movement of and access to data in networked digital systems (VCDTDS045)

## **Level D Content Descriptions**

### **Digital Systems**

Carry out some key functions on digital systems (hardware and software components) to meet a purpose (VCDTDS010)

**My lesson:** Discuss “Why we have passwords”, “What is a strong password?” and “Passphrases”

Then students create their own passphrase: (e.g.  
2dogs1cat@Home )





# Meet Cozmo



<https://www.youtube.com/watch?v=DHY5kpGTsDE>

Figure 2: Cozmo's three blocks and app (Stein, 2016).

# Different levels of engagement:

- Parental caretaking
- Playful interaction
- Explicit manipulation
  - Visual Block Coding
  - Python Coding
- ...and more!



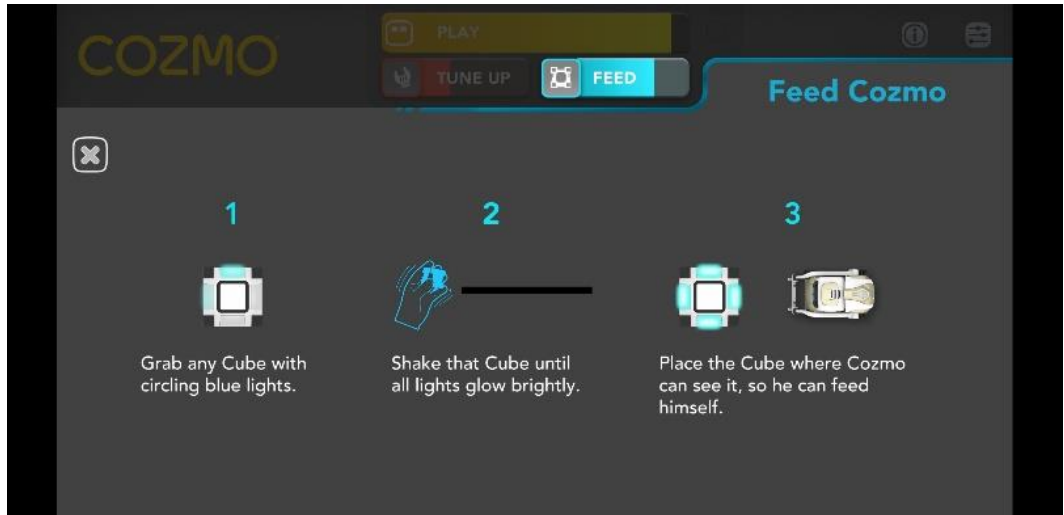
# Moral Standing

- “sentient living things such as animals have rights and any harm to them must be justified” (Framarin, 2014)
- “the little scamp tried to fake me into tapping my block when they didn't match, and stormed off when I won. And it's those little tics, the banging of its lift-like arm and spinning in circles and squawking in its Wall-E voice, that really makes you want to refer to the little guy as 'he' rather than 'it'” (Pierce, 2016, para. 13).

