

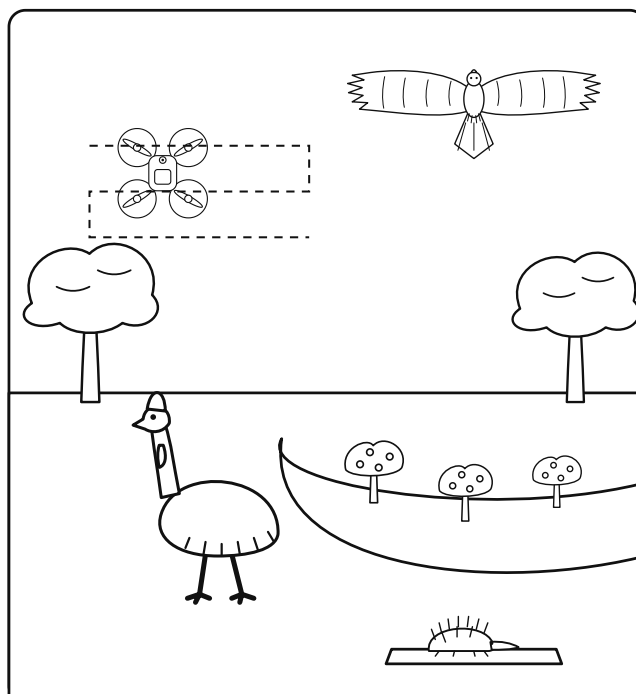


Printable pack
Level 4 · Year 6
No internet needed

AI FIRST NATIONS · DRONE KNOWLEDGE ON COUNTRY

NGARRAKAN NGARDIJI

LEVEL 4 · MAPPING COUNTRY · GOONDOI'S MAP



1 · Teacher guide and pathway

2 · Story to read aloud

3 · Rules

4 · Colour & Create

5 · Match-up

6 · Quiz

7 · Quiz answers

8 · Certificate



PAGE 1 • FOR TEACHERS AND ELDERS

LEVEL 4 TEACHER GUIDE

Level 4: Mapping Country. The rangers need a map of pond apple weeds. Goondoi, the cassowary, shows Ngarrakan where the weeds grow, and Kiki plans her first mapping flight. Echidna stays safe under a log. This level teaches planning and flying a mapping mission.

Time	What happens	Page
5 min	Acknowledgement of Country. Invite an Elder or ranger to share the local names for the animals in today's story.	—
10 min	Read the story aloud, or play it on a screen. Stop at each scene and yarn about it.	2
10 min	Rules. Read them together and link each rule to the story.	3
15 min	Colour & Create, and the match-up.	4, 5
10 min	Quiz, marked together.	6, 7
10 min	Certificate. If flying is planned, run the pre-flight checklist with the instructor.	8

THE PATHWAY: SAME SIX STEPS, YEAR 3 TO YEAR 12

Every level: **1 Story • 2 Rules • 3 Colour & Create • 4 Match-up • 5 Quiz • 6 Certificate.**

Lvl	Years	Level and story	CASA focus
1	Year 3	First Flight The Pilot and the Spotter	Keep the drone in sight • no higher than 120 m • 30 m from people • daylight only • never over people.
2	Year 4	Safe Flight Storm Coming	Weather and wind limits • battery reserve • Return to Home • lost signal • keep clear of emergencies.
3	Year 5	Eyes in the Sky Crocodile Says Keep Back	Keep distance from wildlife • privacy • no filming people without asking • camera settings with a purpose.
4	Year 6	Mapping Country Goondoi's Map	Planned missions • overlap • battery planning • instructor holds the controls for automated flights.
5	Year 7 to 8	Sharing the Sky Fire on the Hill	Airports and 5.5 km • CASA-verified drone safety apps • NOTAMs • registration • give way to crewed aircraft.
6	Year 9 to 10	AI on Country Dugong and the Counting Machine	Data from commercial flights under a ReOC • storing data safely • human checks on AI results.
7	Year 11 to 12	Careers in the Sky Kiki Earns Her Wings	Operator accreditation (16+) • RePL • ReOC • registration • job safety analysis • client briefs.

Flights in AI First Nations classes run under ReOC CASA.ReOC.8979 with the instructor in charge. Students under 16 always fly under supervision. Culture: Maps of Country are shared only with the people who own that Country.



PAGE 2 • STORY

GOONDOI'S MAP

Read this aloud to the class. On a screen, the same story plays as an animation.

1

The rangers need a map of pond apple, a weed that chokes the wetlands. Ngarrakan asks Goondoi, the cassowary, where it grows.

2

Kiki plans her first mapping mission on the tablet: a grid of straight lines over the swamp, with photos that overlap.

3

For automated flights, Pop Pop holds the controller. The drone flies up and back along the grid while KK spots.

