

First game / Keep this READY list

Use these eight animals from the included22. Store the others. Full setup follows on RULES1.

READY · 8 animals

Begin here.

Keep these together for
replay.

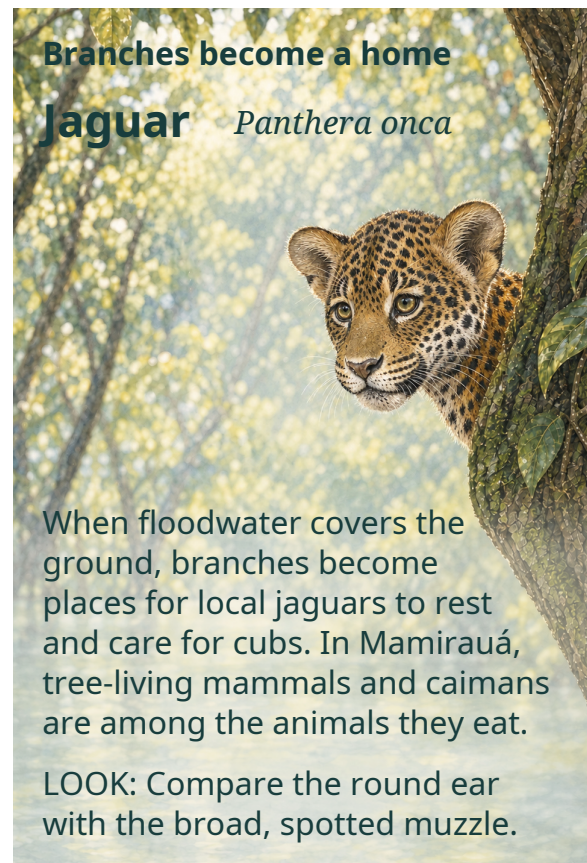
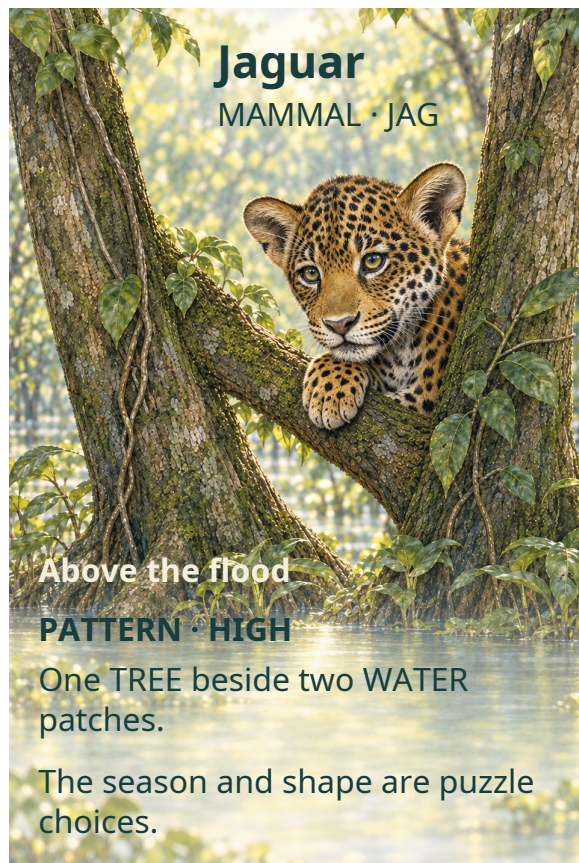
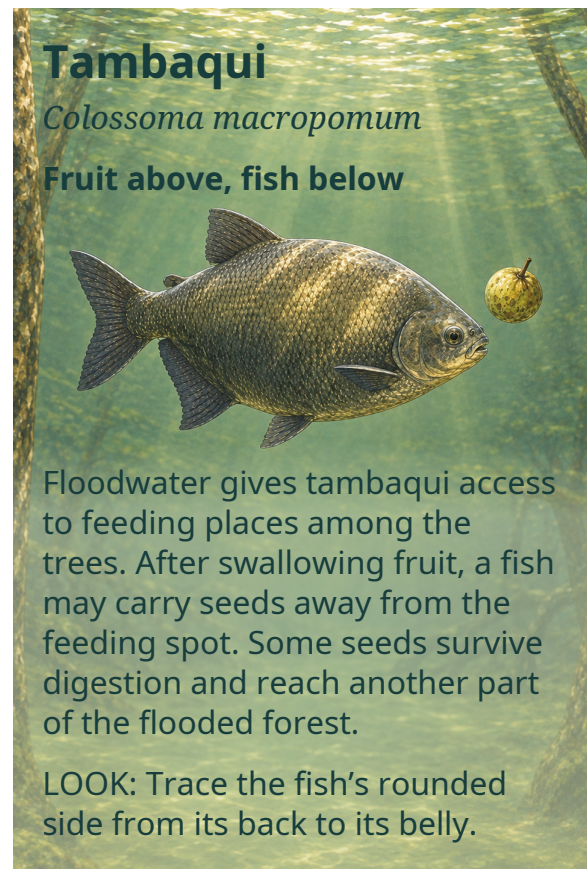
Restore READY

Find these eight card IDs:

TAM · JAG · HOA · KNI
PRO · PIR · BOT · UAK

Animal cards TAM, JAG

Trim each face. Join each matching pair back to back; lettering stays upright.



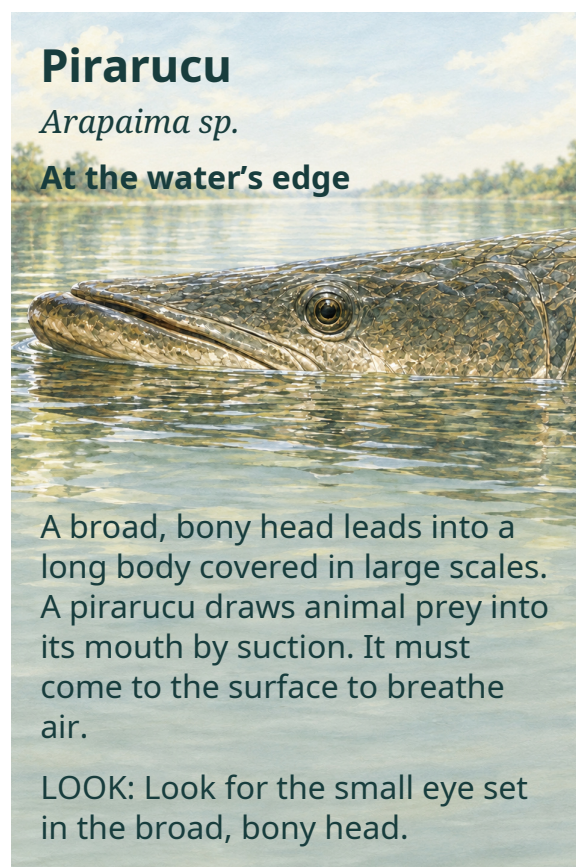
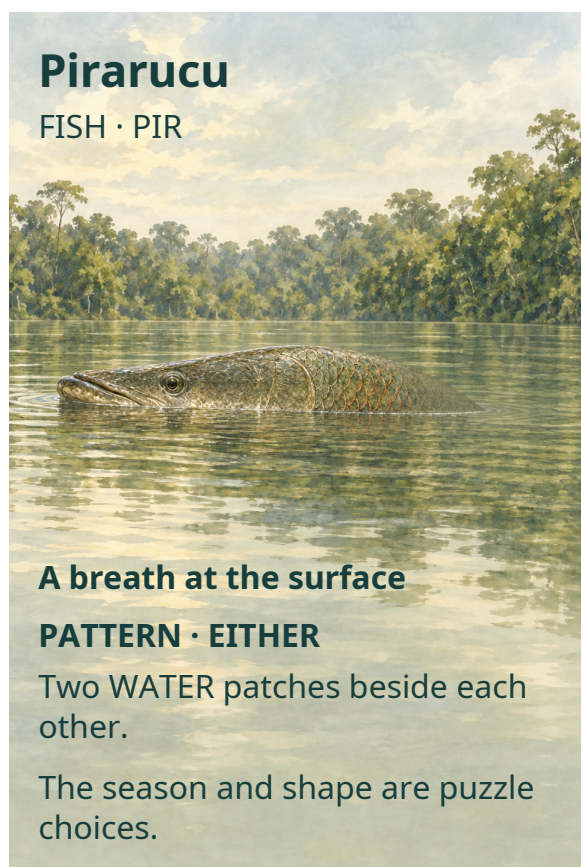
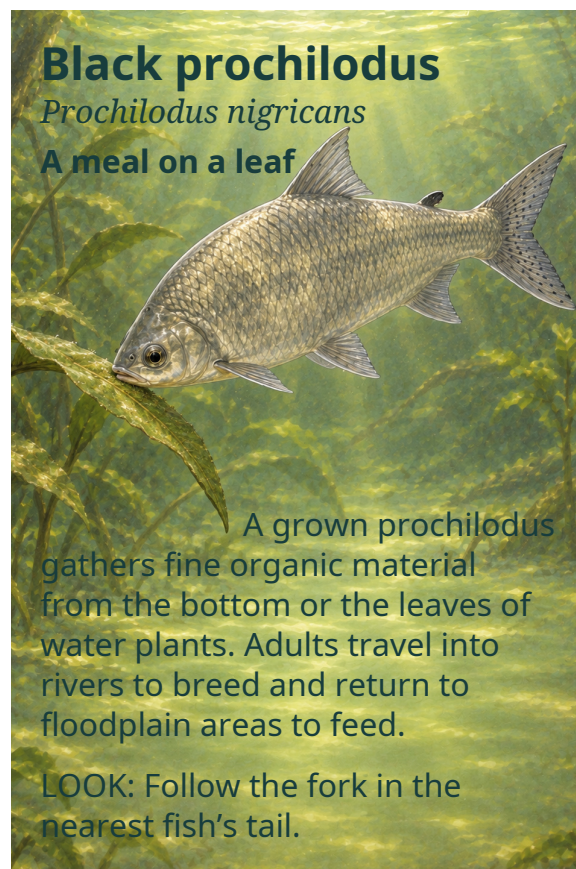
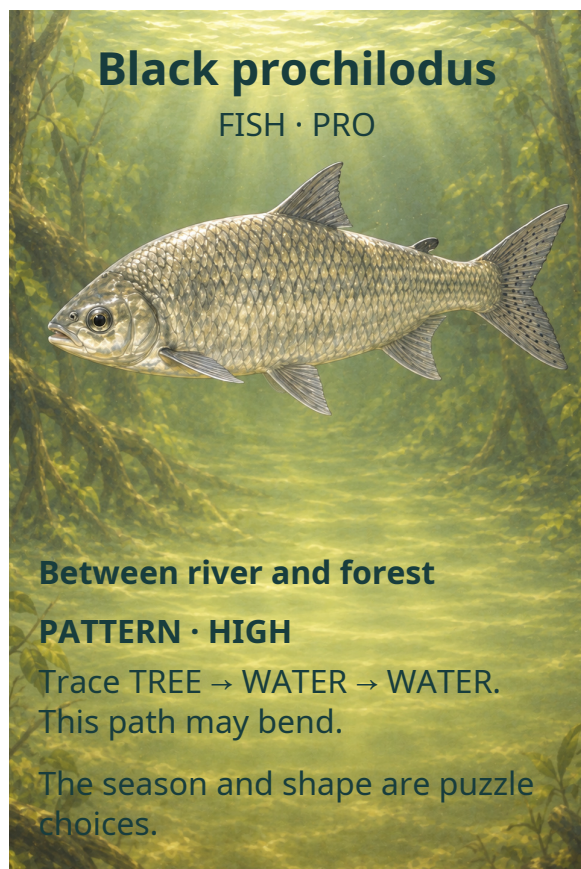
Animal cards HOA, KNI