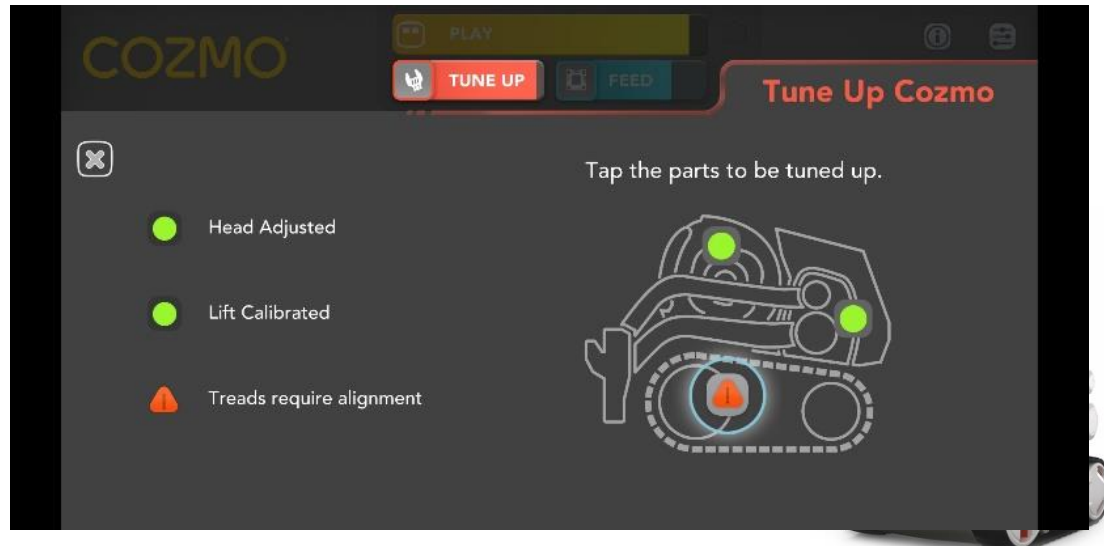


# Parental Caretaking

- Feeding

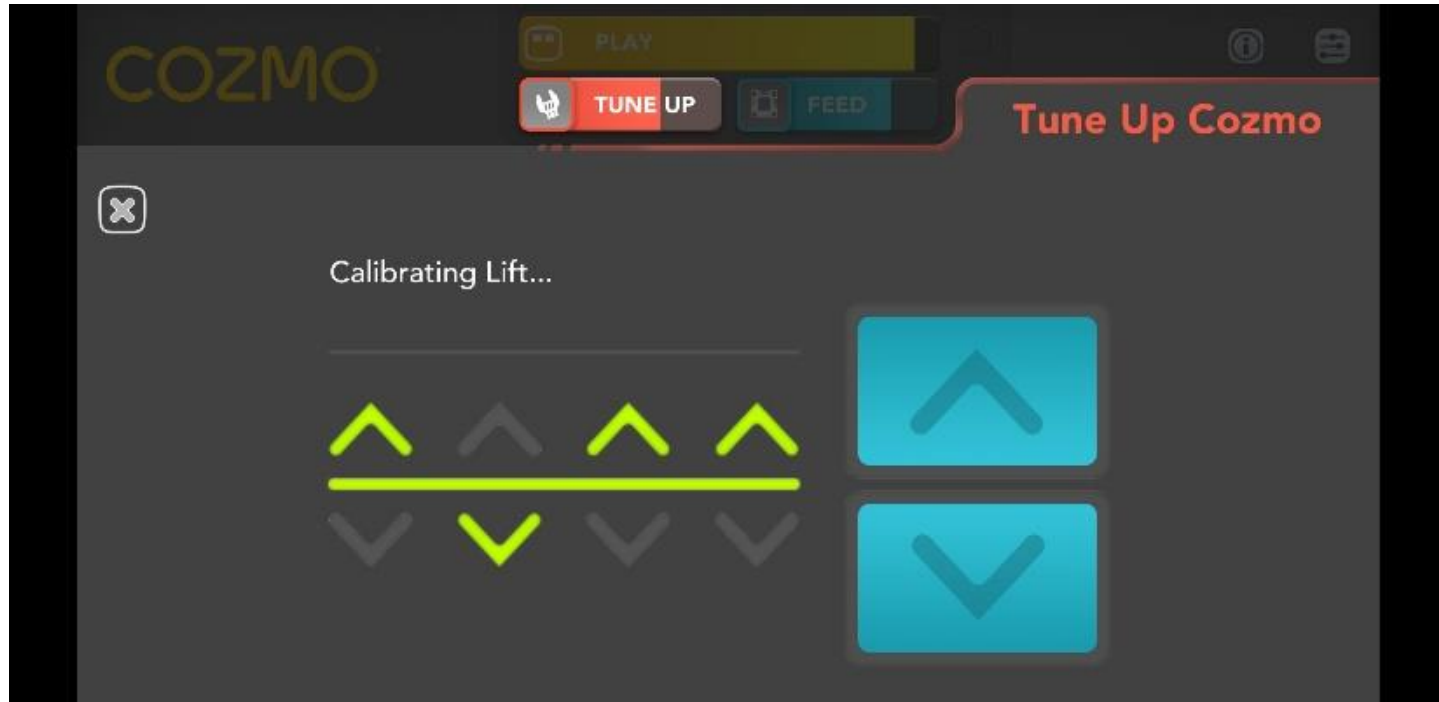


