Fossil Track Registry

HOST ONLY - preparation and story

Includes answers. Keep these pages and all hint pages with the adult host.

Welcome to the fossil-track field camp. Fictional track cards describe needs that must be matched to a model habitat. Your team has the original records on the table. First recover five pieces of information, then use the final plan to build a habitat for the track-maker model. Keep every result beside its badge so another teammate can check your reasoning.

1. Print the six player sheets and two record sheets for each team. Keep answers and hints with the host.

2. Lay out Fictional food-web rules, Supply cards, the remaining clue sheets and the final plan. All task records are printed inside the sheets; no extra prop is needed.

3. After each clue, pass roles one seat clockwise. With two players, combine Reader with Recorder and Checker with Builder. With five or six, add a second checker and a source finder; everyone explains one decision.

4 players; 1 team. Give each team 6 player sheets and 2 record sheets. Share one host guide and one set of three hint levels.

Paper and pencils are enough. Keep whole sheets at one table; nothing needs cutting, folding or hiding.

Optional: 4 invitations or certificates, only if selected.

Fossil Track Registry

HOST ONLY - solution guide

1. Food: MOTH

Propagate food availability from the printed starting food. The OR visitor has a supported food chain; the AND visitor lacks one food and the circular pair never gets started. Result: MOTH.

2. Kit: C-D

Compare coverage before weight. Only complete kits qualify; minimize their combined weight and report the selected cards in alphabetical order. Result: C-D.

3. Track: 2

Different positions are 5, 8. There are 2 differences. Result: 2.

4. Label: 2

Only row 3 has BONE followed immediately by 2. Other rows have changed or reversed letters. Result: 2.

5. Drawer: 5

A2, B3, C1, D2 reads BONE. The conversion table gives 5. Result: 5.

6. Final: R1-F2-W1-D2-E1

Each recovered field result sets one separate habitat requirement. Match all five layers; a complete plan must include suitable cover, ground, water, food and access. Checked result: R1-F2-W1-D2-E1.

Fossil Track Registry

HOST ONLY - timeline, story and ending

3 minutes: Read the opening. Show the evidence record and choose starting roles.

5 minutes: Solve Food. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Kit. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Track. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Label. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Drawer. Offer one hint at a time and rotate roles after checking.

7 minutes: Build the five-part habitat design using all five results.

3 minutes: Read the ending. Ask each teammate to explain one rejected alternative.

After Kit: A suitable roof does not guarantee suitable food or water. Keep each habitat need beside its field evidence. Pass the record sheet to a new checker before opening the next clue.

After Label: Four results are recorded. Each teammate points to a source supporting one result. Complete the fifth check before building the five-part habitat design.

Check every result using the solution guide. Offer the next hint only when requested; save the answer reveal until the group is ready.

The paper model uses parts R1-F2-W1-D2-E1, with every habitat layer matched to its evidence. Thank each teammate for a different piece of reasoning.

Explain one tempting wrong choice and the evidence that ruled it out. Show how each of the five results affected the five-part habitat design. If a clue is missing, say what remains uncertain before reopening that sheet.

Duration and ages are estimates. Adjust the pace and offer help for your group.

Fossil Track Registry

Player clue 1: Food | Team 1

Fictional track cards describe needs that must be matched to a model habitat. We will use the records on the table to build a habitat for the track-maker model. Share the reading, explain each choice and keep the five results for the final plan.

Use only the fictional food-web rules printed here. Start with the food available now. A creature becomes available when its food rule is met. Find which named visitor can live here; a loop cannot create its own first food.

Fictional food-web rules

NIB needs LEAF

PEEP needs SEED

MOTH needs NIB OR PEEP

GLIM needs NIB AND PEEP

LOOP needs TWIN

TWIN needs LOOP

Starting conditions

Available now: LEAF.

A result becomes available when its needs are met.

Which of MOTH, GLIM, LOOP becomes available?

