

SCIENCE ^{OF} LEARNING

CONFERENCE 2025

Applying the Science of Learning with Technology



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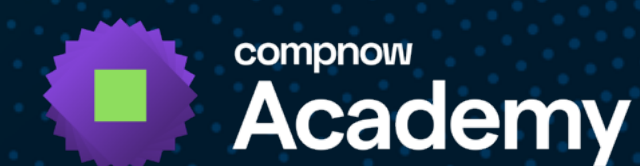
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Applying the Science of Learning with Technology



Benefits of Technology

- Reduce Cognitive Load
- Scaffold & Sequence Learning
- Alternative methods for Explicit Instruction
- Accessibility & Engagement
- Multimodal Feedback
- Foster Routines

Technology has become an integral aspect of our daily lives and we believe it is important that we strike a balance and also provide all learners with the skills to navigate the digital landscape as part of their learning journey.

Today, we'll only touch on a few ideas, but there are numerous ways technology can support the Science of Learning methodologies.



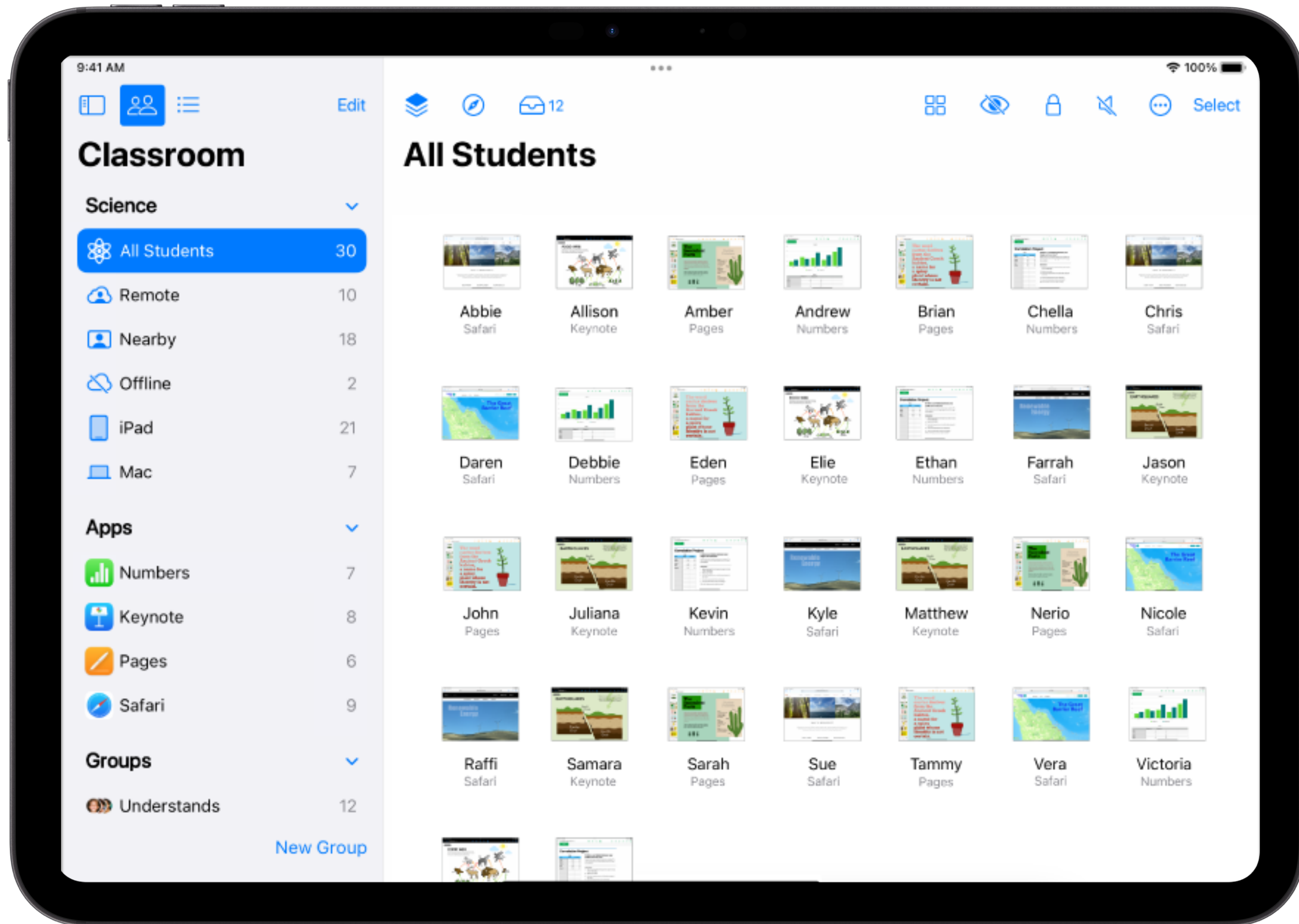
Monitoring Learning & Feedback

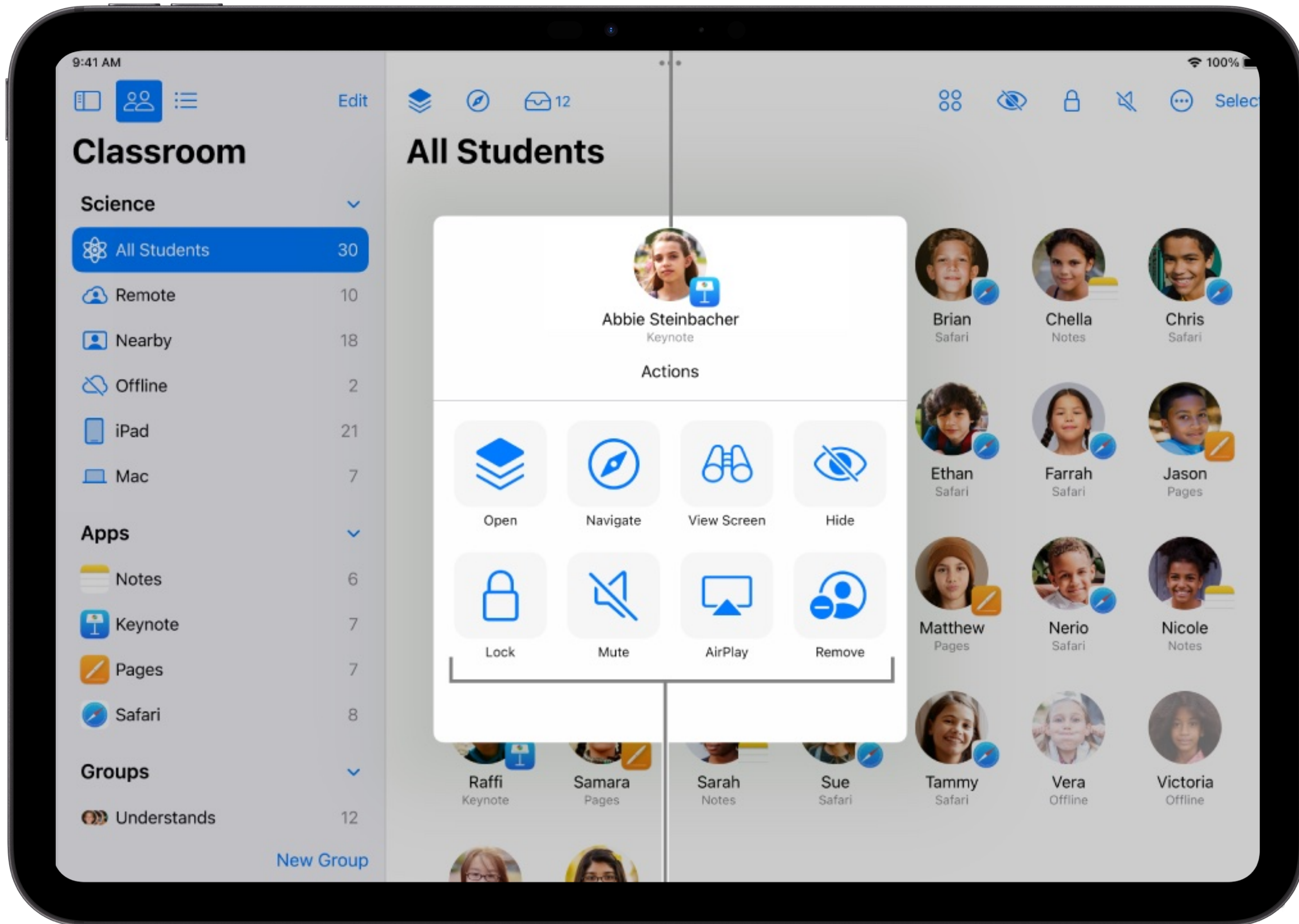
Apple Classroom

If your school uses iPad or Mac, Apple Classroom is an excellent tool to keep students focused and on track. Apple Classroom offers many features and benefits including the ability to monitor student progress and provide real-time feedback.

"Providing systematic feedback and corrections is crucial for student learning."

Barak Rosenshine





Apple Classroom

- View students progress in real time
- Take Screen Shots, annotate work and share back via Airdrop
- Capture whole-class screens to provide collective feedback
- Share student screens to the class for collaborative peer review or modelling examples of learning