- Tune-Up

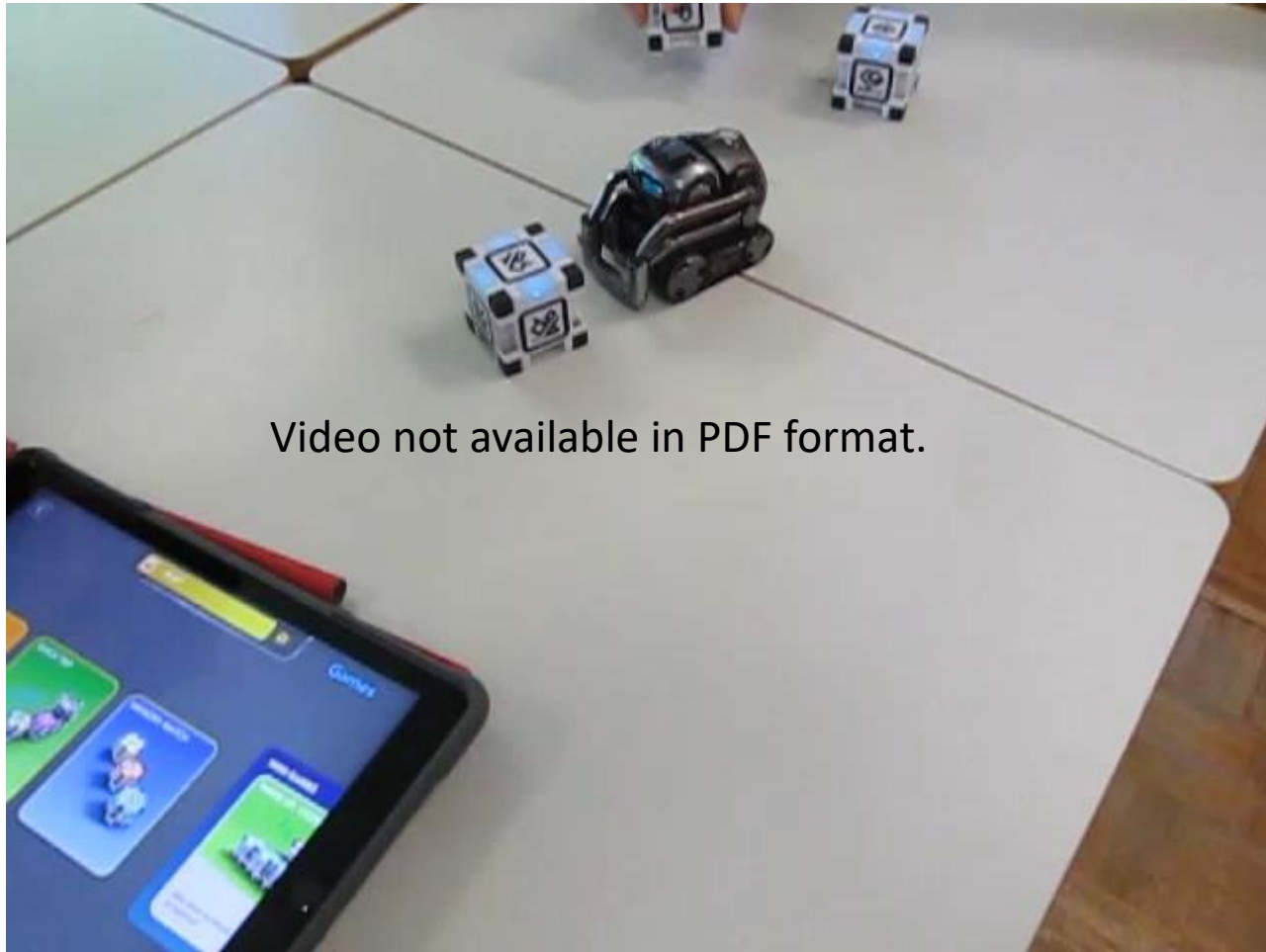




# Pattern Recognition



# Playful