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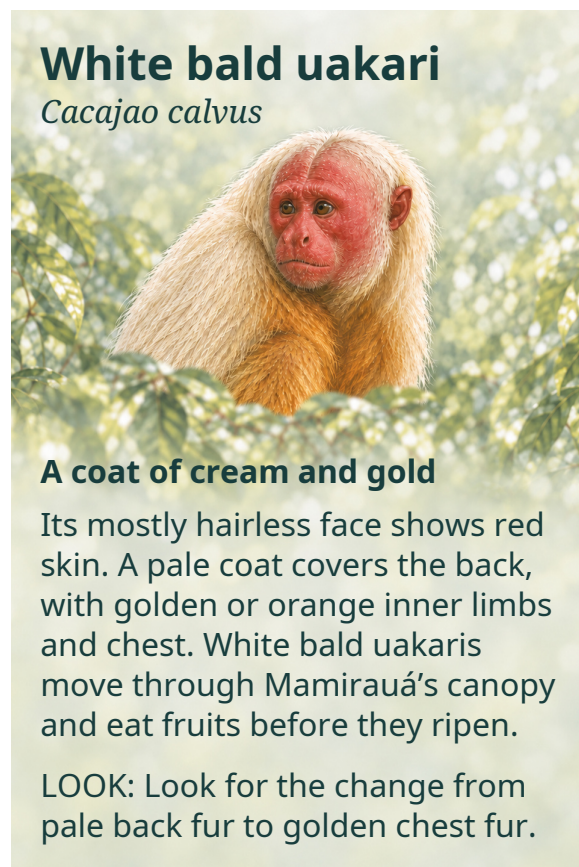
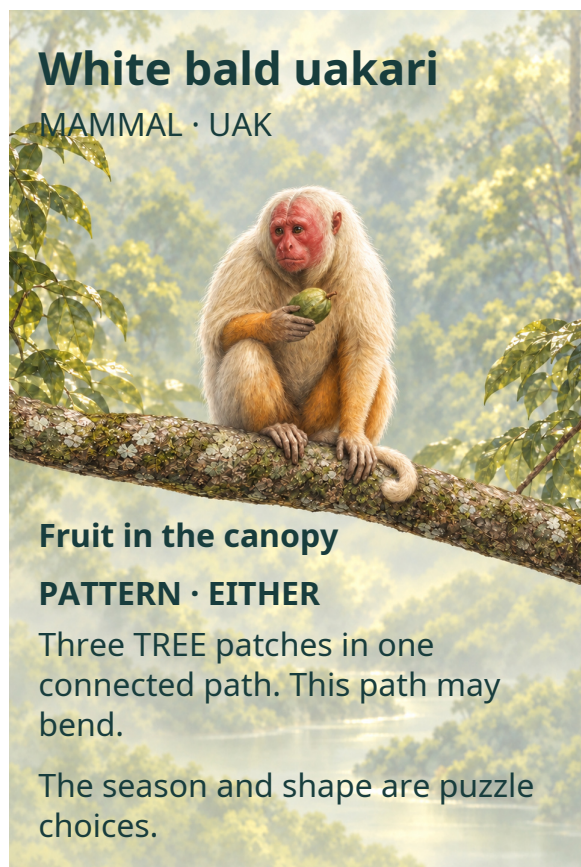
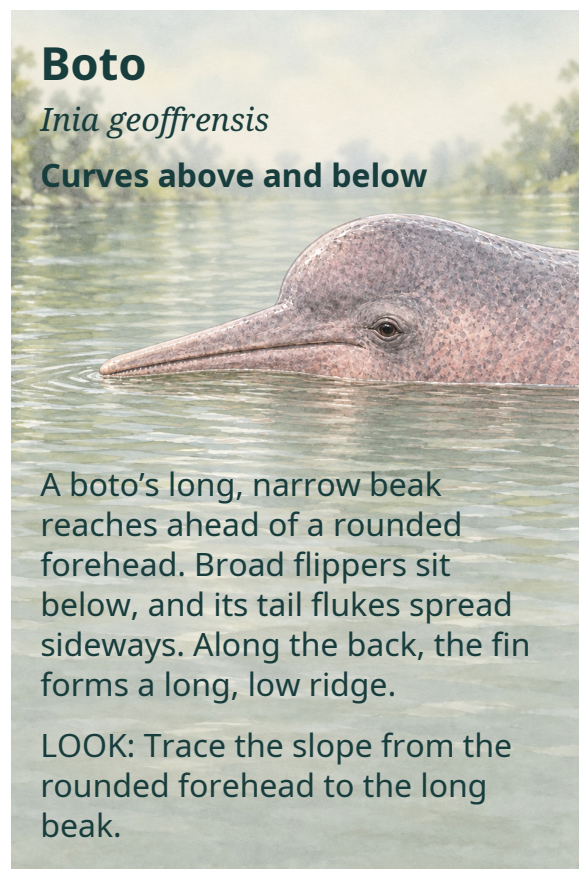
Animal cards PRO, PIR

Trim each face. Join each matching pair back to back; lettering stays upright.