- Group students for differentiation
- Launch applications & websites, share documents to whole class at once.
- Lock devices for transitions or class discussions
- View student activity at end of the lesson



Daily Review

Apple Classroom & Keynote

Daily reviews and check ins are the practice of consistently revisiting and reinforcing previously learned material daily or often.

This strategy helps solidify information, deepen understanding and retention of knowledge over time.

Keeping what you have learned fresh in your mind and in turn, making it easier to apply that learning in the future.

Daily reviews and check ins are also a powerful form of formative assessment ensuring that we as teachers know and understand where we are hitting the mark and what we need to plan to revisit.

"Daily review can strengthen previous learning and can lead to fluent recall."

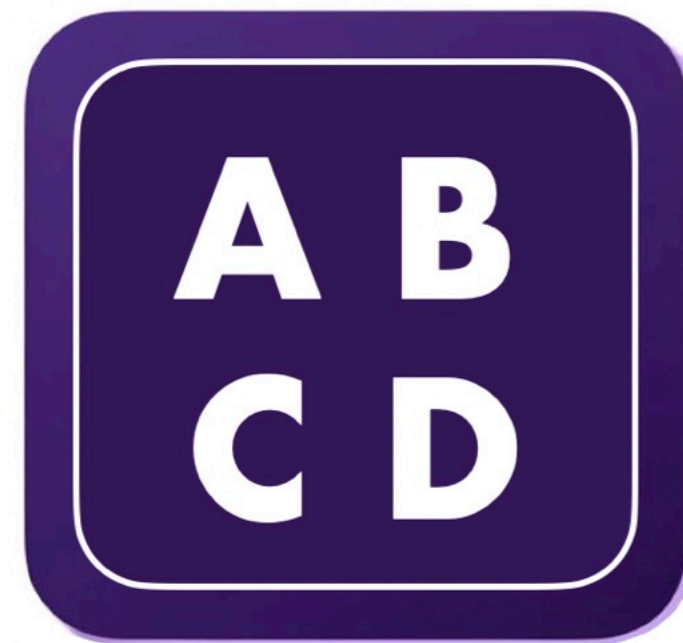
Barak Rosenshine

Technology can significantly enhance and streamline these processes, making them more efficient, engaging, and personalised.

By utilising digital tools, learners can stay consistent with their review routines and when used well can receive immediate feedback.



Reflect and Respond.



Choice



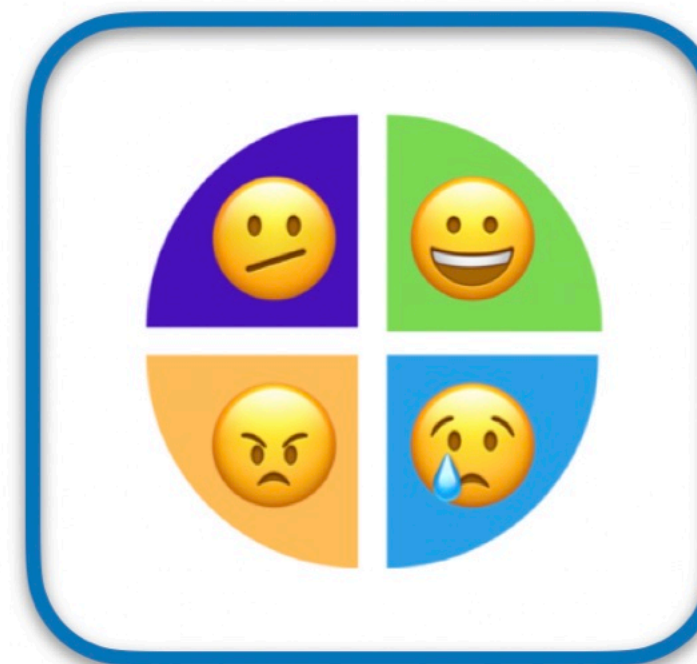
True/False



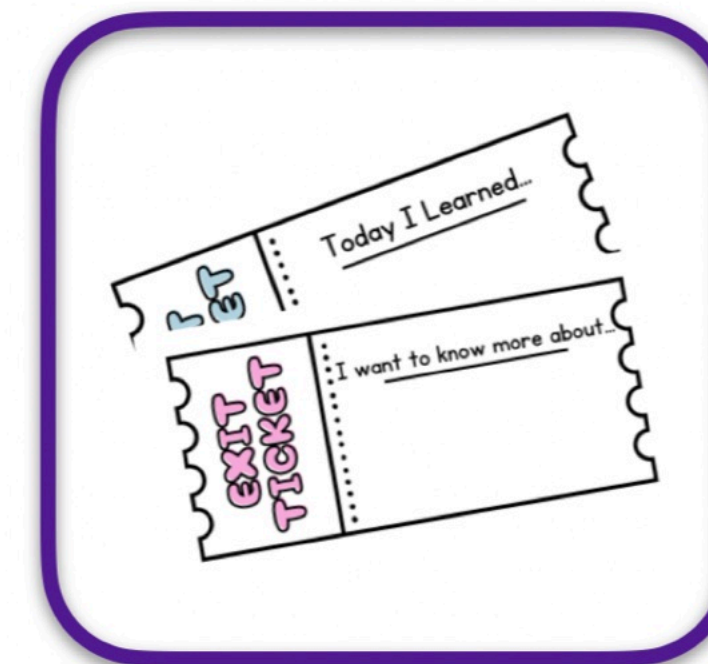
Whiteboard



Traffic Light



Feelings



Exit Ticket

Using technology for daily review and formative assessment supports the retention of learning through spaced repetition, immediate feedback, and the enablement of personalised learning.



