

Museum Shadow Case

HOST ONLY - preparation and story

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

Welcome to the shadow puppet museum. A frame was moved during a projection test; the first room note describes the rehearsal, not the later move. Your team has the original records on the table. First recover five pieces of information, then use the final plan to locate the puppet frame. 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 Projection notes, Event 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.

Museum Shadow Case

HOST ONLY - solution guide

1. Record: NORTH

Check source status first, then join the matching tag. The useful information comes from separate records, not their printed row order. Result: NORTH.

2. Order: E

The before relationships connect all four events. Place linked cards, check any immediate handoff and then read the specified position. Result: E.

3. Signal: REST-OPEN

A consistent one-to-one mapping satisfies every training example. Use the complete mapping to read the two-signal message in order. Result: REST-OPEN.

4. Kit: E

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

5. Habitat: BOAT

Compare all printed features with every positive and negative requirement. Reject each near match using the particular requirement it fails. Result: BOAT.

6. Final: BAY-A

Translate each recovered result through its named evidence key. Each location must match all five recovered features. Both values occur equally often in each column, so the location plan alone cannot identify the answer. Checked result: BAY-A.

Museum Shadow Case

HOST ONLY - timeline, story and ending

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

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

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

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

7 minutes: Build the evidenced location using all five results.

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

After Order: A checked entry can explain one feature, while another source can still rule out a near match. Pass the record sheet to a new checker before opening the next clue.

After Kit: Four results are recorded. Each teammate points to a source supporting one result. Complete the fifth check before building the evidenced location.

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

The team finds a missing puppet frame at BAY-A. 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 evidenced location. 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.

Museum Shadow Case

Player clue 1: Record | Team 1

A frame was moved during a projection test; the first room note describes the rehearsal, not the later move. We will use the records on the table to locate the puppet frame. Share the reading, explain each choice and keep the five results for the final plan.

Use the projection notes and frame register to follow the completed record. Match printed keys, then report the requested field. A planned or cancelled entry cannot prove a move.

Projection notes

item: Screen | tag: PINE | status: cancelled

item: Box | tag: WAVE | status: checked

item: Bay | tag: STAR | status: checked

Frame register

tag: STAR | bay: NORTH

tag: PINE | bay: EAST

tag: WAVE | bay: WEST

Cross-check

Match A.tag to B.tag.

A.status is checked.

A.item is not Box.

Report B.bay.

Record result: _____

Museum Shadow Case

Player clue 2: Order | Team 1

Arrange the four event cards using every witness note. "Immediately before" means there is no event between them. Report the requested position after the whole order has been checked.

Event cards

A: Fit puppet

B: Hang screen

C: Test shadow

D: Place lamp

E: Roll screen

Witness notes

B is immediately before D.

D is before A.

A is immediately before C.

C is before E.

Report the event ID in position 5.

Order result: _____

Museum Shadow Case

Player clue 3: Signal | Team 1

Each signal means one different word. Use the training examples to recover the legend. Words marked "any order" may be swapped; compare shared signals across cards. Decode the received message from left to right. The desk uses this message when handling a missing puppet frame.

Unlabelled legend

Signals: DOT, BAR, ARC. Words: OPEN, CHECK, REST.

Each signal has one word; each word is used once.

Training messages

DOT+BAR means OPEN+REST (any order)

BAR+ARC means OPEN+CHECK (any order)

DOT+ARC means REST+CHECK (any order)

Received message

DOT > BAR

Report decoded words in order, with hyphens.

Signal result: _____

Museum Shadow Case

Player clue 4: 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 3; gives tie+light

B: weight 2; gives mark

C: weight 2; gives tie

D: weight 4; gives light+mark

E: weight 4; 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: _____

Museum Shadow Case

Player clue 5: Habitat | Team 1

A rehearsal sketch records the frame top, feet and screen. Compare the silhouette cards and identify the frame that fits the whole sketch.

Frame silhouettes

MOON: top=arch; feet=two; screen=mesh

TOWER: top=flat; feet=two; screen=cloth

TREE: top=arch; feet=three; screen=cloth

BOAT: top=arch; feet=two; screen=cloth

Required features

top must be arch.

feet must be two.

screen must not be mesh.

Report the one matching card ID.

Habitat result: _____

Museum Shadow Case

Player clue 6: Final | Team 1

Use each recorded result in the evidence key to learn one feature. Compare all five features with the location plan. Report the one location ID supported by every source, then explain why a nearby alternative fails.

Use your results from: Record, Order, Signal, Kit, Habitat.

Location plan

BAY-I: leaf / south / stone / lower / square

BAY-J: leaf / south / wood / upper / round

BAY-K: ring / south / stone / upper / square

BAY-L: leaf / north / wood / upper / square

BAY-A: leaf / north / wood / upper / round

BAY-B: ring / south / wood / lower / square

BAY-C: leaf / north / stone / upper / round

BAY-D: ring / south / stone / lower / round

BAY-E: ring / north / wood / upper / round

BAY-F: ring / south / stone / lower / square

BAY-G: leaf / north / wood / lower / round

BAY-H: ring / north / stone / lower / square

Column order and evidence key

Stamp (Record): NORTH=leaf; EAST=ring

Door (Order): A=south; E=north

Surface (Signal): REST-OPEN=wood; OPEN-CHECK=stone

Level (Kit): A-B=lower; E=upper

Seal (Habitat): BOAT=round; MOON=square

Final result: _____

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

Museum Shadow Case

Hint level 1 - HOST ONLY

1. Record

Start with the status field in Projection notes.

2. Order

Read the event letters and all three witness notes.

3. Signal

Look at the training cards that share one signal.

4. Kit

Read each supply card and the three required needs.

5. Habitat

Read the frame silhouettes and the requirements.

6. Final

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

Museum Shadow Case

Hint level 2 - HOST ONLY

1. Record

The tag links an item to a bay; rows in separate records need not line up.

2. Order

Join immediately-before pairs as a block; other before notes set the direction between blocks.

3. Signal

In an unordered pair, a word cannot be assigned by its left/right position. Use the overlap with another pair.

4. Kit

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

5. Habitat

Compare the same named feature across cards; check negative requirements as carefully as positive ones.

6. Final

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

Museum Shadow Case

Hint level 3 - HOST ONLY

1. Record

Keep only entries meeting every status test. Follow each printed join to the report field; do not guess from row position.

2. Order

Try the remaining positions, then check every note against your full order before reading the requested position.

3. Signal

Give each signal a different word, check every training example and only then decode the received message in its printed order.

4. Kit

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

5. Habitat

Keep a card only if it passes every requirement. Point to the failing feature before crossing out each alternative.

6. Final

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

Museum Shadow Case

Team 1 result record

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

Record: _____

Order: _____

Signal: _____

Kit: _____

Habitat: _____

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.

Museum Shadow Case

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.

Museum Shadow Case

You're invited to a mystery!

Join Birthday Explorer for Museum Shadow Case.

A frame was moved during a projection test; the first room note describes the rehearsal, not the later move. Work together to locate the puppet frame.

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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Museum Shadow Case

Mystery Explorer

Presented to Birthday Explorer

Team member: _____

For completing Museum Shadow Case with curiosity,
teamwork and kindness.

The team finds a missing puppet frame at BAY-A. Thank each teammate
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