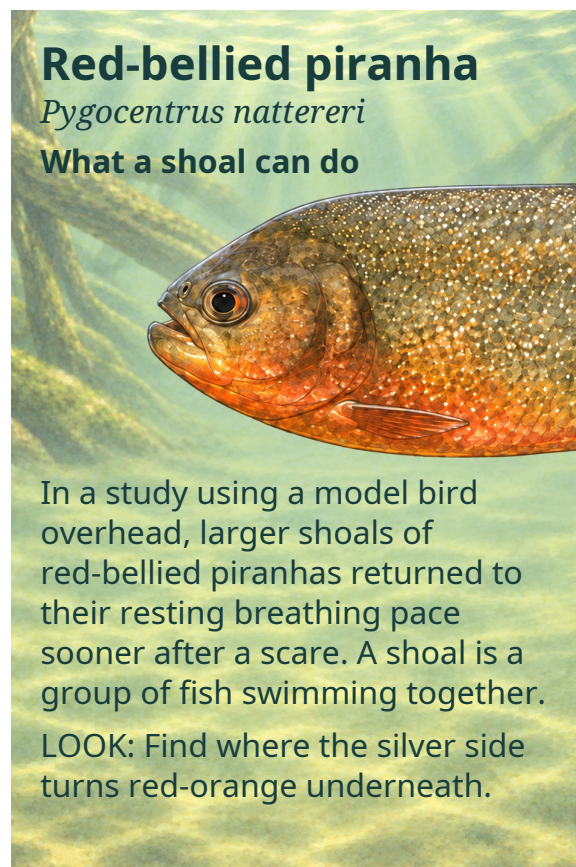
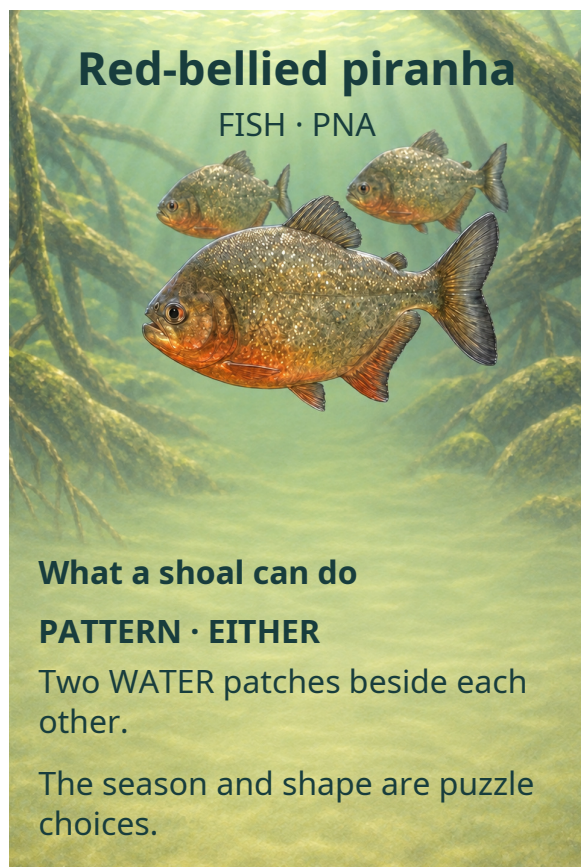
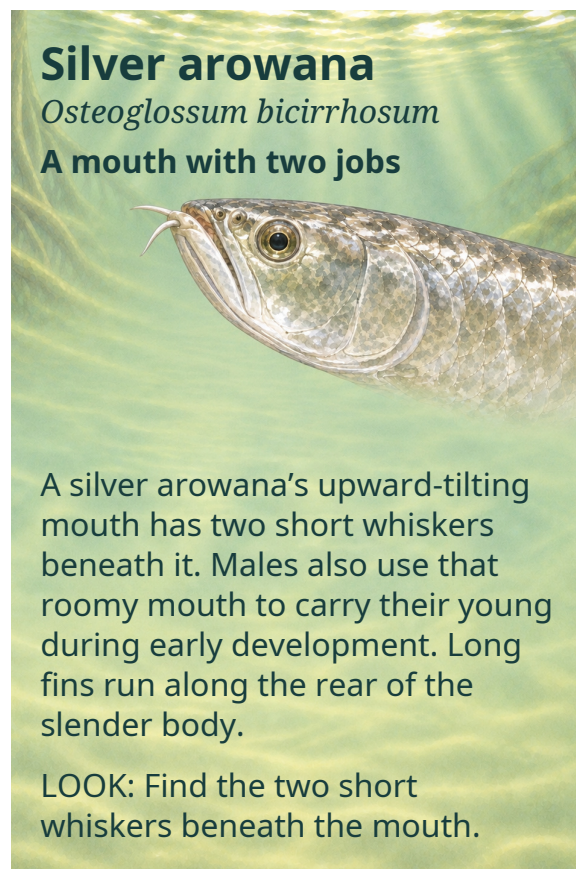
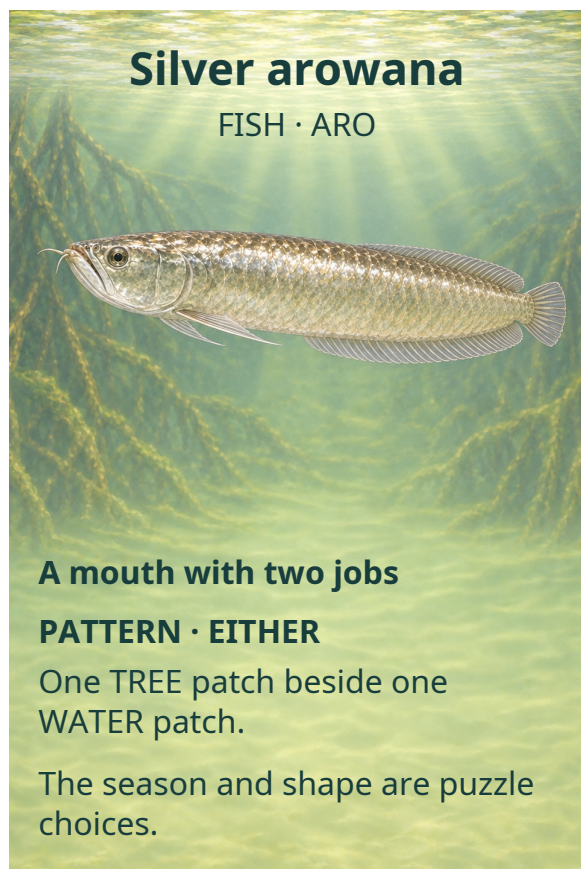
Animal cards BOT, UAK

Trim each face. Join each matching pair back to back; lettering stays upright.



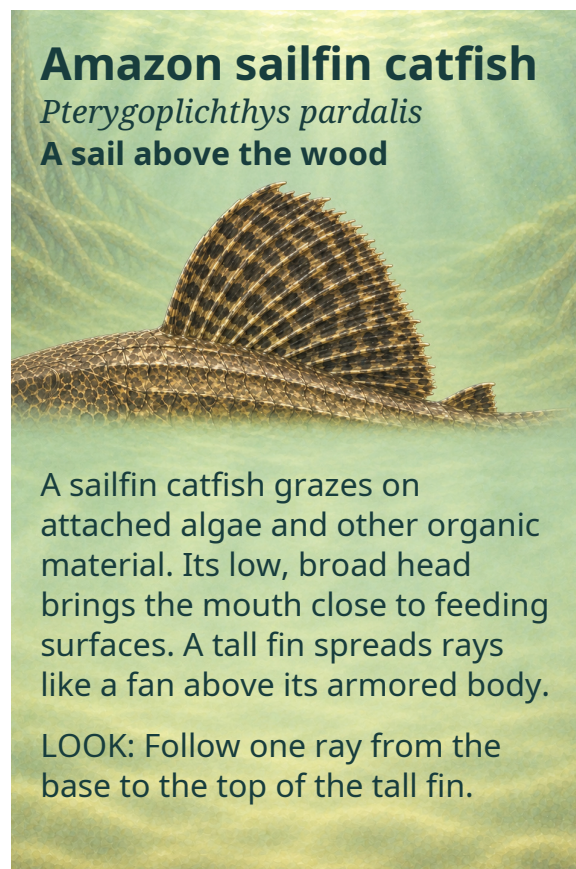
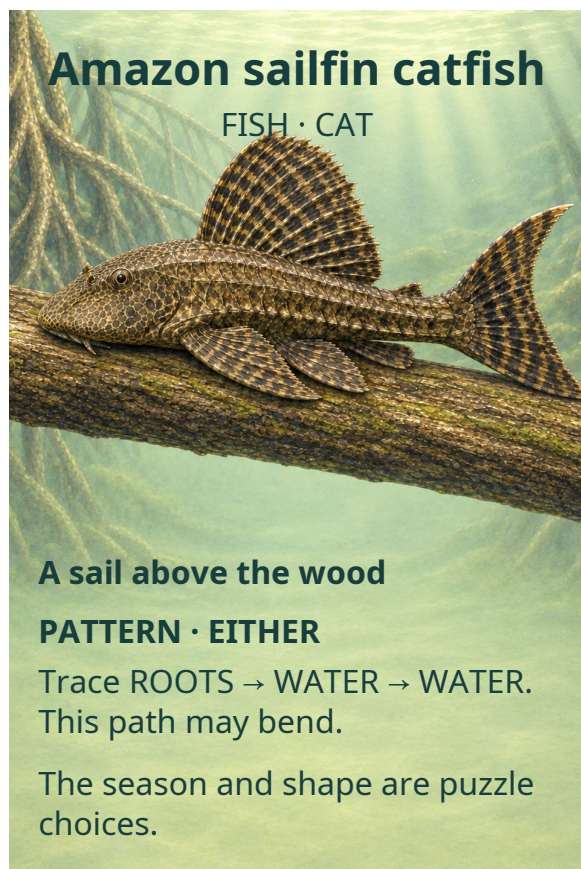
Animal cards ARO, PNA