Food result: _____

Fossil Track Registry

Player clue 2: Kit | Team 1

Pack a kit that supplies all three needs. One card may cover two needs, but its weight is counted once. Choose the lightest complete kit within the carrier limit. Report its card letters alphabetically.

Supply cards

A: weight 5; gives tie+light

B: weight 2; gives mark

C: weight 2; gives tie

D: weight 2; gives light+mark

E: weight 7; gives tie+light+mark

Packing order

Capacity 7; must cover tie, light, mark.

Use the lightest complete kit. Each card once.

Write chosen card IDs alphabetically, with hyphens.

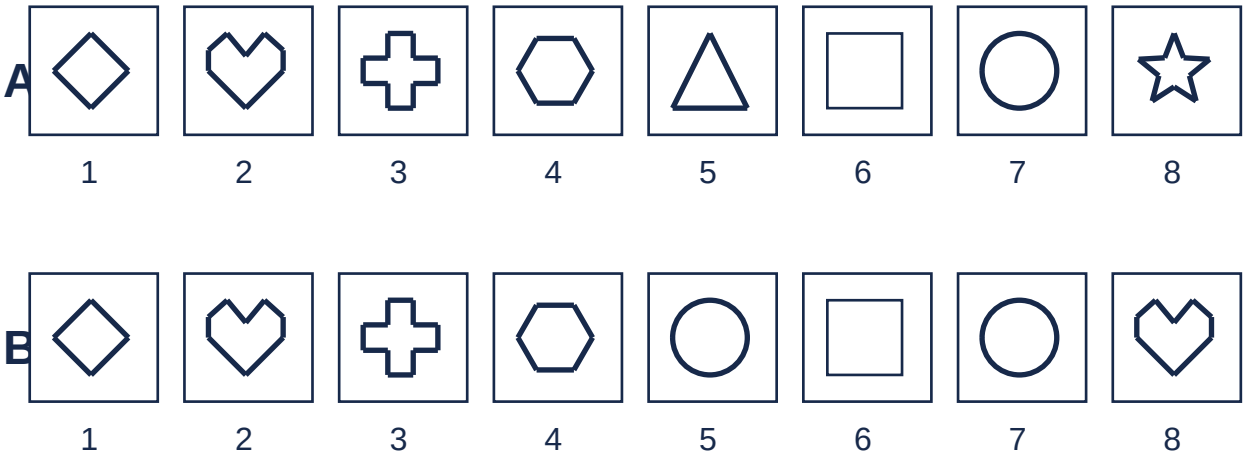
Kit result: _____

Fossil Track Registry

Player clue 3: Track | Team 1

Track desk: Compare the two records at matching numbered positions. Count different pairs once each; ignore box outlines.

Compare matching numbered positions.



Do not count title, labels, or boxes as differences.

Track result: _____

Fossil Track Registry

Player clue 4: Label | Team 1

Label desk: Find the exact word BONE, reading RIGHT only. Reject near matches and reversed words. Copy the digit immediately after it.

Find BONE; only read to the RIGHT.

B	O	N	X	8	A	B	C
E	N	O	B	2	A	B	C
B	O	N	E	2	D	E	F
C	A	M	P	9	S	U	N

Answer = digit in the next square after the word.

Label result: _____

Fossil Track Registry

Player clue 5: Drawer | Team 1

Drawer desk: Read the letter at each coordinate, in order. Letter = column; number = row. Convert the complete word using the printed table.

Columns: A, B, C, D. Rows: 1, 2, 3.

1	**E**	**H**	**N**	**P**
2	**B**	**N**	**R**	**E**
3	**Q**	**O**	**W**	**Z**

BONE = 5

EGGS = 8

CAMP = 1

READ COORDINATES IN ORDER:

A2 > B3 > C1 > D2

Drawer result: _____

Fossil Track Registry

Player clue 6: Final | Team 1

Recover one requirement for each habitat layer from its named result. Choose a matching roof, floor, water source, food and entry. Write the five part IDs in the printed layer order, then point to the evidence supporting each choice.

Use your results from: Food, Kit, Track, Label, Drawer.