Dual Coding

Freeform

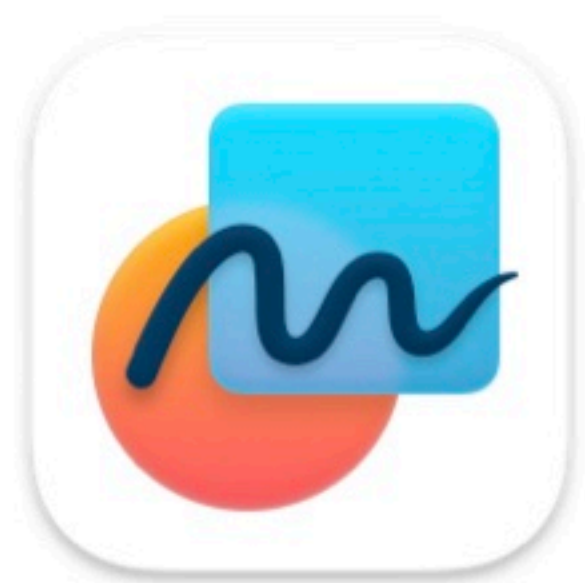
Freeform is a versatile tool where teachers and students can gather ideas freely, collaborate with others and get creative with the drawing tools. It is a great space to enhance learning through dual coding. Dual coding, which combines words and images, offers several benefits in learning.

Dual Coding improves retention and recall by presenting information both visually and verbally, helping students remember better.

Well-structured visuals, reduce cognitive overload making it easier to absorb and retain information.

“People learn more deeply from words and pictures than from words alone.”

Richard E Mayer



SATURN

It is the **second-largest planet** in our solar system, after Jupiter.

It is a **gas giant**, primarily composed of hydrogen and helium.

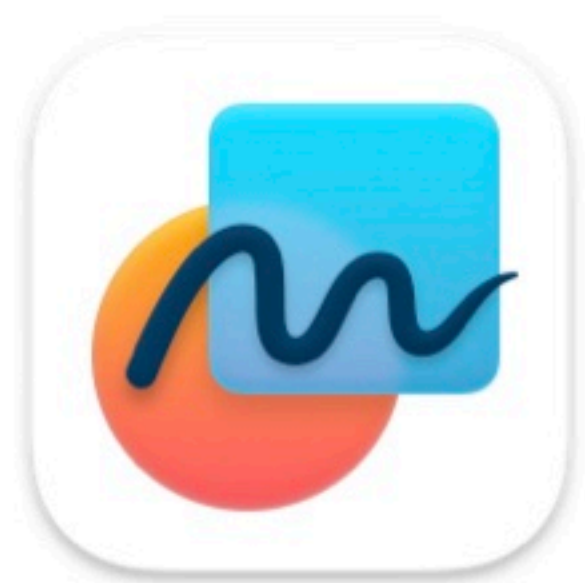


Saturn is famous for its stunning **ring system**, which is made up of ice and rock particles.

Saturn has over **80 moons**, with Titan being the largest and one of the most interesting due to its thick atmosphere.

It takes about **29.5 Earth years** for Saturn to complete one orbit around the Sun.

Saturn is the **sixth planet** from the Sun in our solar system.



9:41 AM Mon Sep 9 100%

< Structuring and Scaffolding Lessons

Structuring and Scaffolding Lessons

Sample Lesson: Rocks and Minerals

Activate	Learn	Reflect
Graphic organizers	Guided practice	Summary of learning video
Activating prior knowledge	Read, observe, and take notes	Exit ticket to show skills learned
Apps: Freeform or Keynote Product: KWL chart	Apps: Keynote and Notes Product: Lab notes	Apps: Keynote, Notes, and Photo Booth Product: Video Summary

70% ★

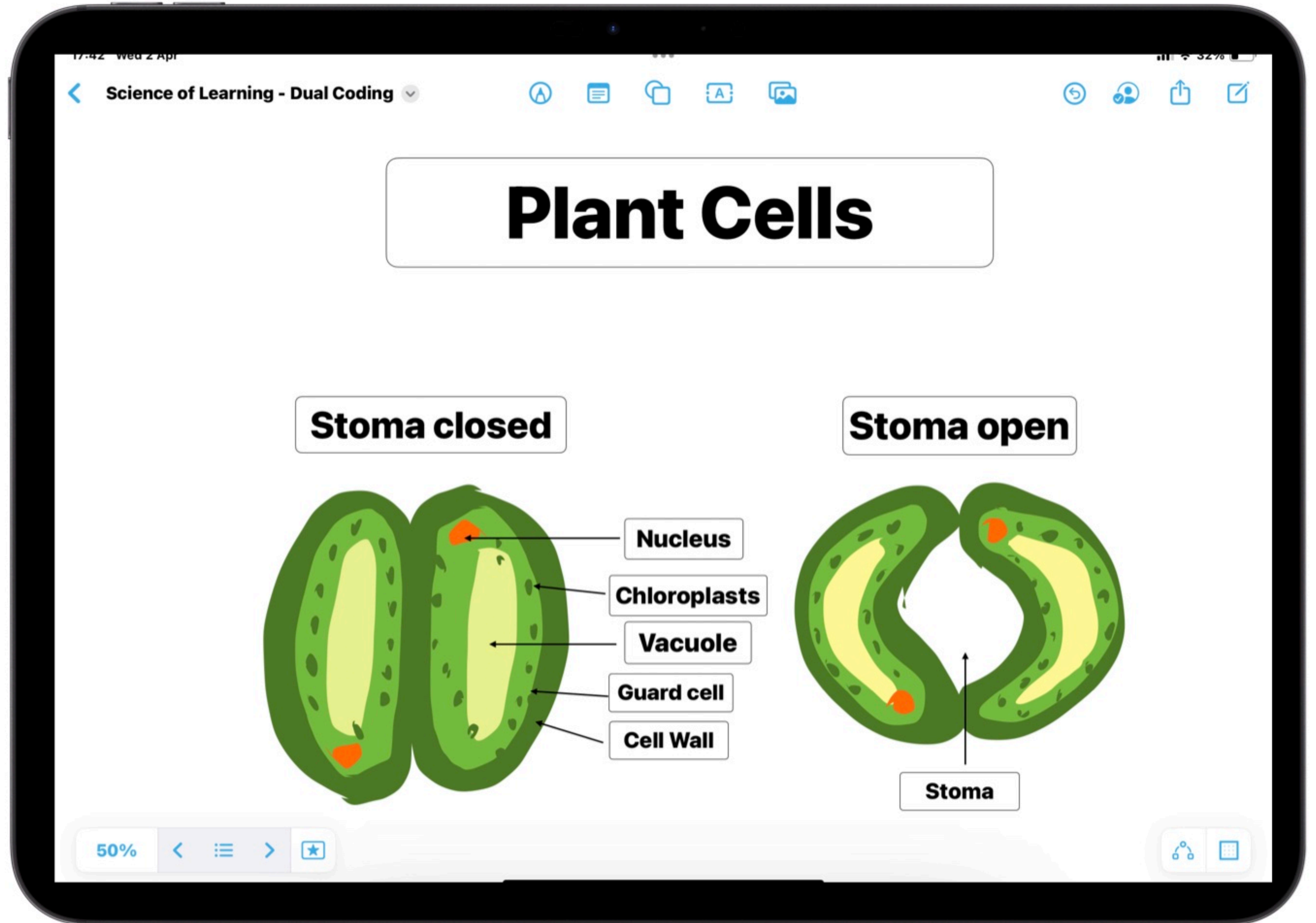
Know Want to know Learned

Identification
Open Notes and add your observations.