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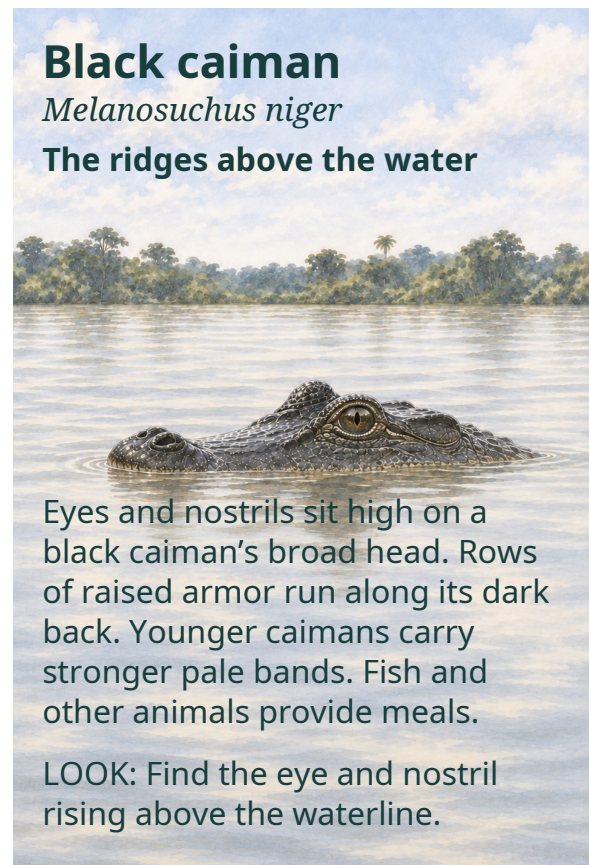
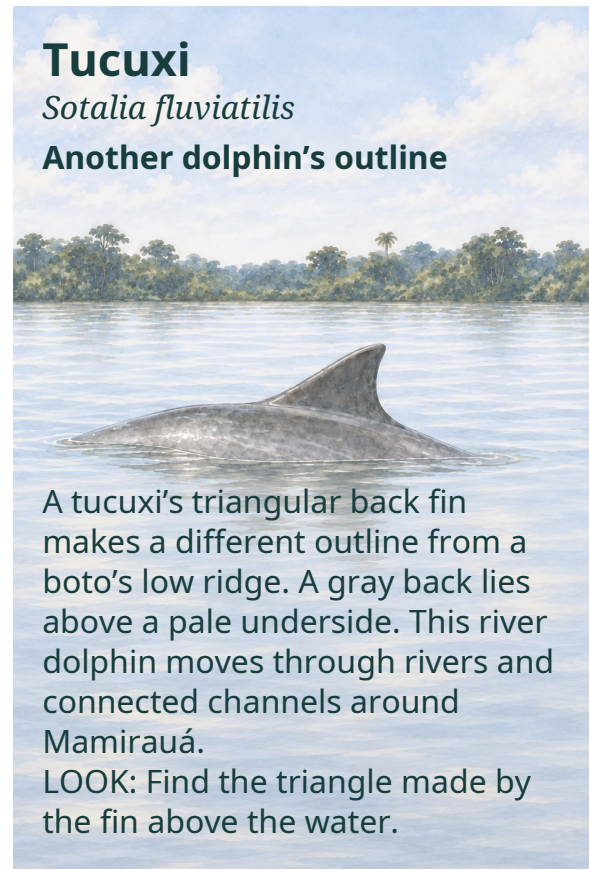
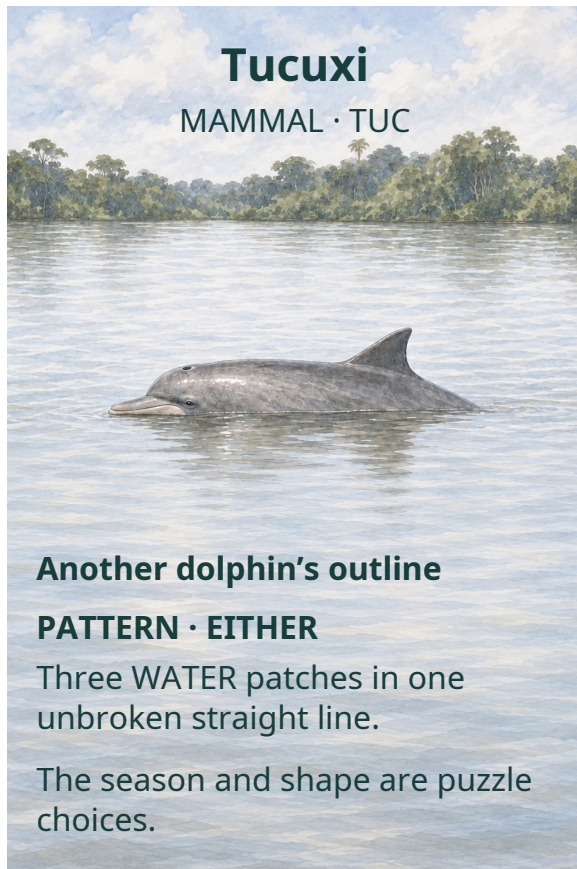
Animal cards CAT, DIS

Trim each face. Join each matching pair back to back; lettering stays upright.



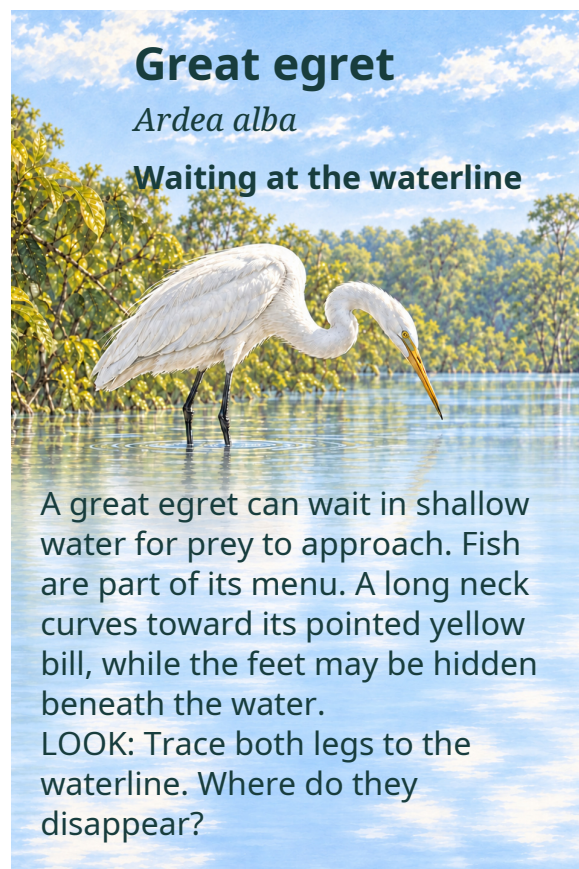
Animal cards TUC, CAI

Trim each face. Join each matching pair back to back; lettering stays upright.



Animal cards EGR, CUR

Trim each face. Join each matching pair back to back; lettering stays upright.



Animal cards TER, MAC

Trim each face. Join each matching pair back to back; lettering stays upright.

Large-billed tern

BIRD · TER



A beach at low water

PATTERN · LOW

Two WATER patches beside each other.

The season and shape are puzzle choices.

Large-billed tern

Phaetusa simplex

A beach at low water



In 2001, researchers recorded nests at Praia do Horizonte in Mamirauá during low water. Large-billed terns nest on exposed river sand, and the birds were seen on every trip in a later local boat study.

LOOK: Find the large yellow bill, black cap and dark outer wing feathers.

Scarlet macaw

BIRD · MAC



Two sides of a wing

PATTERN · EITHER

Three TREE patches in an L.

The season and shape are puzzle choices.

Scarlet macaw

Ara macao

Two sides of a wing



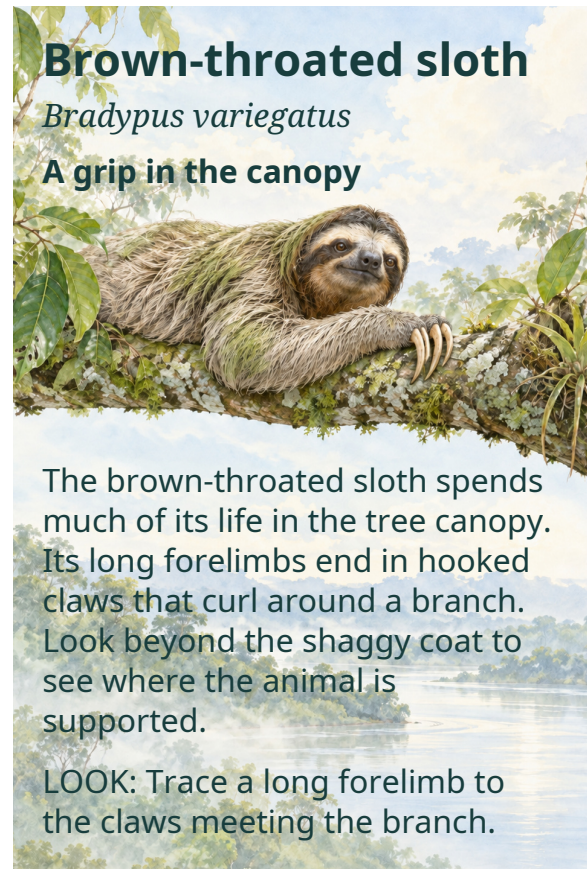
A scarlet macaw's upper wing carries yellow and blue. The flight view reveals red beneath the wing, near the body. In Mamirauá, calls can draw attention to a pair before the birds come into view.

LOOK: Compare an upper wing with an underside: which colours change?

1 inch

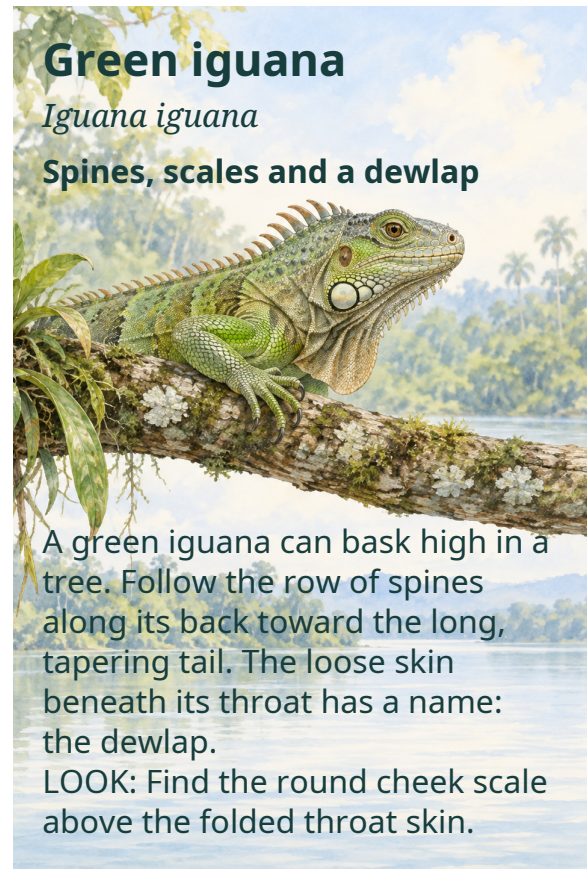
Animal cards SLO, PAC

Trim each face. Join each matching pair back to back; lettering stays upright.



