Clockmaker Birthday Repair

HOST ONLY - preparation and story

Includes answers. Keep these pages with an adult.

The birthday team has arrived, but one important part of the celebration is missing. Restart a paper clock for the birthday celebration. Collect five named badge digits, then use the final sheet to finish your mission. All the clues you need are printed here. Work together and ask for a hint whenever you want.

1. Print one player pack and two prop sheets per team. Keep all host and hint pages with an adult.

2. Put clue pages 1-5 at the table. Place the final sheet face down until the five badges are collected.

3. Share pencils and choose a reader, recorder and path finder. Swap jobs after each clue.

Players: 4; teams: 1. Print one player and prop set per team. Invitations and certificates: 4 each.

No locks, purchases or cutting required. Keep all clues at a low table. Scissors are optional and for adults only.

Clockmaker Birthday Repair

HOST ONLY - solution guide

1. Steps: 8

The rules form one chain: Draw a plan > Gather paper > Build the model > Show the model. Read card 4.

2. Dial: 1

Replace every symbol with its letter, including repeated symbols. Convert the decoded word using the printed table.

3. Gear: 3

Reflection pairs column 1 with 4 and column 2 with 3. Add the marked left cell and its reflected right cell.

4. Hands: 3

Only one card has craters=yes and tail=no.

5. Face: 4

Align each position in strip A with the same position in strip B. Count every unequal pair once.

6. Final: 13843

grid-placement: Dial > Hands > Steps > Face > Gear. Keep leading zeroes.

Clockmaker Birthday Repair

HOST ONLY - timeline and paper check

3 minutes: Read the opening story and explain the badges.

5 minutes: Solve Steps; offer one hint at a time.

5 minutes: Solve Dial; offer one hint at a time.

5 minutes: Solve Gear; offer one hint at a time.

5 minutes: Solve Hands; offer one hint at a time.

5 minutes: Solve Face; offer one hint at a time.

5 minutes: Combine the badges on the final sheet.

2 minutes: Read the ending and award certificates.

Paper completion: check each badge against the solution guide, then check the final code. No device is required.

Mission complete! Clockmaker Birthday Repair is ready for its birthday celebration. Thank your team for sharing ideas and helping one another.

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

Clockmaker Birthday Repair

Player clue 1: Steps | Team 1

Welcome, birthday explorers! Restart a paper clock for the birthday celebration. Find five badge numbers. Use them on the last page. You can help each other and ask me for hints.

Use the BEFORE rules to put the four cards in order. Take the number on card 4.

Build the model [6]	**Draw a plan [2]**
Show the model [8]	**Gather paper [4]**

Draw a plan BEFORE Gather paper

Gather paper BEFORE Build the model

Build the model BEFORE Show the model

Read position 4 (positions start at 1).

Steps badge: _____

Clockmaker Birthday Repair

Player clue 2: Dial | Team 1

Use the symbol key to decode the message. Use the word-to-number table to turn the word into a digit.

Start after badges: Steps.

triangle = O square = N circle = E

triangle square circle

ONE = 1

Dial badge: _____

Clockmaker Birthday Repair

Player clue 3: Gear | Team 1

Imagine folding the right half onto the left along the dashed line. At the starred square, add the two numbers that meet. No cutting or folding is needed.

Start after badges: Steps.

1	*** 1**	**2**	**3**
2	**1**	**3**	**1**

Fold RIGHT half onto LEFT. * marks the target.

Paper-only alternative: pair 1 with 4 and 2 with 3.

Gear badge: _____

Clockmaker Birthday Repair

Player clue 4: Hands | Team 1

Choose the card that matches BOTH required properties. Copy its digit.

Start after badges: Steps.