- Rock type
- List characteristics
- Other important details

Image of a hand holding a rock.

Image of a laptop screen showing a video summary.





17:42 Wed 2 Apr

Science of Learning - Dual Coding

94%

SKULL
Tap to View in AR

Brain CC
Approx. 500-800 cc

Tools
Stone Tools

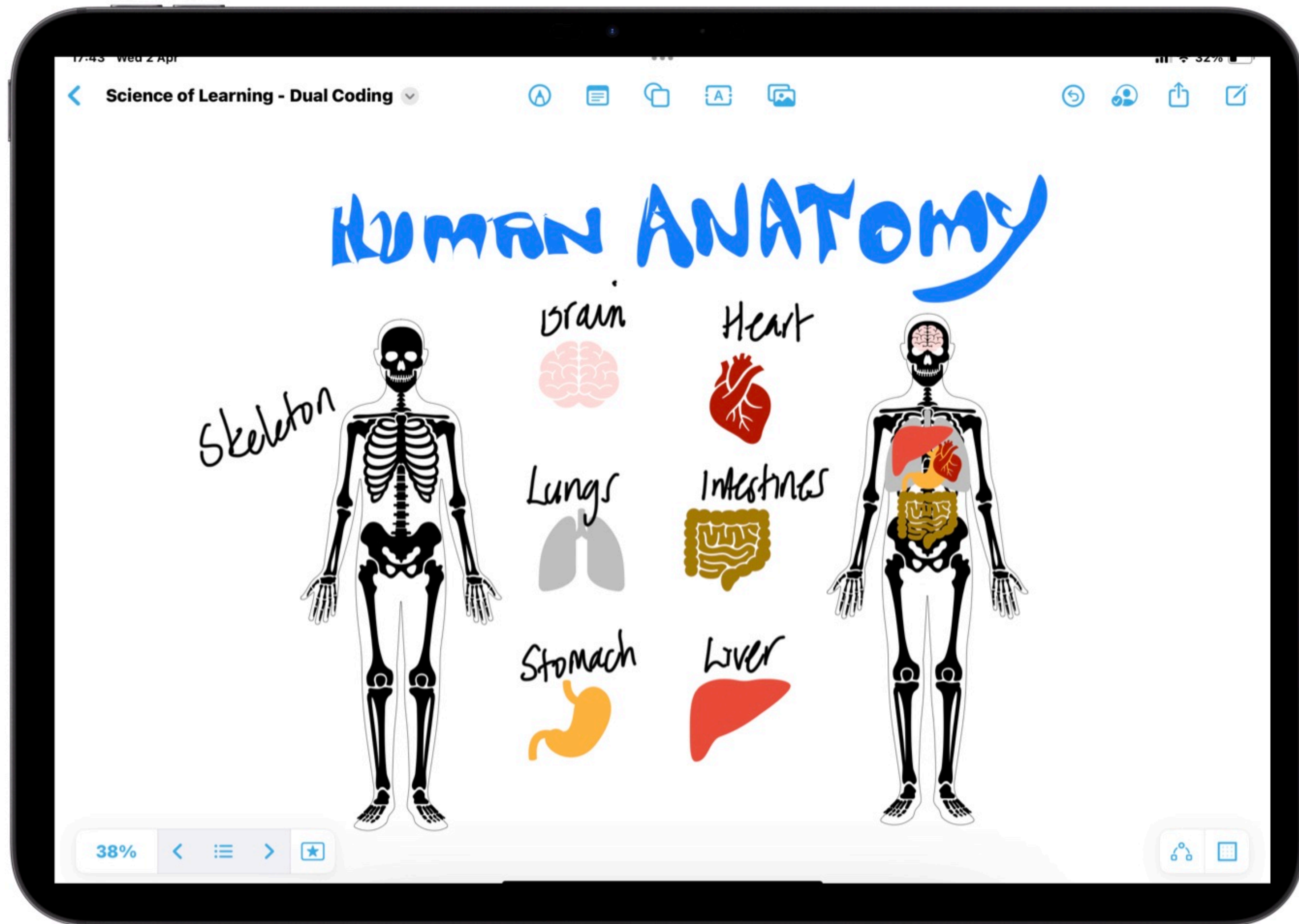
HEIGHT
100 - 135 cm
Males > Females

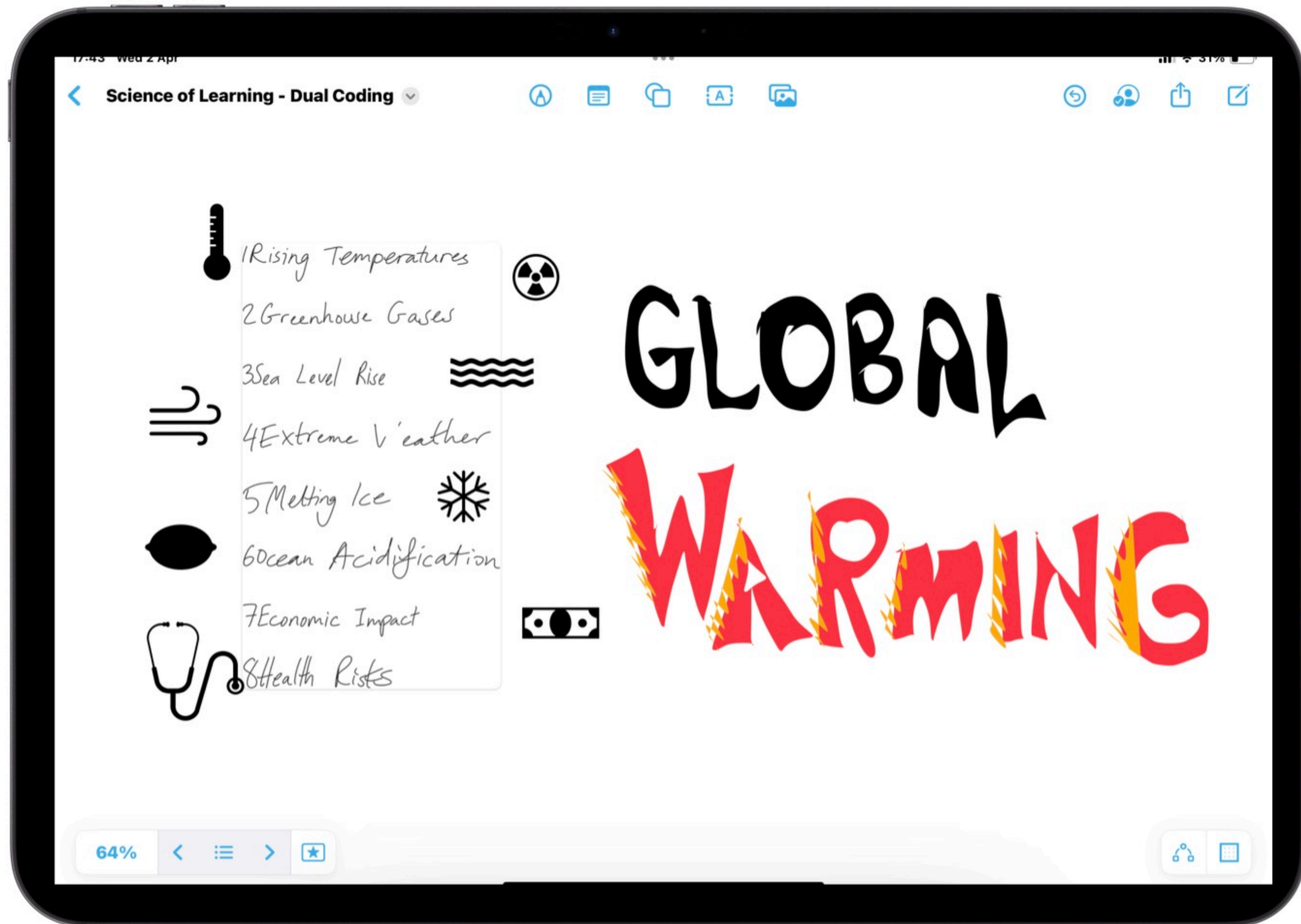
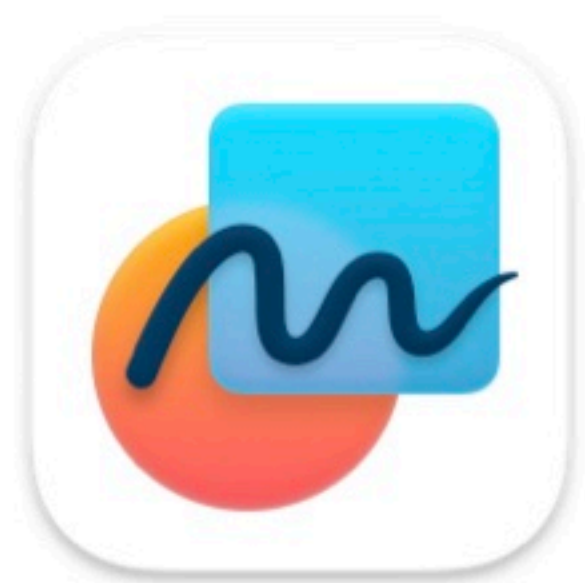
WEIGHT
32 kgs