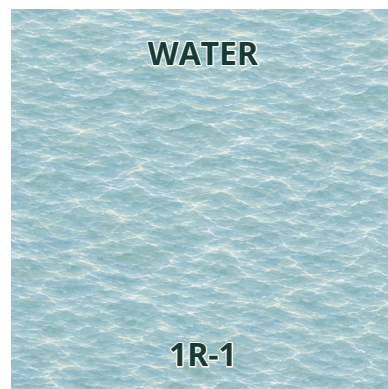
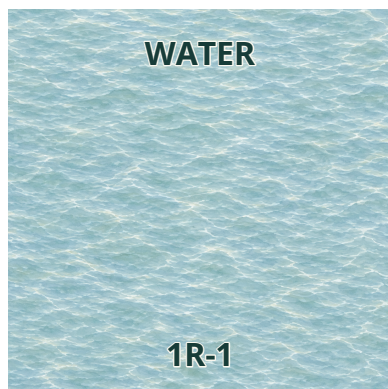
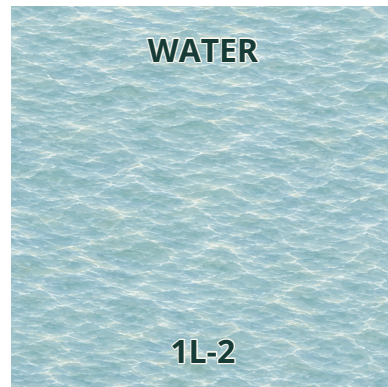
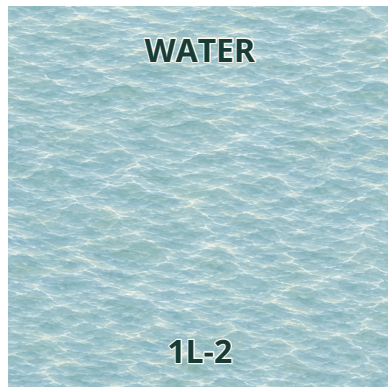
Animal cards IGU, FRO

Trim each face. Join each matching pair back to back; lettering stays upright.



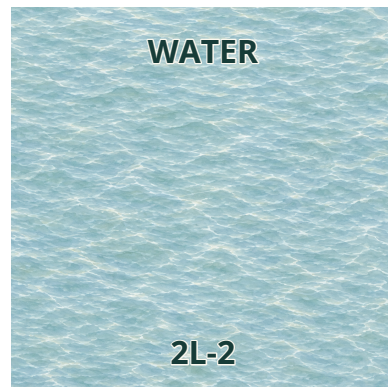
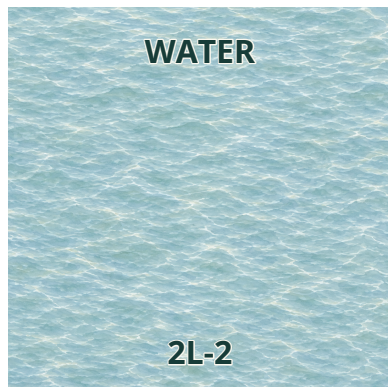
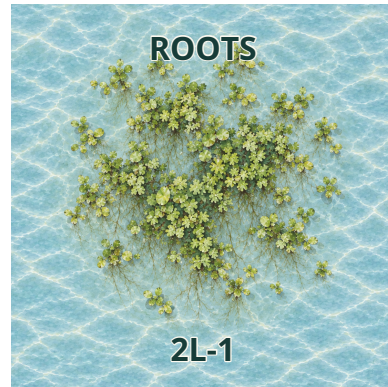
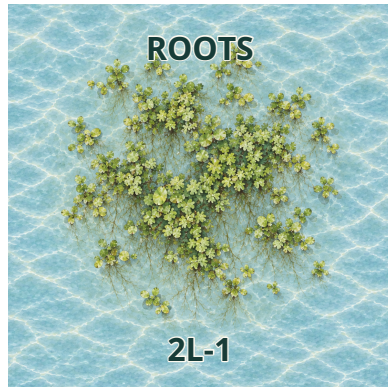
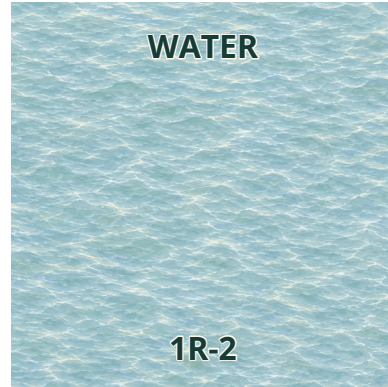
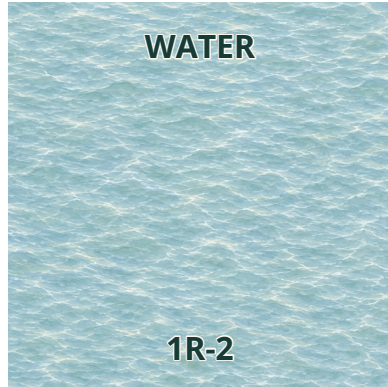
Terrain pairs 1 to 3

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



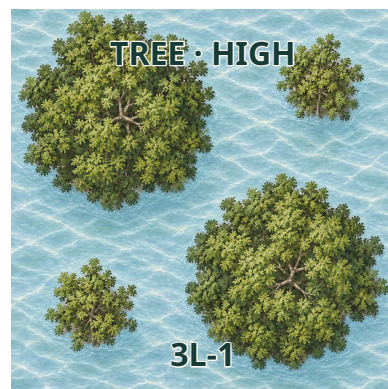
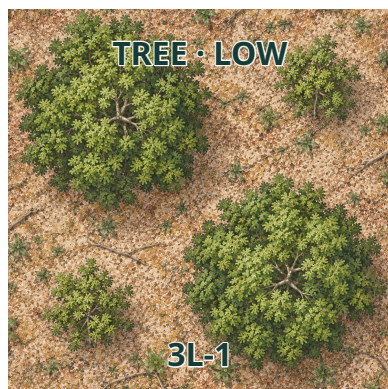
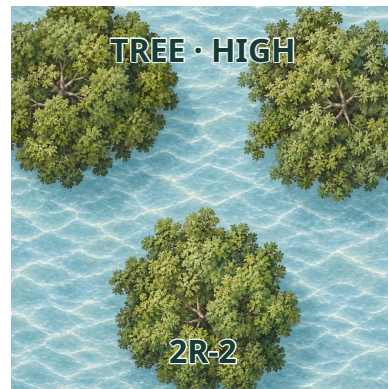
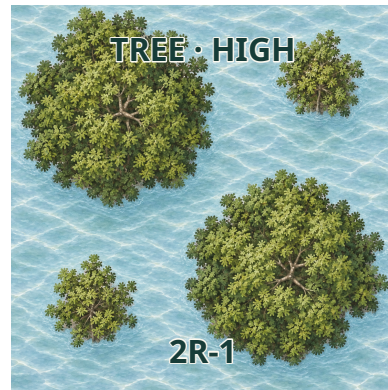
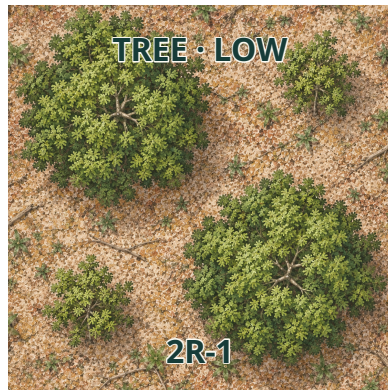
Terrain pairs 4 to 6

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



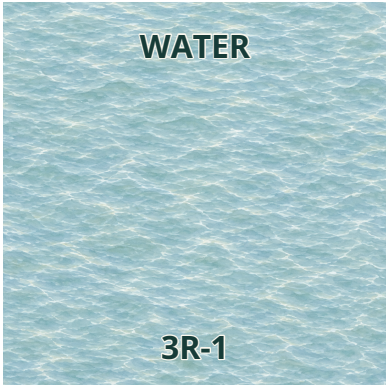
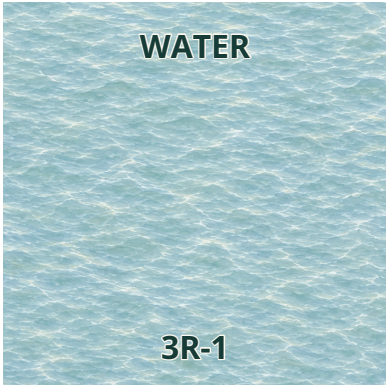
Terrain pairs 7 to 9

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



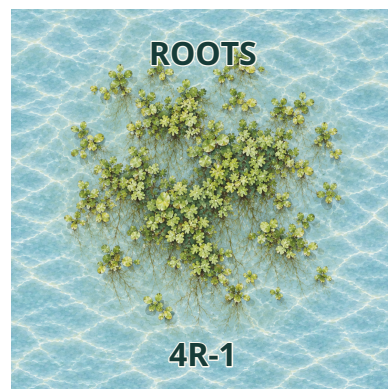
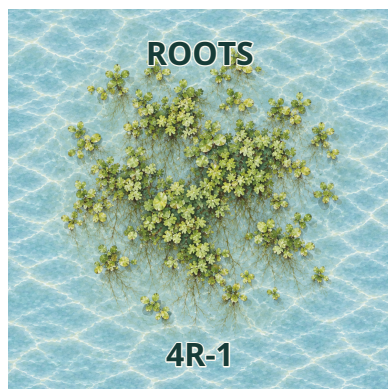
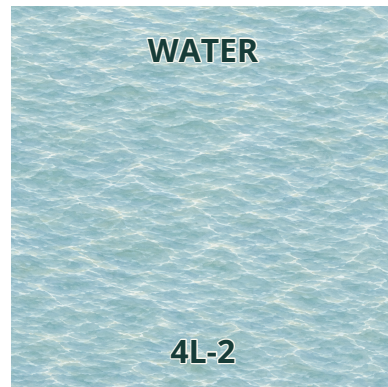
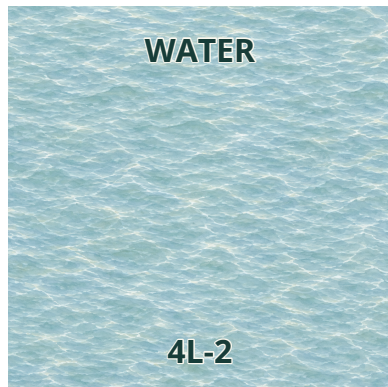
Terrain pairs 10 to 12