Interaction



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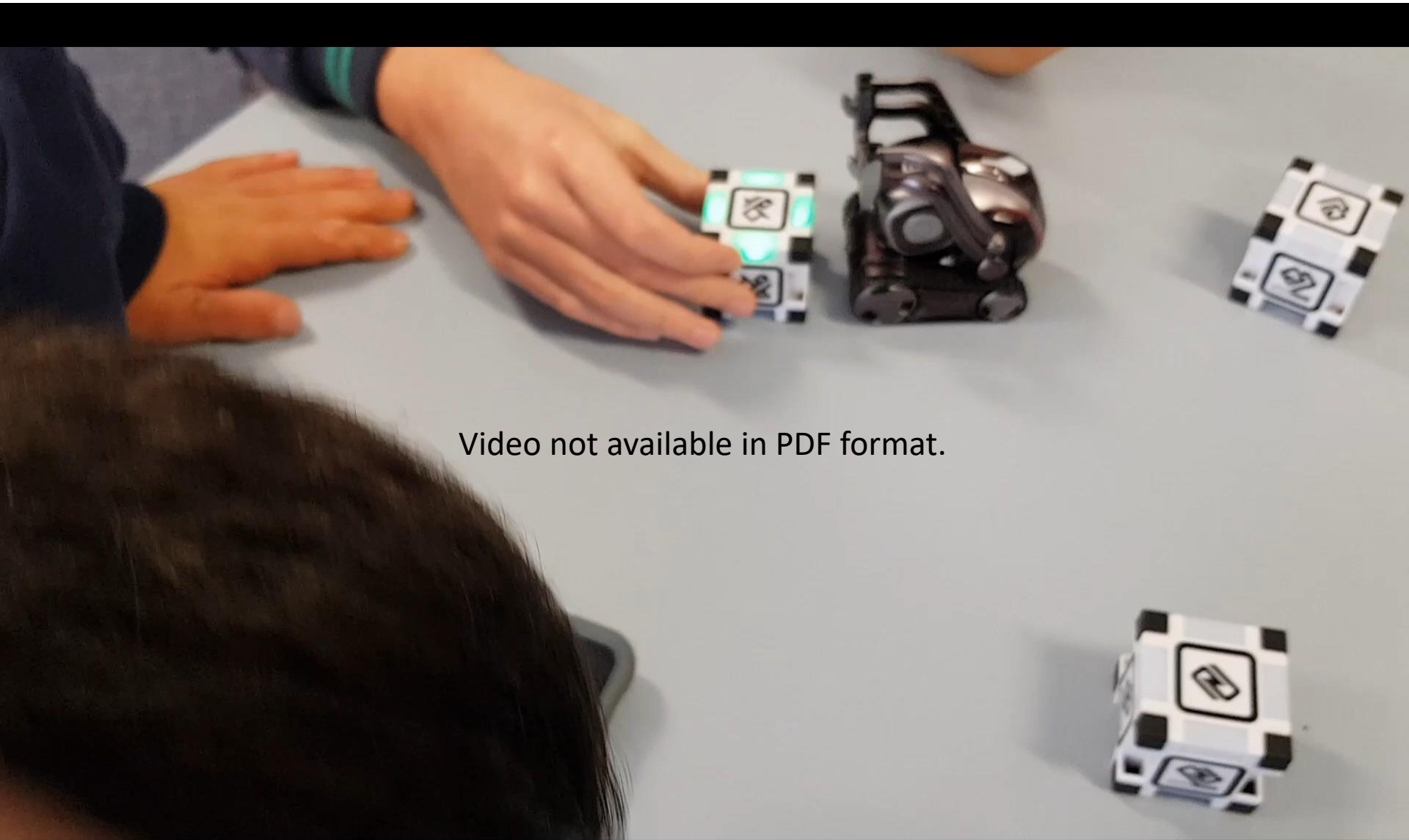