FOOD
* leaves
* woody plants
* some animals

SHELTER
Open Grasslands + Trees

Tanzania MAP







17:42 Wed 2 Apr 33%

< Science of Learning - Dual Coding

What do we know already?

Insects are small
Some can fly
Some can walk

They are in our garden

Research

INSECTS

QUESTIONS

How many legs?

Insects have 6 legs

What do ladybugs eat?

Insects are the largest group of animals!

Backyard BUGS

Backyard Bugs | Mr Storyteller

Insect Song

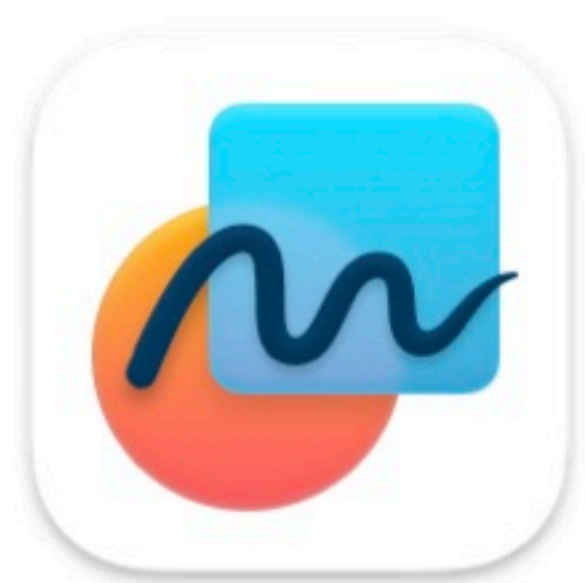
25 cool facts about bugs!

river

50%

< > ☆

Share Grid



17:44 Wed 2 Apr 30%

< Science of Learning - Dual Coding

Hamburger Paragraph

Topic Sentence

Supporting Detail #1

Supporting Detail #2

Supporting Detail #3

Conclusion






81% < ☰ > ★





🔗 📄




17:43 Wed 2 Apr

Science of Learning - Dual Coding






Compare & Contrast



Whales

- Live birth
- Breathe air
- Have hair



Fish





- Lay eggs
- Breathe water
- Have scales



Can swim

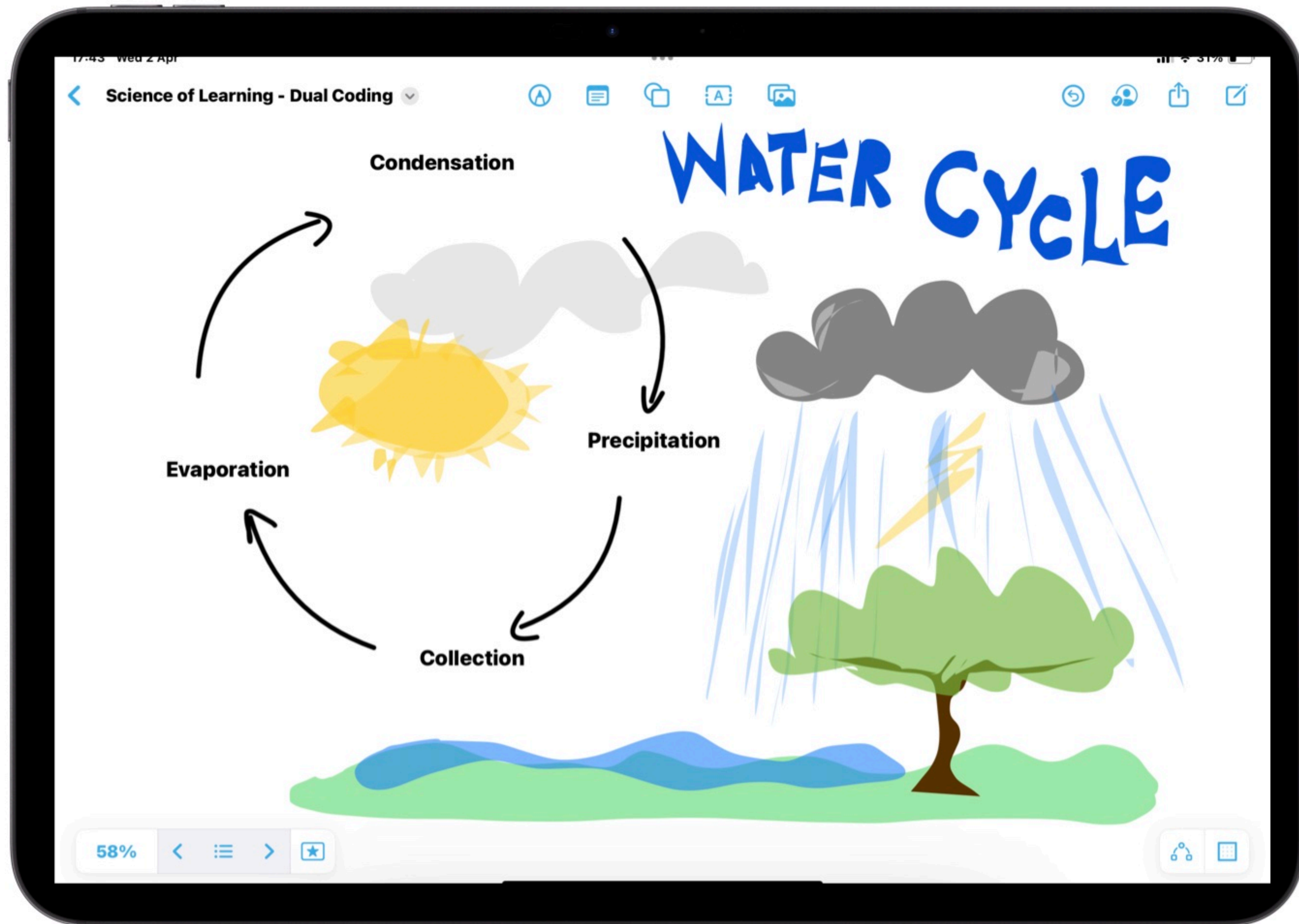
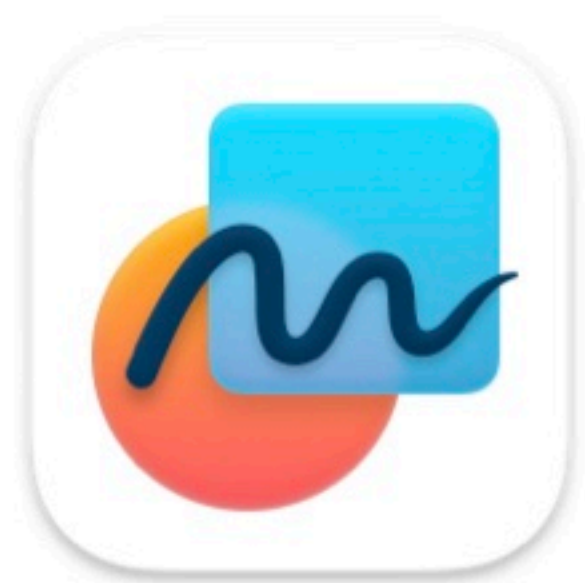
Live in water