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



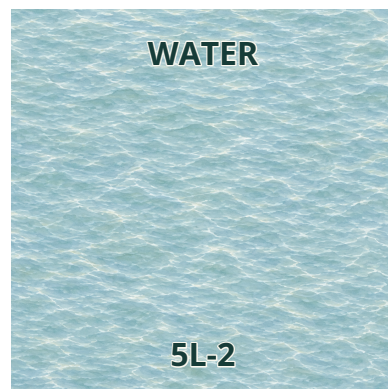
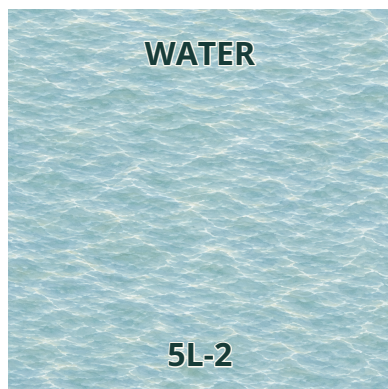
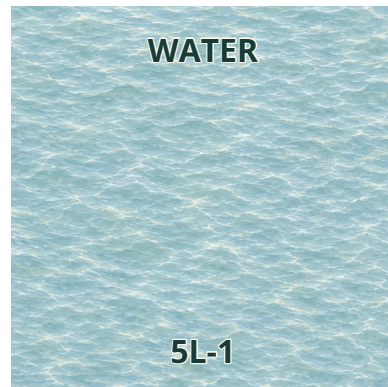
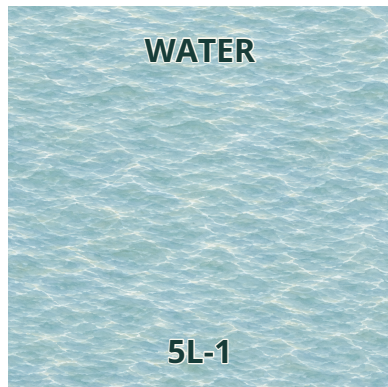
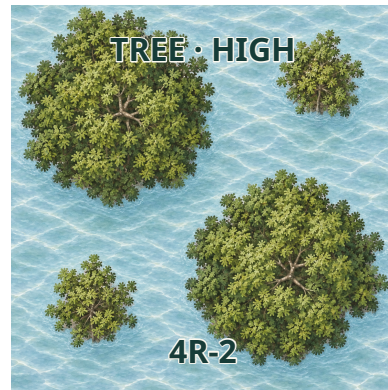
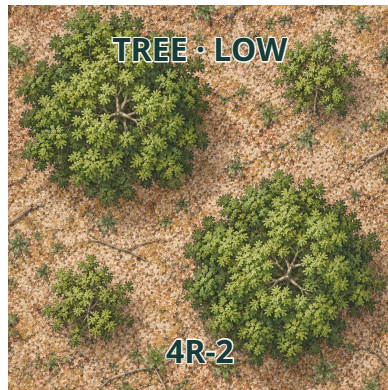
Terrain pairs 13 to 15

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



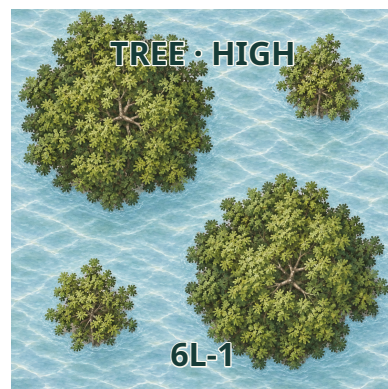
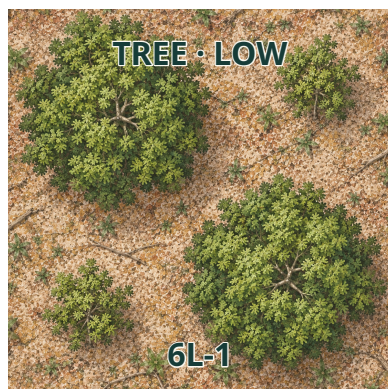
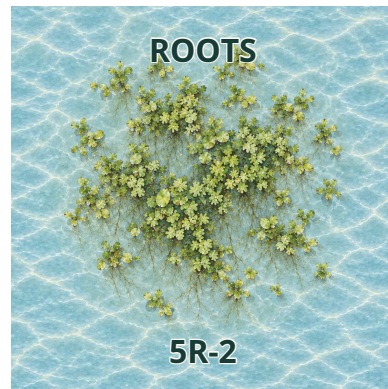
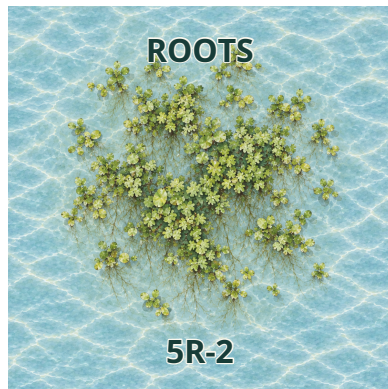
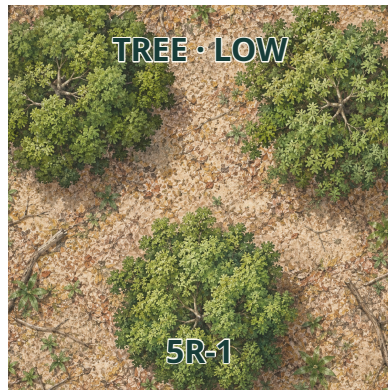
Terrain pairs 16 to 18

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



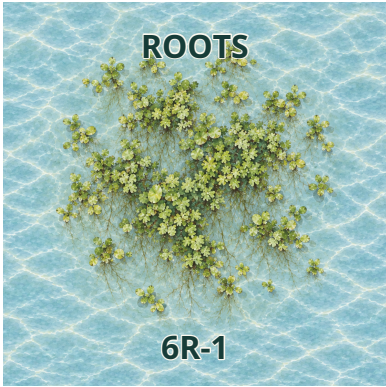
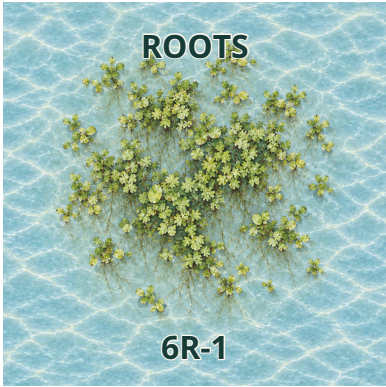
Terrain pairs 19 to 21

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



Terrain pairs 22 to 24

Join each matching pair back to back. A TREE has LOW on one side and HIGH on the other.



The Amazon, closer

NORTHERN SOUTH AMERICA

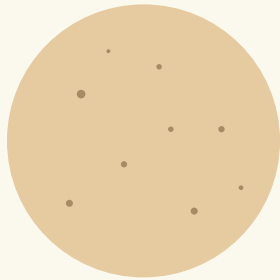
Dots: cities · Ring: region · Selected river course



Tefé and the Mamirauá region lie in Amazonas, a Brazilian state. Find Tefé's dot, then follow the river east toward the Atlantic. Your small expedition landscape is invented.

What the water carries

A river can carry things far smaller than a floating leaf.



Solimões

Pale brown water carries many tiny particles of sediment.



Negro

Dark water gets its colour from decaying plants and carries much less sediment.



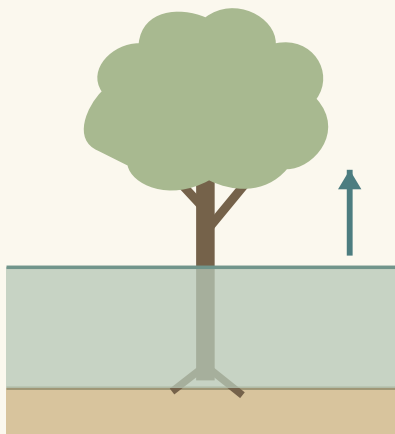
Near Manaus, these differently coloured waters meet. They can travel side by side before mixing. Rivers also move sediment: grains settle in new places while other banks wear away.

Look for grains in the pale sample and curling bands where the colours meet. These drawn marks make small differences easier to see.

Four moments in a river year

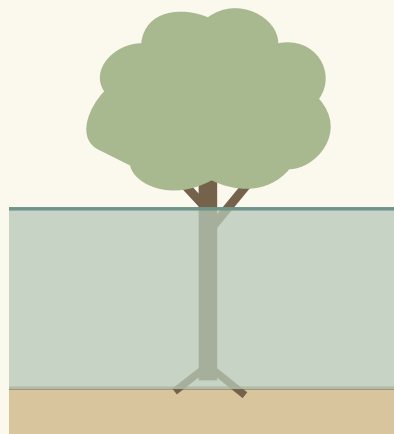
The Mamirauá floodplain has a yearly rise and fall of water. These views follow one imagined forest edge through that cycle.