# Playful Interaction



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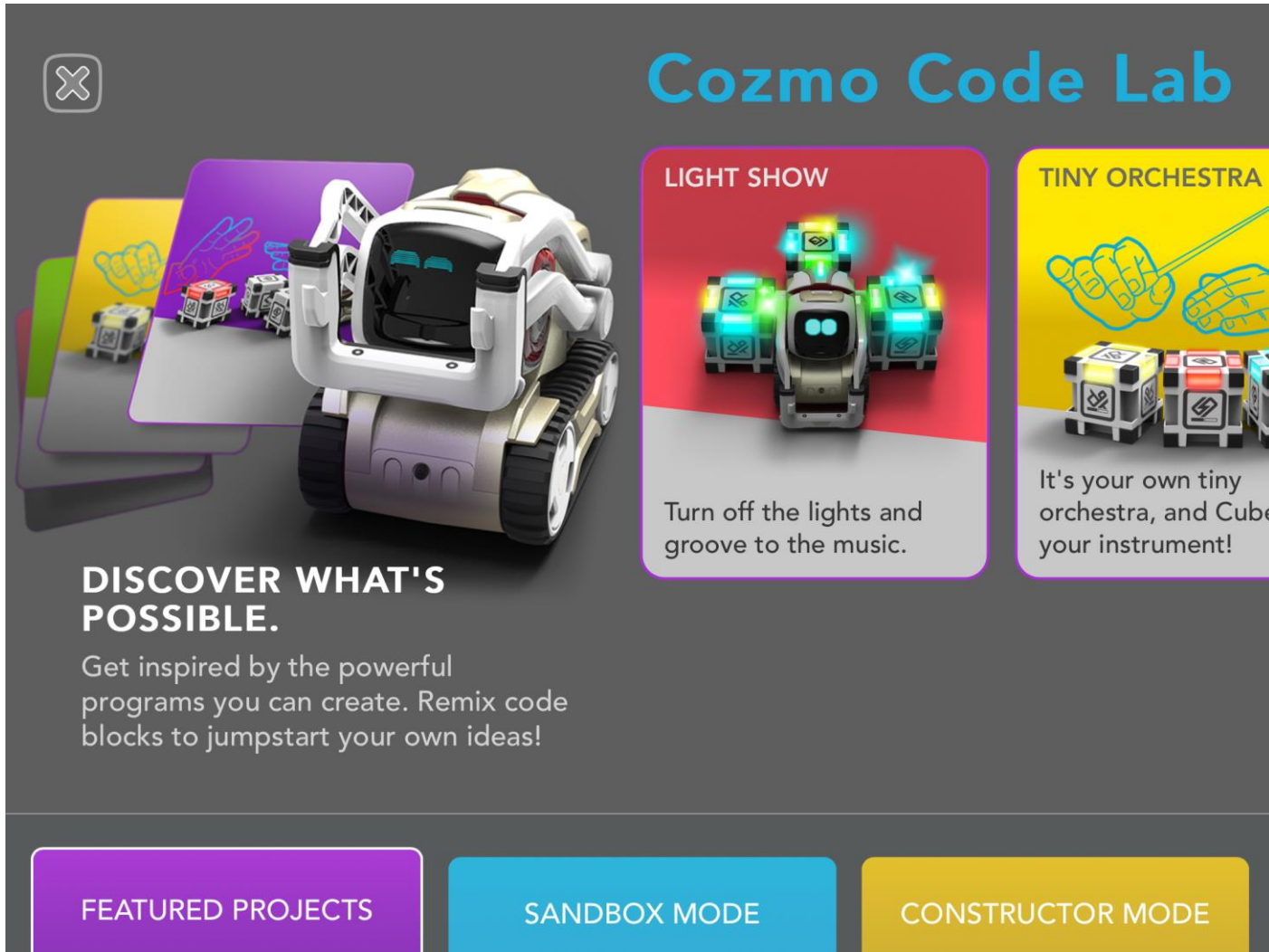




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# Explicit Manipulation



✕


## Cozmo Code Lab



### DISCOVER WHAT'S POSSIBLE.


Get inspired by the powerful programs you can create. Remix code blocks to jumpstart your own ideas!

#### LIGHT SHOW



Turn off the lights and groove to the music.

#### TINY ORCHESTRA



It's your own tiny orchestra, and Cube is your instrument!