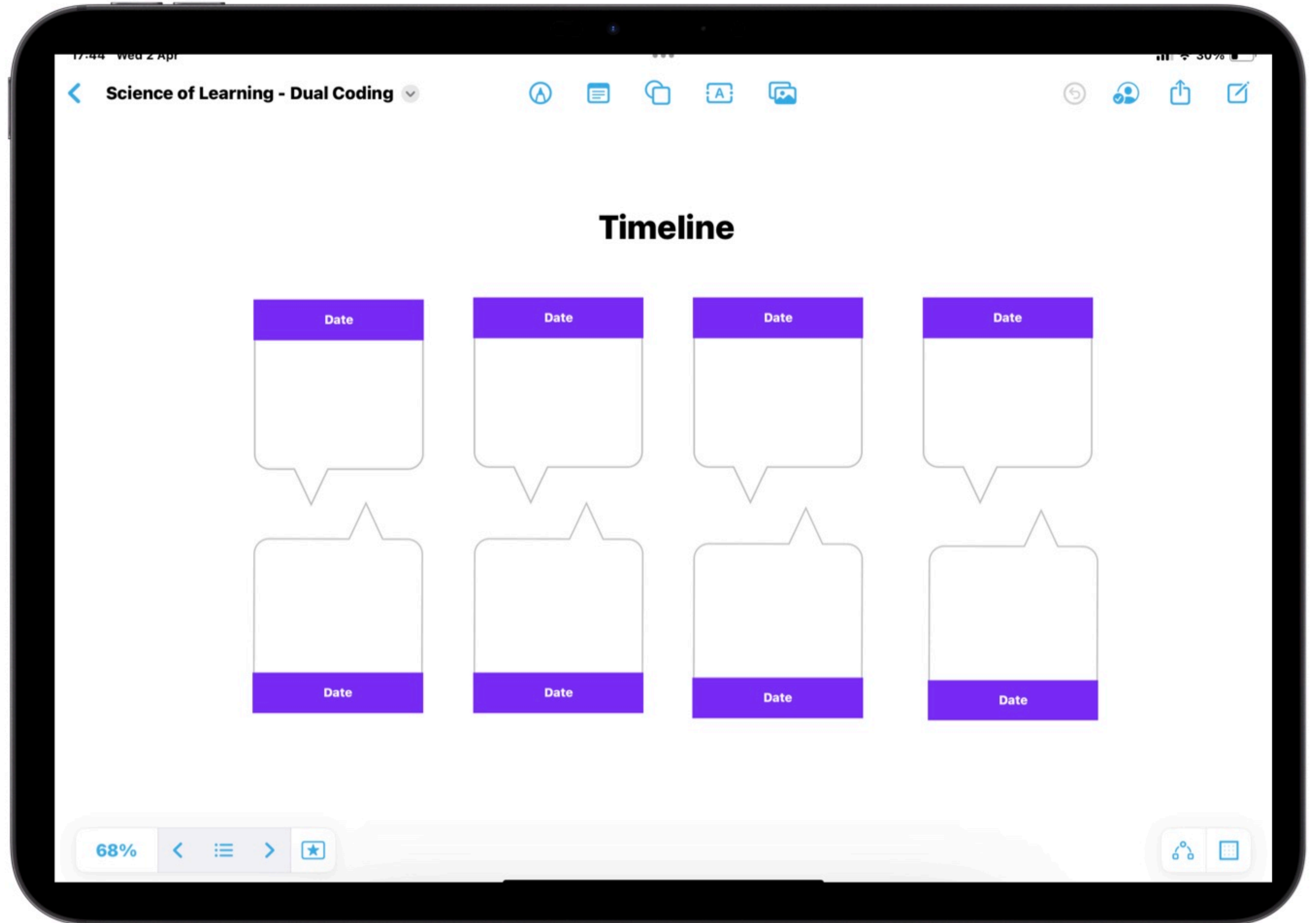
Have fins

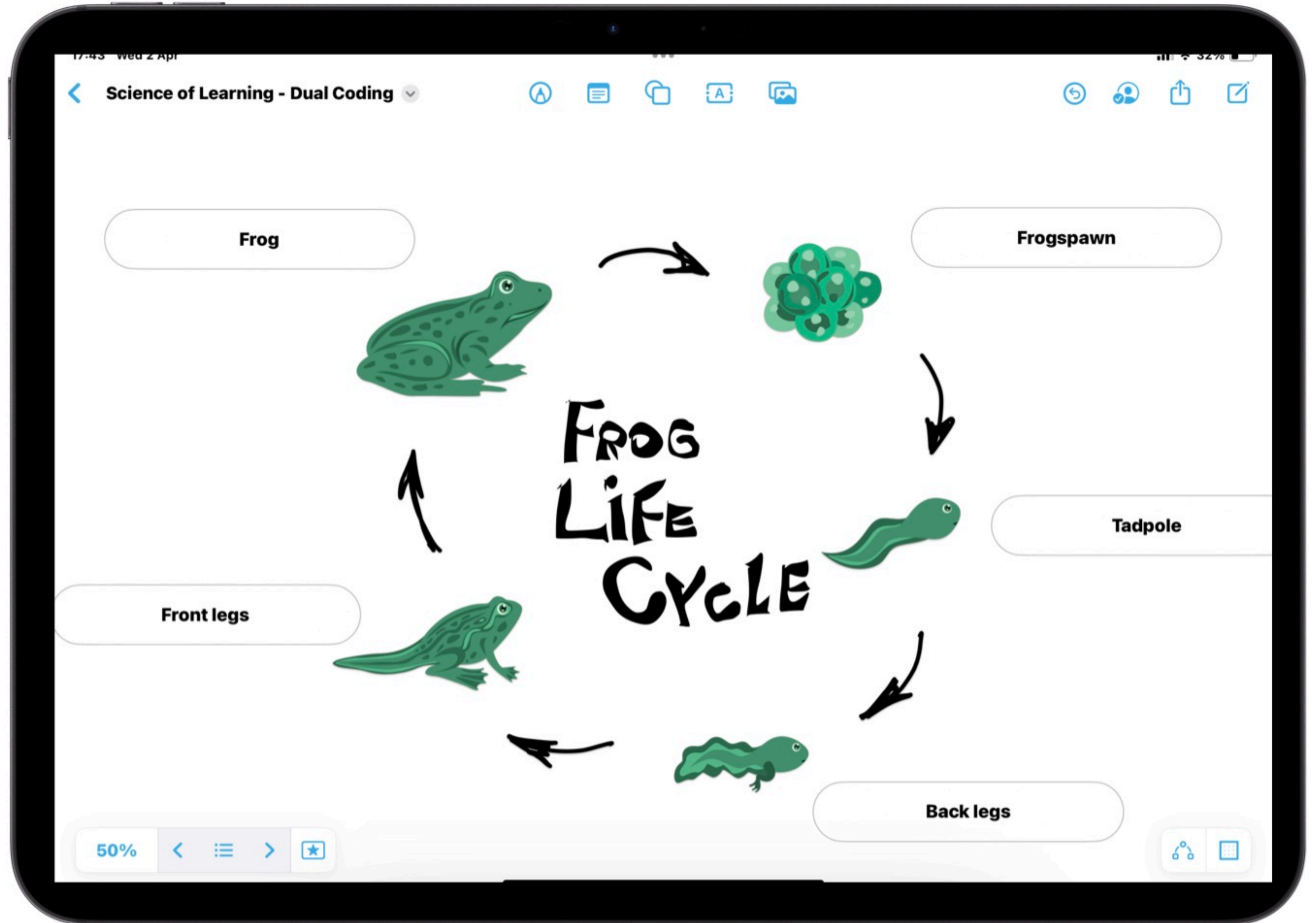