Rising



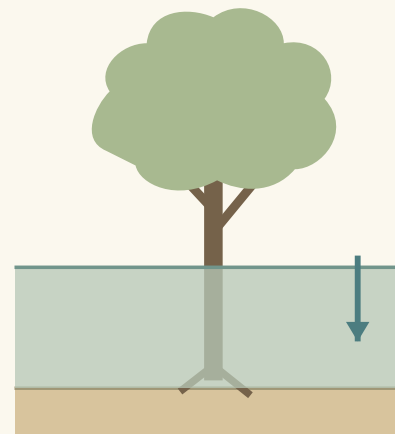
Water reaches farther into low forest.

Flooded



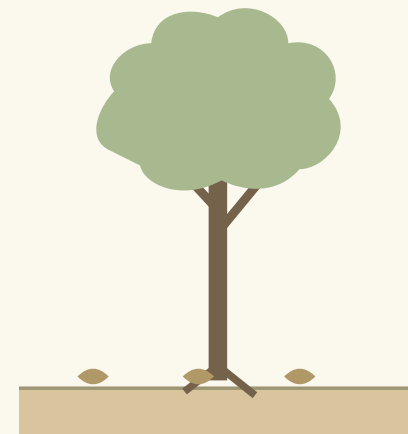
Water stands among the trunks.

Falling



The level drops, exposing more ground.

Exposed



More forest floor is open to the air.

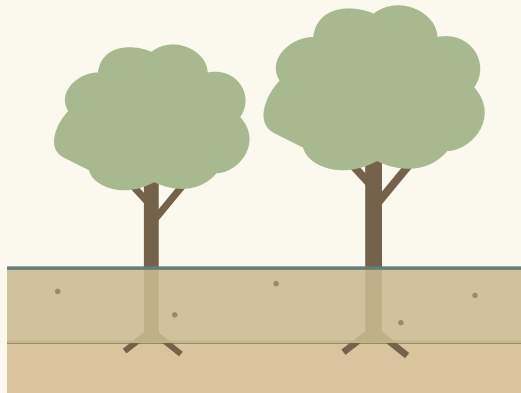
Compare the rising and falling pictures: one height, two directions. A later reading can show whether the level has risen or fallen.

Map: Natural Earth · IBGE · Mamirauá Institute / Zumak et al.

Three kinds of forest

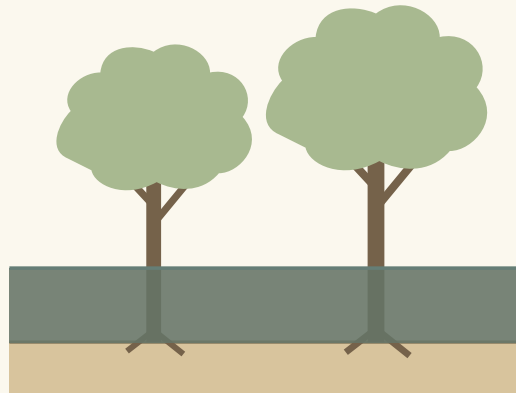
A forest's name can tell you about its water. Compare the ground beneath these three canopies.

Várzea



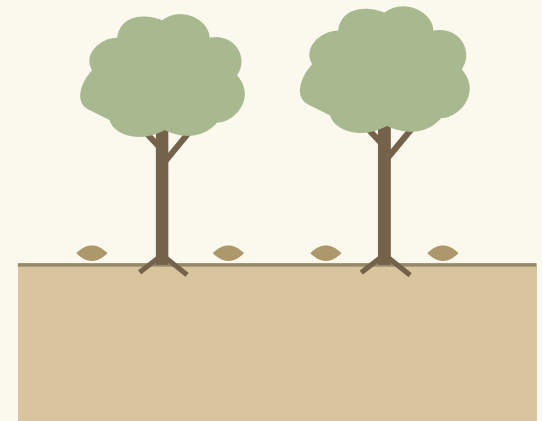
Seasonal floods bring sediment-rich whitewater into this forest. When the water retreats, its ground can show again; it is still várzea.

Igapó



This forest floods too, with blackwater or clearwater. The blackwater example here has a dark surface and carries little suspended sediment.

Terra firme



Ordinary river floods stay below this forest's ground. A low-water picture of várzea may show dry ground too; its seasonal relationship with the river remains different.

Find two wet forest floors, then the higher dry ground.

Ecology: NASA · Mamirauá Institute · Haugaasen & Peres

RULES 1

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

1 • Two visits, one landscape

Set out your expedition

Use the ready eight. Put them in AVAILABLE, face up. Leave EXPLORING and RECORDED empty. Lay the landscape upright. Arrange the six numbered offers, with TREE faces at LOW. Start with Your first river page on the quick reference. Have a pencil and eraser handy.

Three kinds of patch

WATER is open water, always wet. ROOTS are floating-plant roots in water, always wet. TREE is forest: dry at LOW, wet at HIGH. It stays TREE in both visits.

WATER means a WATER patch. Wet TREE and ROOTS never count as WATER. The grid has twelve empty 2-inch cells.

One explorer or a shared table

Everyone may suggest. The person holding the quick reference makes this turn's choices. Share reading, pointing and moving pieces in whatever way helps. Animal backs may be read at any time.

Later: another selection

You may choose eight of the 22. FIRST needs Tambaqui or Jaguar; the later briefs need all three named animals. Put the others aside. Other rules stay the same.

Seasons and shapes are puzzle choices, not animal-presence calendars, habitat recipes or ecosystem-health scores.

RULES 2

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

2 • Each turn

1 • Choose what to explore

You may return one unfinished animal to AVAILABLE. Then choose one AVAILABLE animal, or none, for an empty EXPLORING space. Keep at most two there. Choose before taking or placing patches; the pattern need not be ready.

2 • Take one whole pair

Choose LEFT or RIGHT from this turn's offer. Take both patches; set the other pair aside. Do not mix pairs. Future offers stay visible.

3 • Place both patches

Use empty cells. The first patch of the game can go anywhere. Each later patch shares an edge with something already placed. The two patches may go in different places. Patches cannot move, overlap or change type; facing does not matter.

4 • Make your records

For an EXPLORING animal in season, show a complete pattern and at least one of its patches placed this turn. An old ready shape alone is insufficient. Move the card to RECORDED, face up and unmarked. You may record both; a patch may help several animals. No quiz or reading aloud is needed.

5 • Tick and pass

Tick the turn. Pass the quick reference if sharing. After turn 3, return months later using page 3. Turn 6 is last.

RULES 3

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

3 • Return months later

After turn 3, pause before choosing. Flip every TREE to HIGH without moving it. Use HIGH for new TREES too. This is a separate visit, not an afternoon flood.

An already-EXPLORING HIGH animal may now be recorded if its complete pattern uses a TREE that just became wet. This check needs no new patch. Then take turn 4. An animal first chosen on 4 must use a patch placed on 4.

Read the shapes

Match the card's season: LOW, HIGH or EITHER. Patterns may rotate or reflect. "Beside" means an edge, never a corner. Each patch in a pattern is a different cell. Empty cells break paths.

Follow printed arrows in type order. Paths may bend unless a straight line is required. An L has one corner beside the other two patches. "Beside two" needs two different neighbors.

Tambaqui's wet path may be longer than three patches. It begins and ends at different TREES, with WATER between. Every patch along it must be wet TREE, WATER or ROOTS.

Pattern detail

TREE old	TREE old	WATER new
WATER old	TREE old	WATER new

Two old TREES touch. This turn you add WATER elsewhere. Hoatzin cannot be recorded yet: its pattern has no new patch.

RULES 4

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

4 • Finish, replay, reconsider

Your ending

After any HIGH turn, you may finish when all your brief's goals are met, or continue through turn 6. A seasonal record before 4 never skips turn 4. Turn 6 ends play even if the brief is unfinished. Drawing, writing and winning are not required for the book's ending.

For a shared-patch goal, use legal patterns for two named RECORDED animals on the current landscape. Their paths may differ from those first shown. Recorded animals stay recorded and cannot be chosen again.

Undo and repair

Before ticking, you may undo the whole turn: return its patches and restore every animal to its area at the turn's start. Then choose again. Once the next turn begins, earlier placements stay. For a later rule mistake, make the smallest agreed correction and note any help.

Undoing turn 4 returns to after the seasonal check. The HIGH faces and valid seasonal records stay.

Begin again

Return animals to AVAILABLE. Empty the grid. Turn TREES to LOW. Restore every pair to its numbered turn and side. Clear the six ticks. Pass the reference to the first chooser and choose a brief. No book reread is needed.

QUICK REFERENCE 1

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

Your turn

- 1 **Return** up to one unfinished animal. Choose one AVAILABLE animal, or none. Keep at most two in EXPLORING. **Choose before patches.**
- 2 **Take both patches** from one pair in this turn's offer. Set the other pair aside.
- 3 **Place both in empty cells.** First patch of the game: anywhere. Every later patch shares an edge with the placed landscape. The two may go in different places.
- 4 For each EXPLORING animal in season, **show its complete pattern** and a patch in it **placed this turn**. Old ready shapes alone do not count. Move completed cards to RECORDED, unmarked.
- 5 **Tick; pass** if sharing. After 3, return below. Turn 6 is last.

Months later • before turn 4

Flip TREES to HIGH in place. You may record an already-EXPLORING HIGH animal whose complete pattern uses a TREE that just became wet. This check needs no new patch. Then take turn 4. A newly chosen animal must use a turn-4 patch. New TREES use HIGH.