4

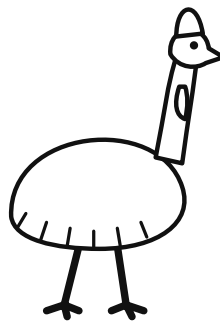
Echidna is resting under a log. The drone stays high and steady, so Echidna isn't disturbed.

5

Back at base, all the photos are joined into one map, called an orthomosaic. The pond apple patches show up clearly.

6

The map goes only to the rangers and Traditional Owners, so they can treat the weeds. Goondoi's swamp can breathe again.



Yarn about it: How did Goondoi help Ngarrakan find the weeds? Why did the drone stay high over Echidna? What would you like to map on your Country, and who would you ask?



1

Plan the area with rangers and Traditional Owners

Agree on where to map, and which places stay off the map.

2

Fly a grid pattern

Mapping flights go up and back in straight lines, like mowing a lawn.

3

Overlap your photos

Each photo shares about three quarters of its view with the next, so the computer can join them.

4

Keep the same height

Fly the whole mission at one height so the map is even.

5

Plan your batteries

Split big areas into smaller missions. Never start a line you can't finish.

6

The instructor holds the controller for automated flights

Students plan, watch and spot. The pilot in command can take over at any time.

7

Check accuracy

Ground markers or RTK GPS make the map line up with the real ground.

8

Maps belong to Country

Share maps only with the people who own that Country, and keep cultural sites off shared maps.

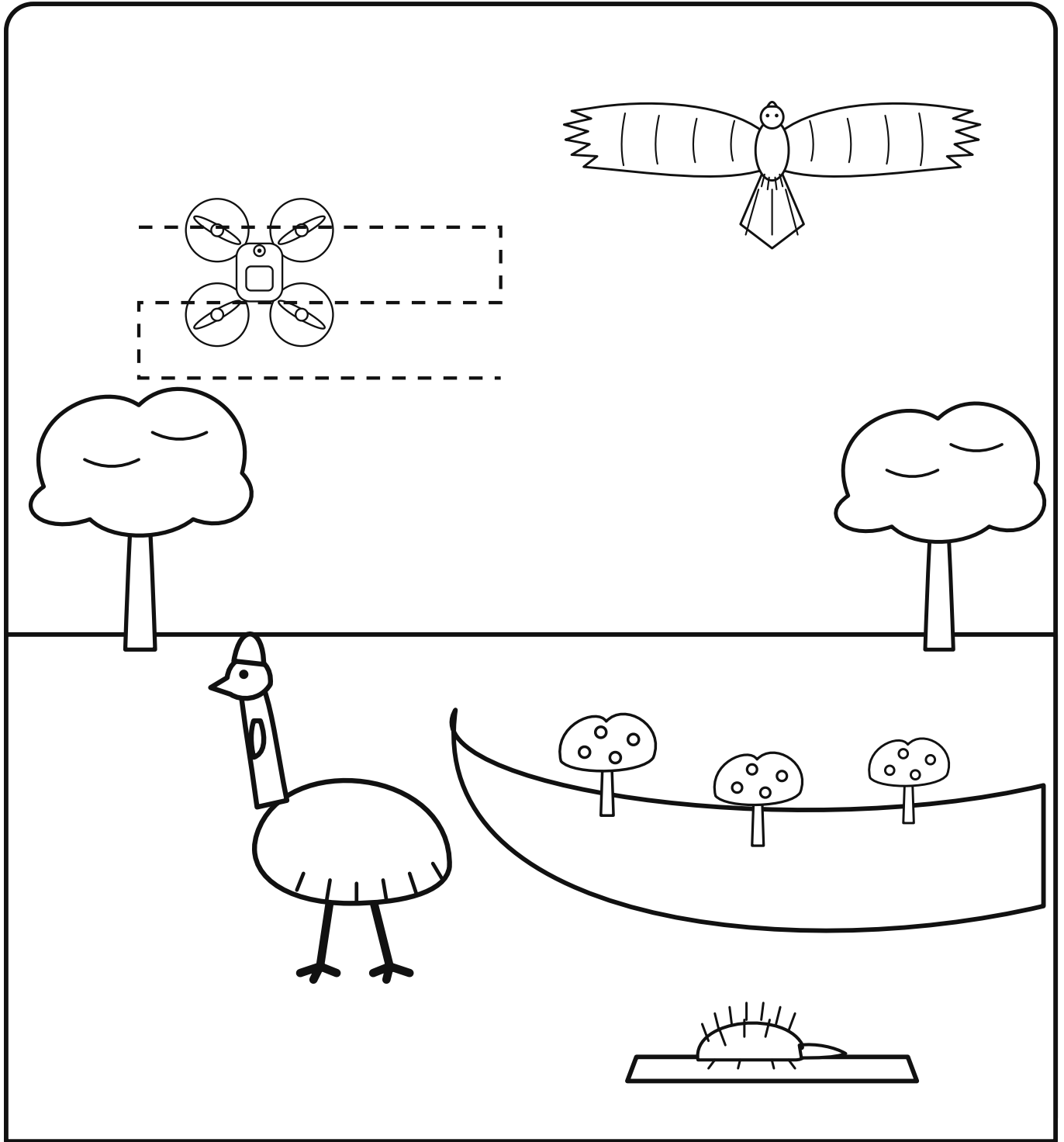
Rules can change. Check casa.gov.au and a CASA-verified drone safety app before every flight. AI First Nations flights run under ReOC CASA.ReOC.8979.