100%

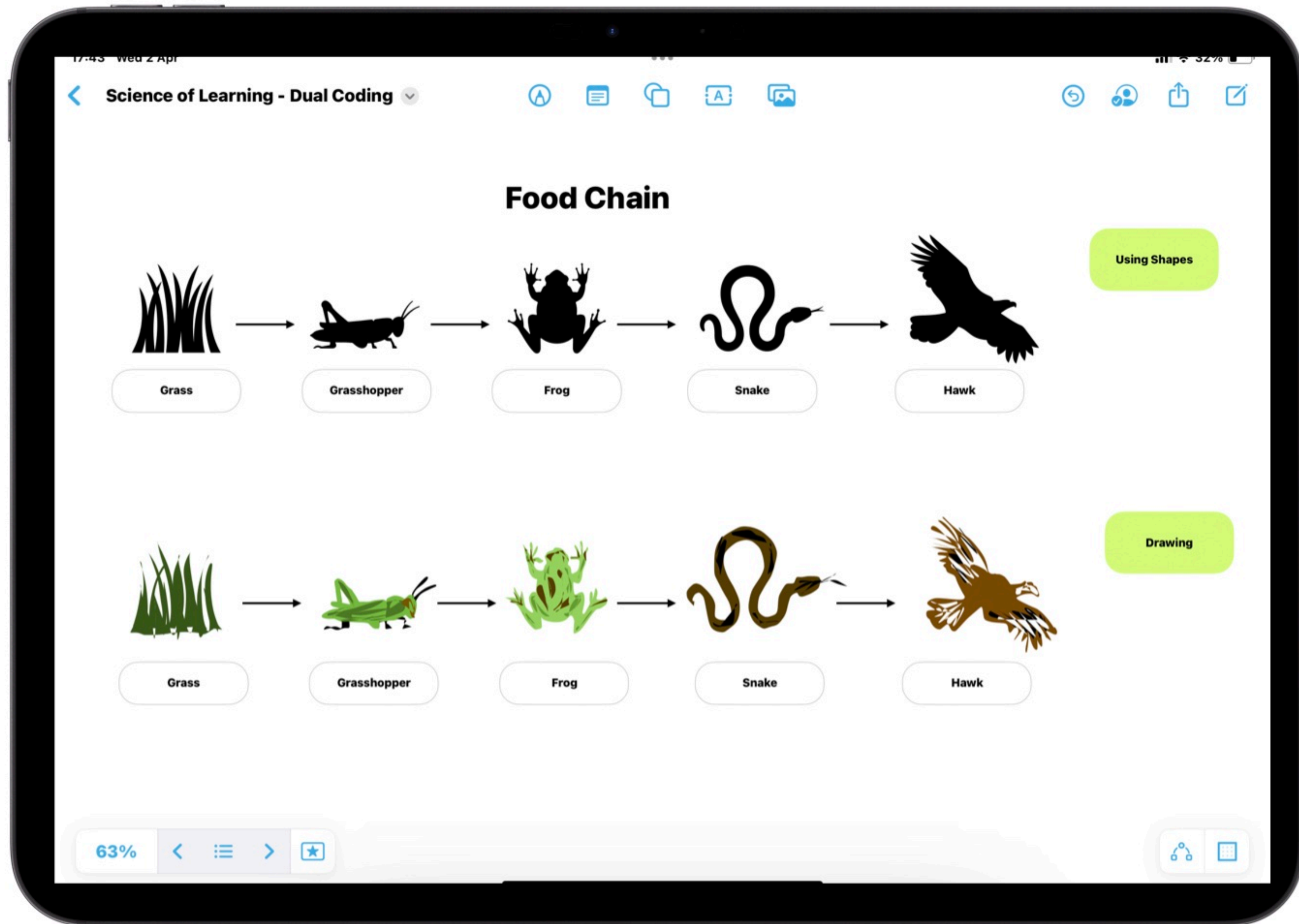
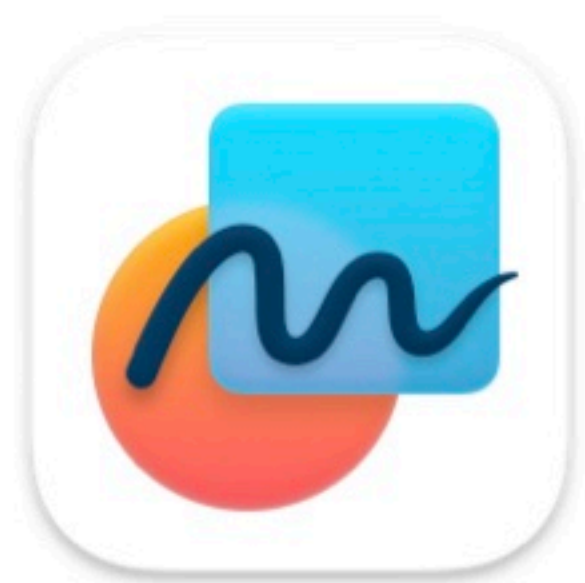