WATER means WATER. TREE and ROOTS keep their types when wet. Patterns turn or reflect; "beside" means an edge.

LOW

☐ 1☐ 2☐ 3

HIGH

☐ 4☐ 5☐ 6

QUICK REFERENCE 2

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

Choose a brief

Your first river page • FIRST

Record four different animals, including Tambaqui (TAM) or Jaguar (JAG).

A page above the water • CANOPY

Record Hoatzin (HOA), White bald uakari (UAK), Jaguar (JAG), and one other. Show one TREE patch in legal patterns for two of those three.

Paths through the flood • JOURNEYS

Record Tambaqui (TAM), Black prochilodus (PRO), Boto (BOT), and one other. Show one WATER patch in legal patterns for two of those three.

Show current legal paths. After a HIGH turn with all goals met, finish or continue through 6.

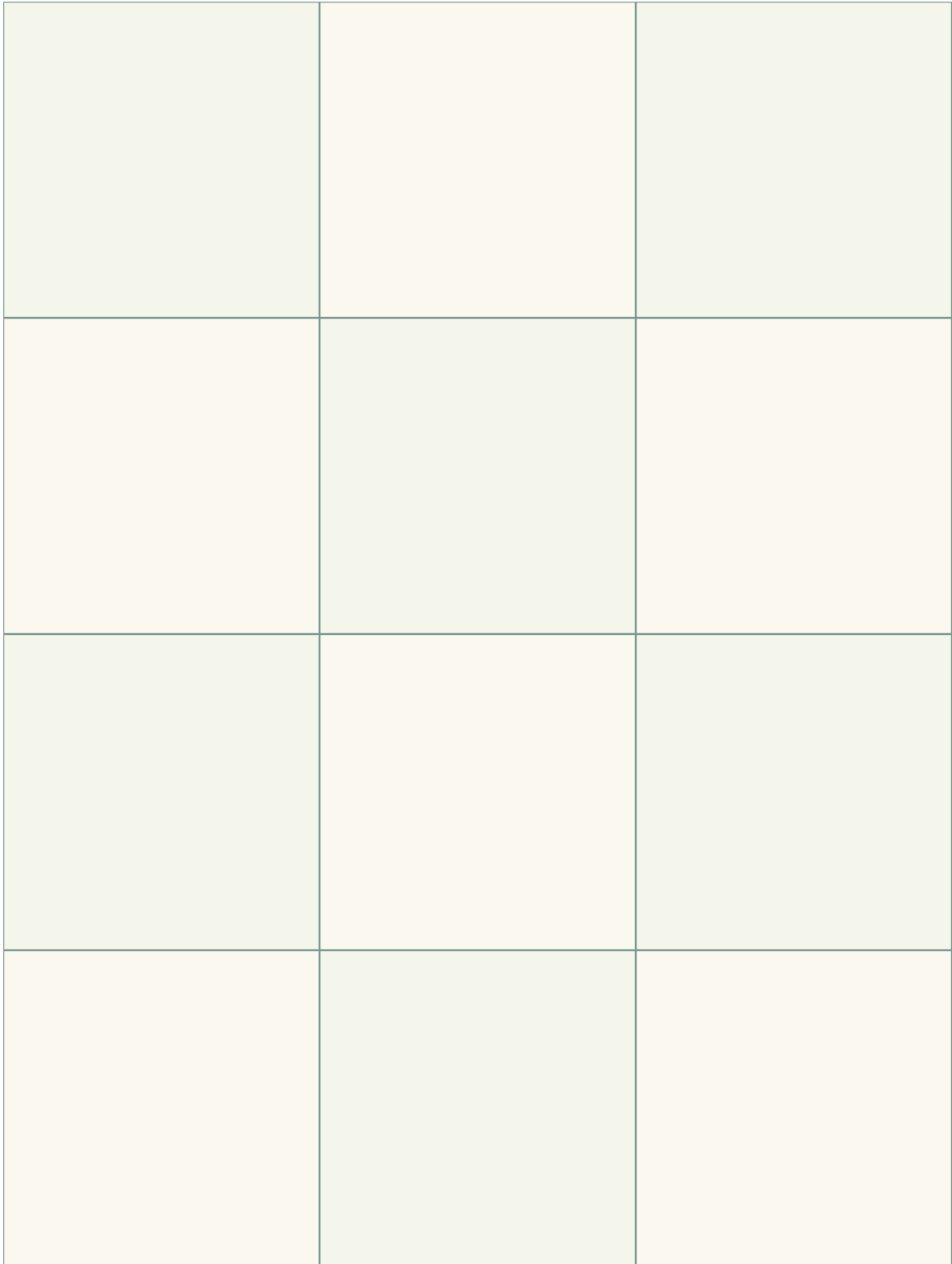
Undo before ticking: undo the whole turn, restoring patches and animal areas. On turn 4, HIGH and pre-4 records stay. Once the next turn begins, earlier placements stay. Later mistake: smallest agreed correction; note help.

Reset: animals to AVAILABLE; grid empty; TREES LOW; pairs restored by turn/side; clear ticks. Pass to the first chooser; pick a brief.

Start with the ready eight. Later, choose eight from 22: FIRST needs TAM or JAG; other briefs need all three named animals. Put the other 14 aside. Explore even if the brief stays unfinished.

LANDSCAPE 1

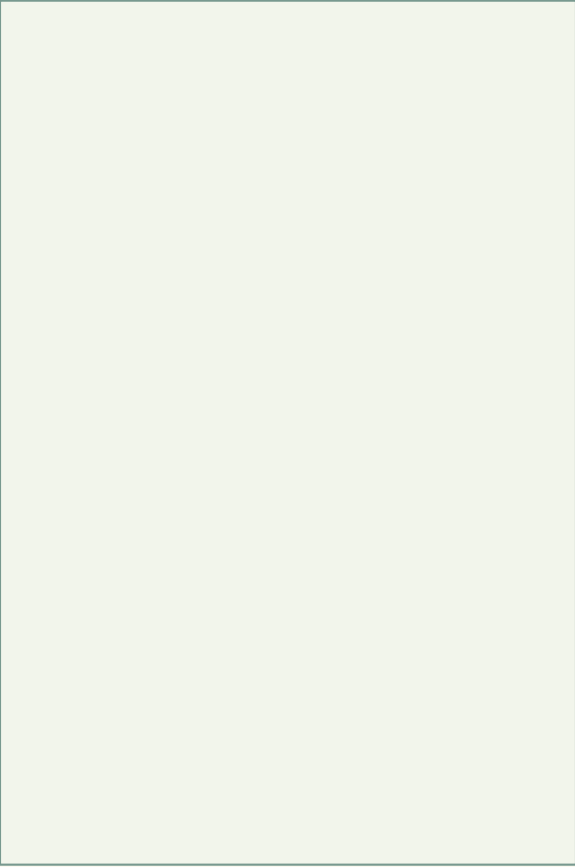
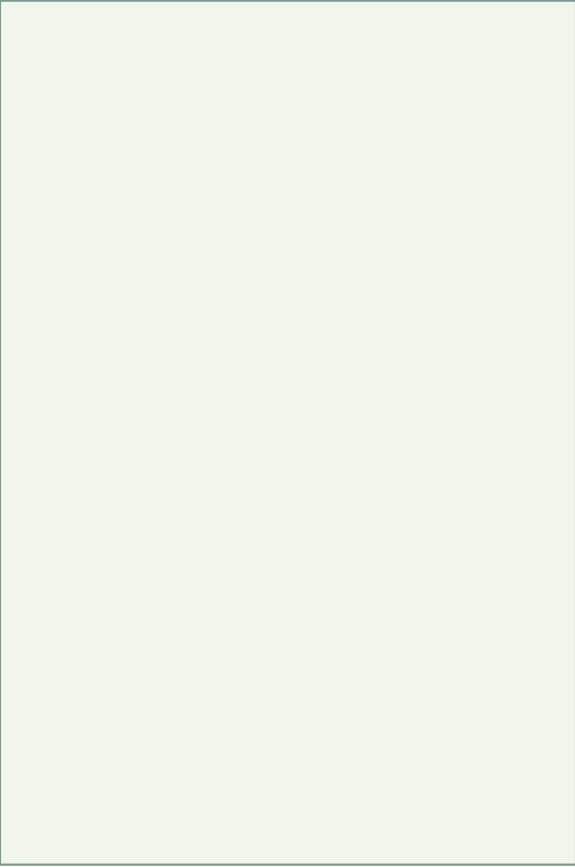
Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.



EXPLORING MAT 1

Trim the outside rectangle. Keep RULES pages in numbered order; align QUICK fronts and backs.

EXPLORING · up to two



Offers / upper half

Trim to image. Join upper above lower to make one 9 by 14 inch sheet.

Choose one whole pair

LEFT

RIGHT

1

TREE
1L-1

WATER
1L-2

WATER
1R-1

WATER
1R-2

2

ROOTS
2L-1

WATER
2L-2

TREE
2R-1

TREE
2R-2

3

TREE
3L-1

WATER
3L-2

WATER
3R-1

WATER
3R-2

Offers / lower half

Trim to image. Join upper above lower to make one 9 by 14 inch sheet.

4

TREE
4L-1

WATER
4L-2

ROOTS
4R-1

TREE
4R-2

5

WATER
5L-1

WATER
5L-2

TREE
5R-1

ROOTS
5R-2

6

TREE
6L-1

WATER
6L-2

ROOTS
6R-1

WATER
6R-2

Restore every patch to its printed position.

Available and Recorded labels

Trim each rectangle. Each blank reverse stays blank.

AVAILABLE

Choose from here.

RECORDED

Completed · face up · unmarked