Rule: craters = yes

Rule: tail = no

Hands A - digit 3
craters: yes / tail: no

Hands B - digit 7
craters: no / tail: no

Hands C - digit 0
craters: yes / tail: yes

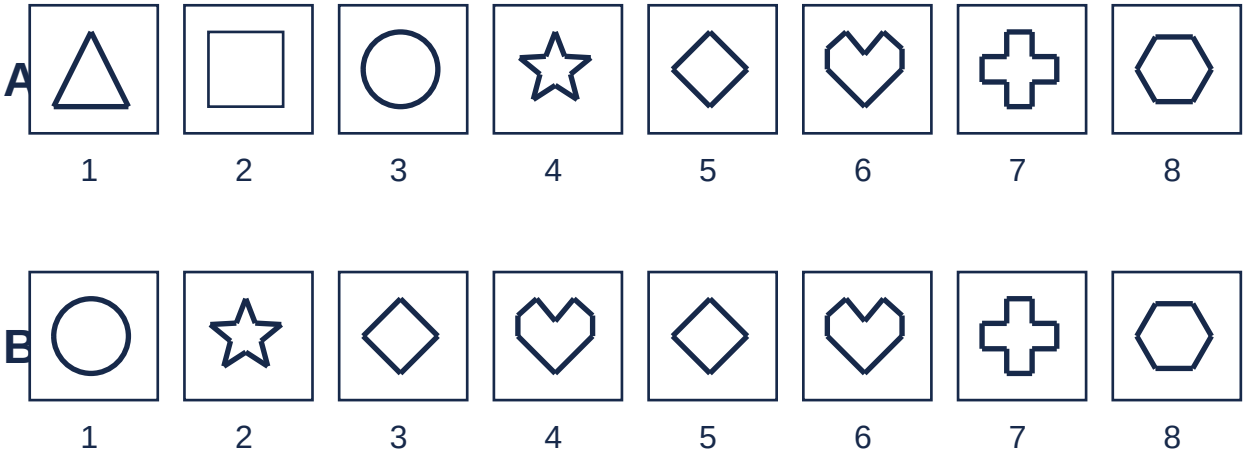
Hands badge: _____

Clockmaker Birthday Repair

Player clue 5: Face | Team 1

Compare the two strips position by position. How many positions have different shapes? Count positions, not shapes.

Compare matching numbered positions.



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

Face badge: _____

Clockmaker Birthday Repair

Player clue 6: Final | Team 1

Place each badge digit in its named slot. Follow the printed reading order and join the five digits.

A2: Steps ?	**B2: Dial** ?	**C2: Gear** ?
D2: Hands ?	**E2: Face** ?	

READ SLOTS IN THIS ORDER:

B2 > D2 > A2 > E2 > C2

Final badge: _____

Need help? Ask your host for one hint at a time.

Clockmaker Birthday Repair

Hint cards - level 1 (spoilers; keep with host)

1. Steps

Use the written rules rather than the printed card order.

2. Dial

The same symbol always means the same letter.

3. Gear

The middle dashed line is the fold.

4. Hands

A card must satisfy both rules.

5. Face

Compare the first square in A with the first square in B.

6. Final

Keep the five badge results visible. Every number has a badge name.

Clockmaker Birthday Repair

Hint cards - level 2 (spoilers; keep with host)

1. Steps

Find the card that has no earlier card.

2. Dial

Write one letter under every symbol.

3. Gear

The outside right square meets the outside left square.

4. Hands

Cross out any card that fails one condition.

5. Face

Mark a pair only if its shapes differ.

6. Final

Use the order, slots, route or matching columns printed on this page.

Clockmaker Birthday Repair

Hint cards - level 3 (spoilers; keep with host)

1. Steps

Place each card immediately after its predecessor; count positions from one.

2. Dial

Read the letters from left to right and use the printed number table.

3. Gear

Find the mirror partner of the marked square and add their two printed values.

4. Hands

Check the remaining card against both properties before copying its digit.

5. Face

Count the marks, not the total number of printed shapes.

6. Final

Start with the Dial badge, then follow the printed rule.

Clockmaker Birthday Repair

Team 1 badge record (no cutting needed)

Write a digit beside each badge as you solve its clue.

Steps: _____

Dial: _____

Gear: _____

Hands: _____

Face: _____

Reader: reads the clue. Recorder: writes the digit. Path finder: traces routes. Swap roles every clue.

Clockmaker Birthday Repair

Team 1 paper unlock card

Our five badges are ready. We used the final sheet to find this code:

_____

Host: compare this with your solution guide. When it matches, read the ending and celebrate.

No physical lock or prize is required. You may draw a celebration star on this card.

Clockmaker Birthday Repair

You're invited to a birthday mystery!

Join Birthday Explorer for Clockmaker Birthday Repair.

Restart a paper clock for the birthday celebration.

Date: _____

Time: _____

Place: _____

Bring your curiosity. Paper and pencils are provided. Work together, share ideas and solve six clues.

Designed for ages 8-10. Estimated 35-45 minutes.

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Clockmaker Birthday Repair

Birthday Mystery Explorer

Presented to Birthday Explorer

Team member: _____

For completing Clockmaker Birthday Repair with curiosity, teamwork and kindness.

Mission complete! Clockmaker Birthday Repair is ready for its birthday celebration. Thank your team for sharing ideas and helping one another.

Date: _____

Host signature: _____

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