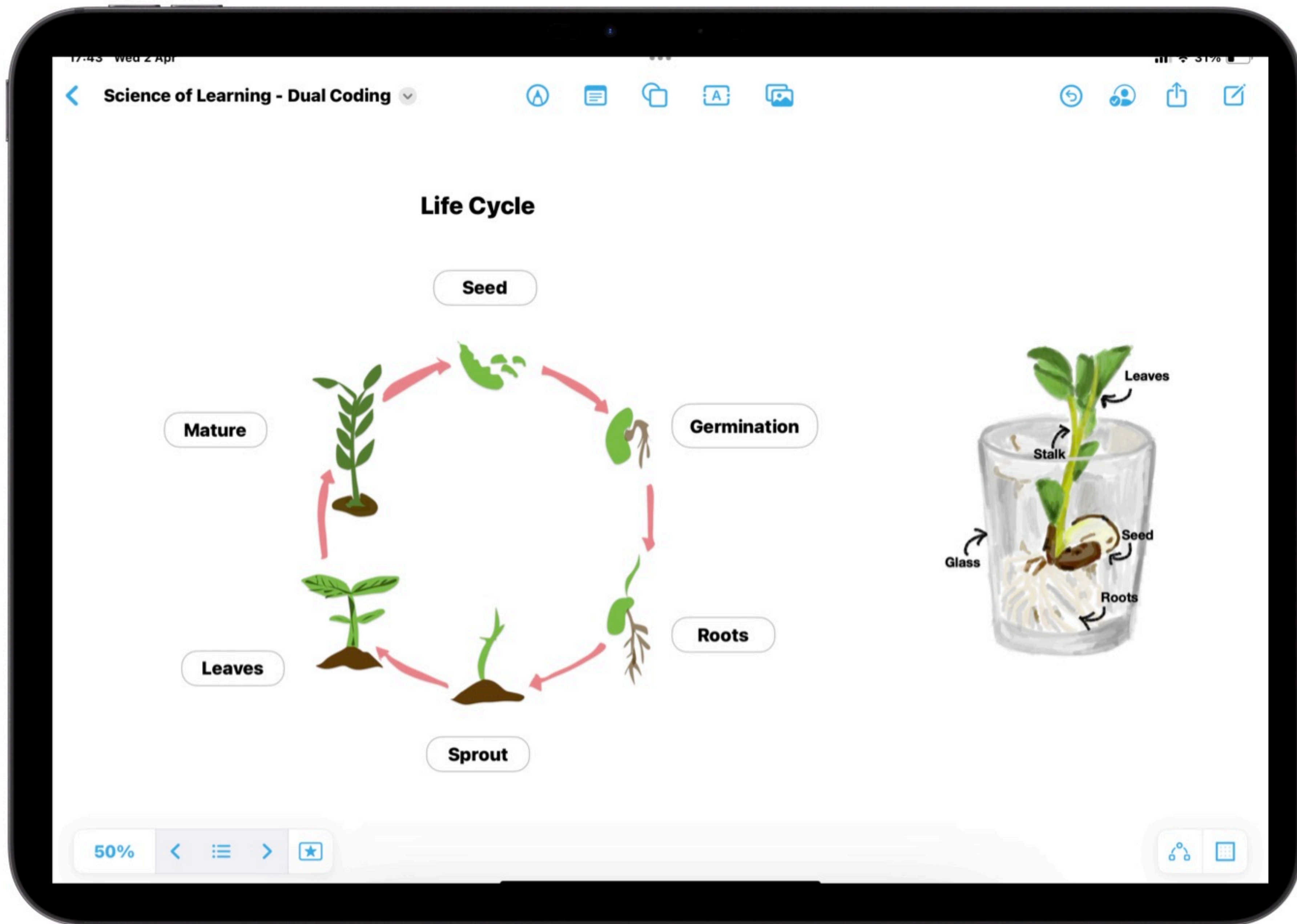
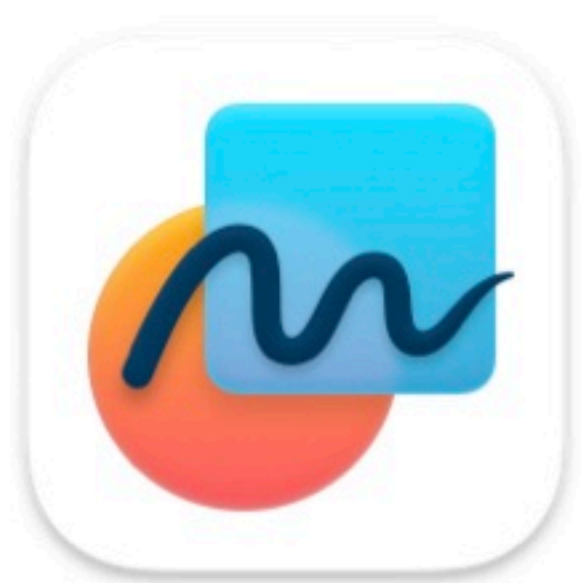


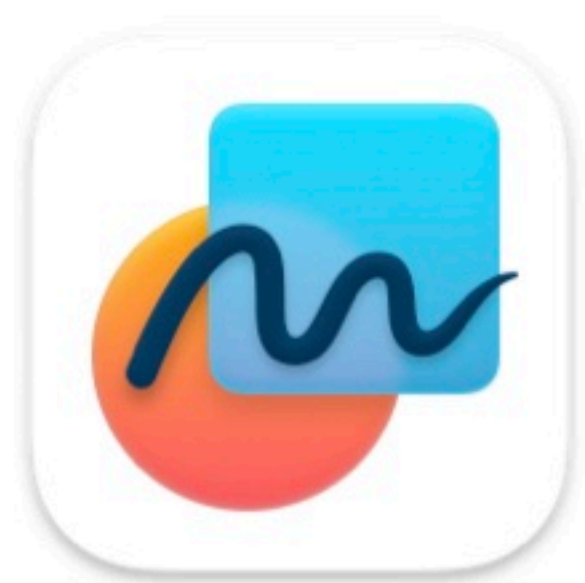












Freeform File Edit Insert Format Arrange View Window Help Thu 3 Apr 10:03

Logger Head Turtle

Scientific name: *Caretta caretta*
Family name: Cheloniidae
Classification: Reptile
IUCN status: Vulnerable
Lifespan (in wild): 50+ years
Weight: 115kg
Body length: 90cm
Diet: Omnivores, but mostly jellyfish, molluscs and crustaceans
Habitat: Oceans

Sea Turtle

Beak

Eye

Flipper

Claw

Shell

Tail

Freeform app provides an endless space to create 'Boards' for brainstorming, collaborating, lesson planning or scaffolding learning experiences. You can draw, add text and use a wide range of predefined shapes, add photos, videos and other types of files to make it a truly multi-modal resource that caters for multiple learner 'entry levels'. Graphic organisers, infographics, timelines, and diagrams are easy to create visually to support learning, retention, and retrieval of information.

For teachers, Freeform offers a dynamic platform to create engaging content that combines text and visuals, making complex concepts easier to understand. For students, it provides an intuitive space to create their own visual aids, helping them to better process and retain information through drawing, annotating, and organising their thoughts visually.

The Freeform canvas expands as you add content, so you're never constrained by space limits or page formatting and a new features 'Scenes' helps to focus on particular areas of the canvas as required.




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Followup Resources



Scan QR code



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