PAGE 4 • COLOUR & CREATE
GOONDOI'S MAP

Name: _____

Year: _____



Colour the picture with the colours of your Country. **Create:** add one more animal or plant from your Country, and write its name in your language if you know it.



PAGE 5 • MATCH-UP

MAPPING COUNTRY

Name: _____

Year: _____

Draw a line from each item on the left to its match on the right.

MAPPING WORD

WHAT IT MEANS

Grid •

• Many photos joined into one map

Overlap •

• Photos share part of the same view

Orthomosaic •

• Flying up and back in straight lines

RTK GPS •

• A marked point that checks the map lines up

Battery plan •

• Splitting a big area into smaller flights

Ground marker •

• Very exact location, to a few centimetres

Create: write or draw how today's rules help care for Country.



PAGE 6 • QUIZ
LEVEL 4 QUIZ

Name: _____

Year: _____

Tick one box for each question.

1. What pattern does a mapping drone fly?

- ☐ Circles ☐ Any way it likes ☐ A grid, up and back in lines

2. Why do photos need to overlap?

- ☐ So the computer can join them into one map ☐ To use more memory
☐ It looks nice

3. What is an orthomosaic?

- ☐ A weather report ☐ Many photos joined into one map
☐ A type of drone

4. Who holds the controller during an automated mapping flight in class?

- ☐ Nobody ☐ The youngest student ☐ The instructor

5. The area is too big for one battery. What do you do?

- ☐ Split it into smaller missions ☐ Fly faster ☐ Skip the edges

6. Why keep the same height for the whole mission?

- ☐ It doesn't matter ☐ So the map is even ☐ To save colours

7. Who should the finished map be shared with?

- ☐ Everyone online ☐ Nobody ever
☐ The people who own that Country

8. What do rangers use maps of pond apple for?

- ☐ To find and treat the weeds ☐ To plant more pond apple
☐ For fun only

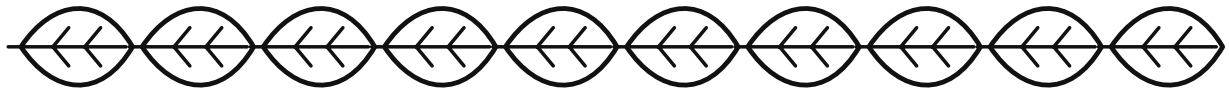


PAGE 7 • FOR TEACHERS

QUIZ ANSWERS

1	A grid, up and back in lines
2	So the computer can join them into one map
3	Many photos joined into one map
4	The instructor
5	Split it into smaller missions
6	So the map is even
7	The people who own that Country
8	To find and treat the weeds

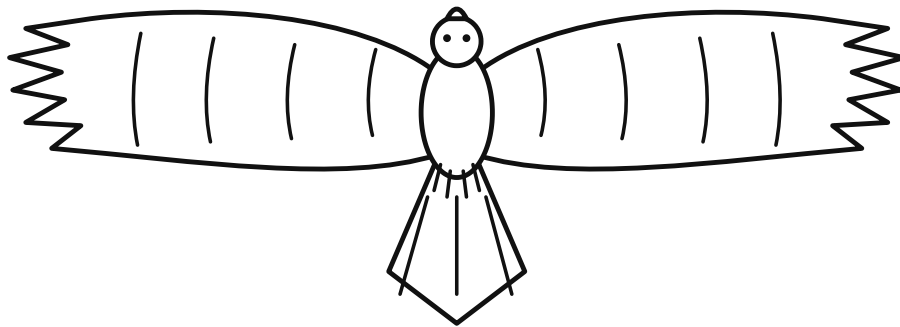
Match-up answers: Grid → Flying up and back in straight lines · Overlap → Photos share part of the same view · Orthomosaic → Many photos joined into one map · RTK GPS → Very exact location, to a few centimetres · Battery plan → Splitting a big area into smaller flights · Ground marker → A marked point that checks the map lines up.



AI FIRST NATIONS • DRONE KNOWLEDGE ON COUNTRY

NGARRAKAN NGARDIJI

LEVEL 4 • MAPPING COUNTRY



This certifies that

has completed Level 4 of Ngarrakan Ngardiji: planning and flying a mapping mission,
following the Civil Aviation Safety Authority (CASA) drone safety rules.

School or community

Date

John Fejo, Founder & Chief Remote Pilot
AI First Nations • CASA ReOC
CASA.ReOC.8979

Teacher, Elder or ranger