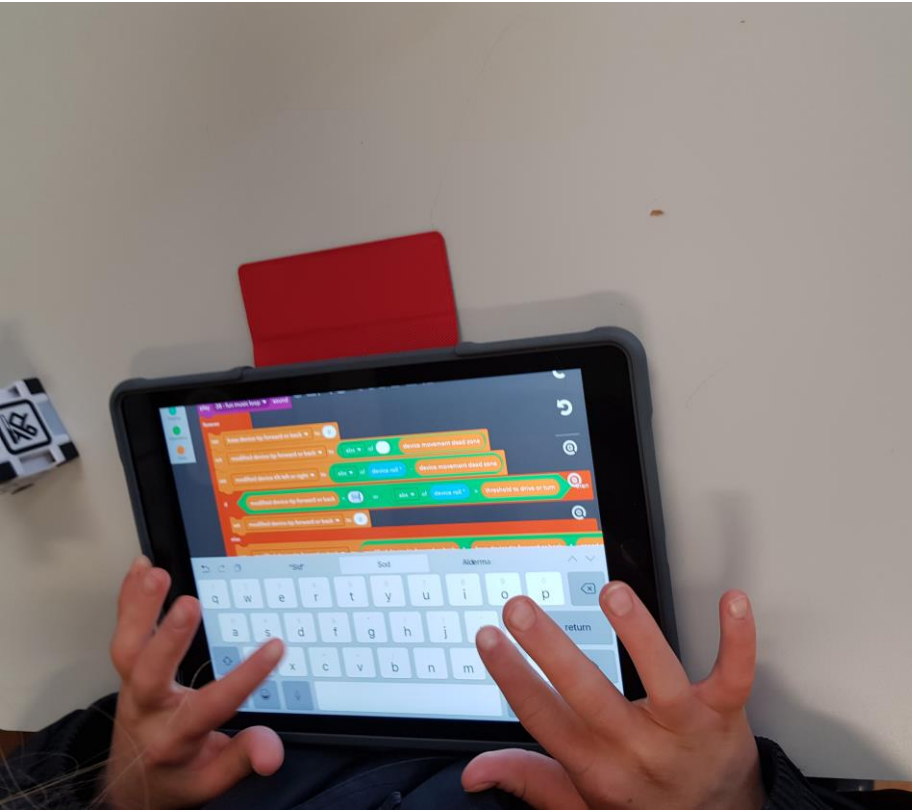
FEATURED PROJECTS

SANDBOX MODE

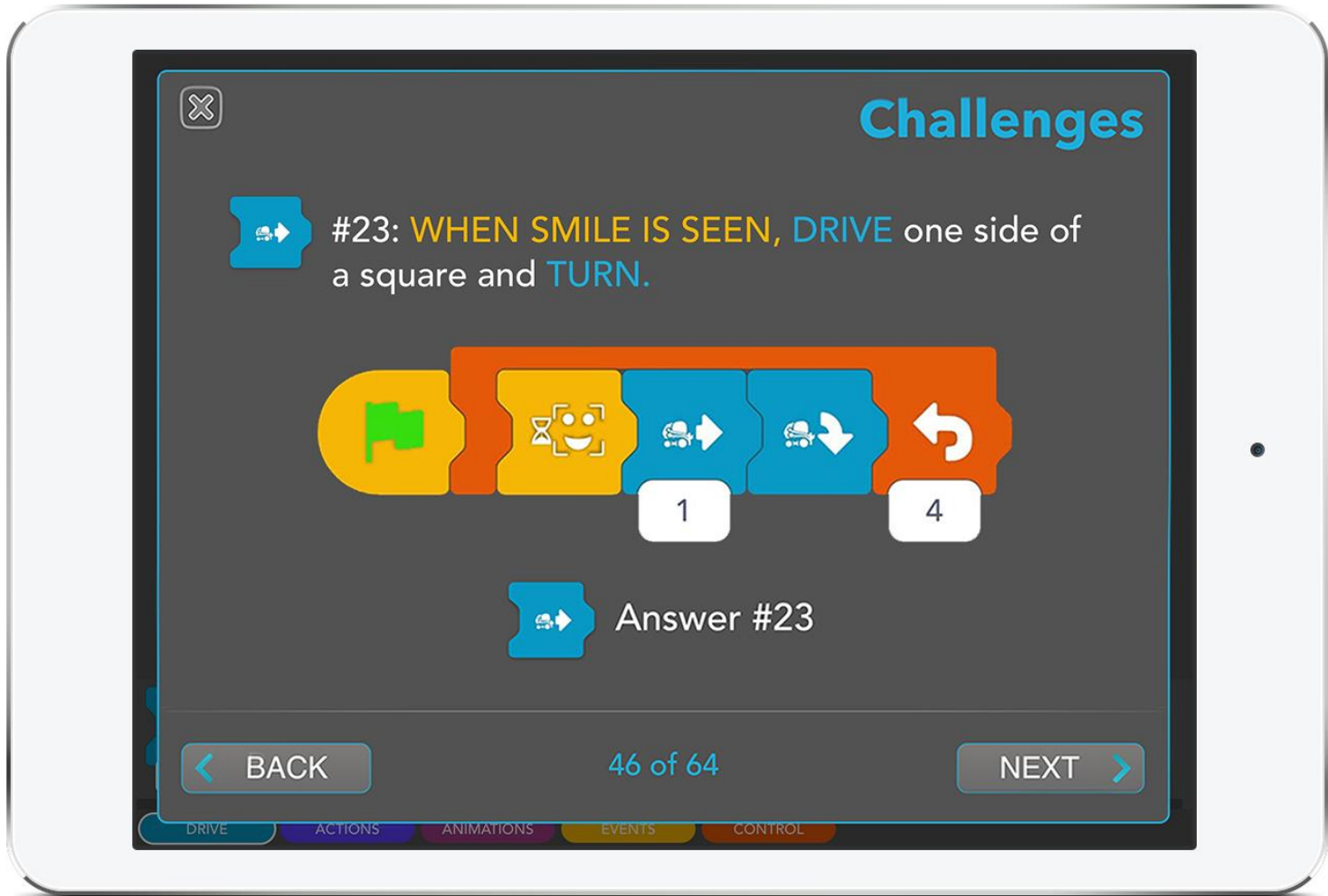
CONSTRUCTOR MODE











anki®

COZMO®  
+ Code Lab



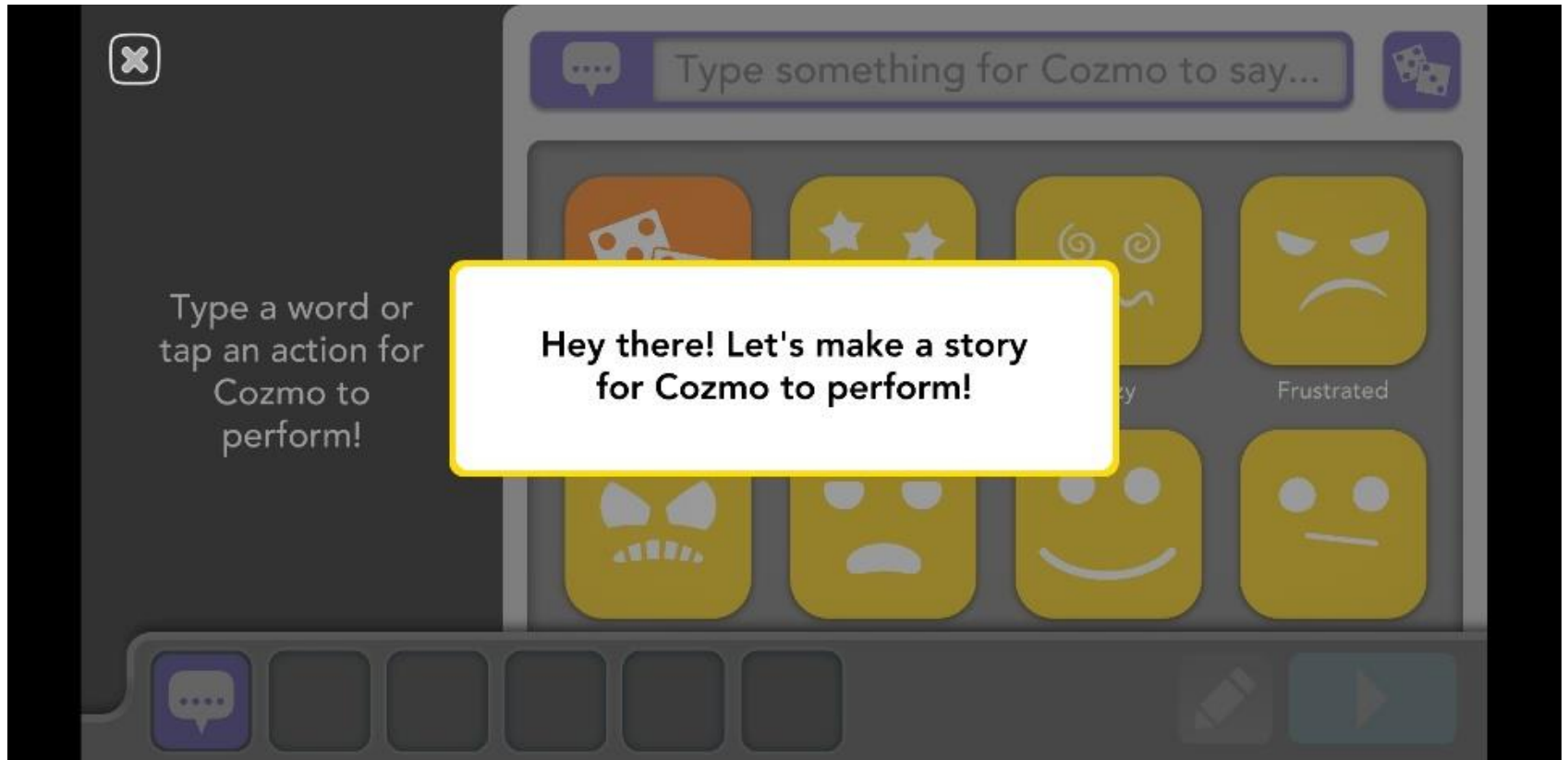
# Python Programming with Cozmo SDK

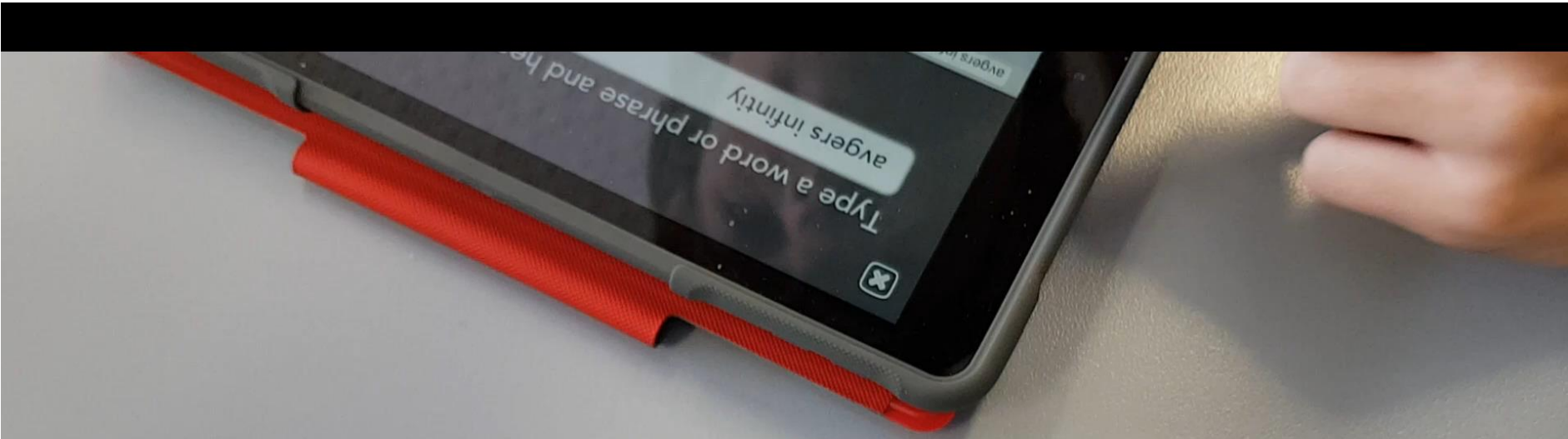


## What can I do with the SDK?

One of the key strengths of the Cozmo SDK platform is the versatility of the hardware and software. The pairing of a highly expressive and interactive robot with an easy-to-use programming language make it perfect for a vast spectrum of uses. Here are some ideas inspired by real-world projects to get you started.

# ...and more

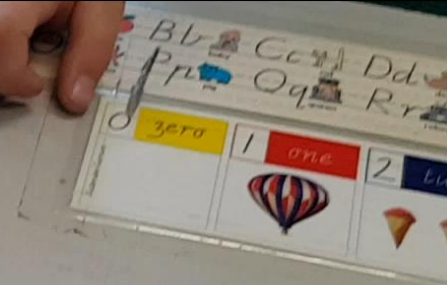




Video not available in PDF format.



# Socio-emotional Learning



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# In Summary

Cozmo can be used to teach the Digital Technologies in these four ways:

1. Digital Systems: Digital Systems in the Digital Technologies curriculum investigates the use of hardware and software to perform tasks. Cozmo requires a mobile phone or tablet device running Android or iOS operating systems. When a user chooses a task on the iPad, they can clearly see a response from the robot.

2. Representation of Data: Data can be represented in many forms and Cozmo's home screen shows information about his 'health'. Cozmo has a camera so you can see what Cozmo sees via the app. Also, students can monitor and observe Cozmo and record data on his movements and behaviours.





# In Summary

3. Computational Thinking: Thinking skills is a major theme in the entire Technologies curriculum and computational thinking is about codes, algorithms, and sequencing. Cozmo can be programmed to move, speak, and interact with the environment by sequencing blocks in the visual organiser. Cozmo can also be programmed using Python via a free Software Development Kit (SDK) provided by Anki.

4. Problem Solving: The ability to identify a problem and come up with (digital) solutions is another 21st century skill that this curriculum promotes. A benefit of being a physical object is that Cozmo, with his 'personality' can get into trouble, falling off tables, losing games, and wandering off. Students could build obstacles and problematic situations for him and then design solutions both physical (changes to the environment) and digital (code a series of movements).



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