Habitat construction key
Roof (Food): MOTH=shade; GLIM=sun
Floor (Kit): A-B=dry; C-D=damp
Water (Track): 0=flow; 2=still
Food (Label): 2=seed; 8=leaf
Entry (Drawer): 5=wide; 8=narrow
Parts (one per layer, top to bottom)
Roof: R1=shade; R2=sun
Floor: F2=damp; F1=dry
Water: W1=still; W2=flow
Food: D2=seed; D1=leaf
Entry: E1=wide; E2=narrow
Build rule
Choose each part meeting its recovered requirement.
Report five part IDs top to bottom, with hyphens.

Final result: _____

Ask your host to check your final result and read the ending.

Fossil Track Registry

Hint level 1 - HOST ONLY

1. Food

Start with the available-food line, not with the visitor names.

2. Kit

Read each supply card and the three required needs.

3. Track

Compare the same numbered position in the two strips.

4. Label

Find the exact target word and the allowed reading direction.

5. Drawer

Find the column letters and row numbers on the grid.

6. Final

Keep the five named results beside the final plan and find the key for each badge.

Fossil Track Registry

Hint level 2 - HOST ONLY

1. Food

AND needs both foods. OR needs either food. A circular pair still needs an outside starting food.

2. Kit

A light card alone may leave a need uncovered; a shared supply counts for both needs.

3. Track

A difference belongs to a pair of positions and is counted once, even when both shapes differ.

4. Label

A reversed word or almost-matching spelling does not qualify.

5. Drawer

A coordinate gives column first and row second; keep the printed coordinate order.

6. Final

Each badge controls a different fact, road leg, order note, pulse or habitat layer. Use the matching key exactly once.

Fossil Track Registry

Hint level 3 - HOST ONLY

1. Food

Mark each creature whose food is already available; repeat until no new creature can be marked. Then compare only the listed visitors.

2. Kit

Compare complete combinations, adding each chosen card weight once. Reject any combination over the limit before choosing the lightest.

3. Track

Mark every changed pair, check the unmarked pairs, then count your marks. Ignore titles and box outlines.

4. Label

Check every letter of the full word, then read the digit immediately after it in the permitted direction.

5. Drawer

Read the full word before using the conversion table. If the word is missing, recheck each row and column rather than choosing a similar word.

6. Final

Check the completed product against all five recovered facts. If two answers remain, locate the fact that distinguishes them rather than guessing.

Fossil Track Registry

Team 1 result record

Write the complete result from each clue. Results can be words, routes, orders, settings or numbers.

Food: _____

Kit: _____

Track: _____

Label: _____

Drawer: _____

Keep this record beside the final clue. Copy results exactly, including any leading zero.

Reader / Recorder / Evidence checker / Route or model builder

After each clue, pass roles one seat clockwise. With two players, combine Reader with Recorder and Checker with Builder. With five or six, add a second checker and a source finder; everyone explains one decision.

Fossil Track Registry

Team 1 final result and celebration

Our final challenge: Final

We combined our earlier clues to decide:

_____

_____

We know it works because:

_____

_____

Host: compare the result with your solution guide. Read the ending when it matches, then let the team explain one discovery.

No physical lock or prize is required. Draw a celebration star here if you like.

Fossil Track Registry

You're invited to a mystery!

Join Birthday Explorer for Fossil Track Registry.

Fictional track cards describe needs that must be matched to a model habitat. Work together to build a habitat for the track-maker model.

Date: _____

Time: _____

Place: _____

Bring your curiosity. Paper and pencils are provided. Share ideas and solve six clues together.

Designed for ages 8-10. Estimated 35-50 minutes.

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Fossil Track Registry

Mystery Explorer

Presented to Birthday Explorer

Team member: _____

For completing Fossil Track Registry with curiosity, teamwork and kindness.

The paper model uses parts R1-F2-W1-D2-E1, with every habitat layer matched to its evidence. Thank each teammate for a different piece of reasoning.

Date: _____

Host signature: _____

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