

Mirror & Water Image

~ Reasoning · SSC Exams ~



← circled = key tricks!



A **Mirror Image** is what a **vertical mirror** shows (left↔right swap). A **Water Image** is what still water shows (top↔bottom swap). Same object, two very different reflections!

① The 2 Golden Rules >|<

Rule 1 — MIRROR (line is VERTICAL, to the left/right of the object): the **order of letters REVERSES** (last becomes first) and every letter flips sideways (left↔right).

Rule 2 — WATER (line is HORIZONTAL, object sits above a pond): the **order stays the SAME** (still reads left to right) but every letter flips upside-down (top↔bottom).

Rule 3 — Quick test: always ask first — is the line vertical or horizontal? That single question decides everything else.

Worked example — mirror image of the word BOX

Step 1 — draw the vertical mirror line just to the right of the word.

Step 2 — the order reverses (X, O, B) and every letter flips left↔right.

BOX | BOX

Answer → the mirror shows a reversed, sideways-flipped **BOX** (reads like XOB, each letter flipped). ✓



This notebook covers every SSC mirror & water topic: symmetric letters, digits, words, clocks, combined figures & the classic traps — each with a solved SVG example.



Tip → sketch the line FIRST, then flip each element across it one at a time — never try to flip the whole word in your head at once.

② Letters Unchanged in a Mirror A | A

Rule

A capital letter looks **identical** in a vertical mirror only if its left half is already a mirror of its right half (symmetric about a VERTICAL line). Only **11 letters** qualify:

A H I M O T U V W X Y

Worked example – A vs R

A: **A** | **A** — identical ✓ R: **R** | **Я** — reversed shape ✗

Answer → A is in the unchanged list (symmetric); R is not (its curve+leg aren't mirror-symmetric), so its mirror looks like a **new, reversed R-shape**. ✓

Try this – count the symmetric letters

Word: **TAXI** — T ✓, A ✓, X ✓, I ✓ — all 4 letters are in the unchanged list! So TAXI's mirror image keeps the **same 4 letter-shapes**, just written in reverse order (I, X, A, T). ✓

Full A-Z mirror-image table

A	A	B	Я	C	Ɔ	D	Ԁ	E	Ǝ	F	Ǝ
G	Ɔ	H	H	I	I	J	Ɔ	K	Ǝ	L	J
M	M	N	И	O	O	P	Ԁ	Q	Ɔ	R	Я
S	Ǝ	T	T	U	U	V	V	W	W	X	X
Y	Y	Z	S								



Memory trick → say “**AHOY, MUST TIV WIN**” (A,H,O,Y,M,U,T,I,V,W ... plus X) to recall all 11 in one breath.

③ Mirror Image of Digits

Rule

Only **0** (a symmetric oval) and **8** (two stacked symmetric loops) look the same in a mirror. Every other digit produces a reversed, unfamiliar shape — you don't relabel it as a different digit.

 **BIG TRAP** → 6 & 9 swap **ONLY** in a **WATER** image (see page 8) — in a **MIRROR** they do **NOT** turn into each other!

Worked example — mirror image of 2589

Step 1 — reverse the order of digits: 9, 8, 5, 2.

Step 2 — flip each digit's shape sideways.

2589 | Ɔ82S

Answer → a reversed-order, sideways-flipped digit string (reads like 9852, each digit mirrored).



0–9 mirror-image table

0	0	1	1	2	Ɔ	3	ε	4	Ɔ
5	Ɔ	6	ɹ	7	Ɔ	8	8	9	Ɔ



Remember page 1's Rule 1 → for **ANY** number/word, the **ORDER** always reverses in a mirror. Digit shapes just come along for the ride.

④ Mirror Image of Words >|<

Recap

Order reverses + every letter flips sideways. Check each letter separately against the page 2 unchanged-list before combining.

Worked example – SHIP

Step 1 — check each letter: S ✗, H ✓, I ✓, P ✗.

Step 2 — reverse the order & flip: SHIP | ƆIHƆ

Answer → reversed order (P,I,H,S) with H & I unchanged, S & P mirrored into new shapes. ✓

Worked example – WAVE (3 symmetric letters!)

W ✓, A ✓, V ✓, E ✗ — only E changes shape.

WAVE | ƎVƆW

Answer → order becomes E,V,A,W — V,A,W keep their shape, only E looks new. ✓

Try these

HAT → order T,A,H — all 3 symmetric! ✓

KIND → order D,N,I,K — only I symmetric.

MOTHER → order R,E,H,T,O,M — M,O,T symmetric.

OXIDE → order E,D,I,X,O — O,I,X symmetric.



Repeated letters (like the two O's in MOTHER) each flip *independently* — treat every occurrence on its own.

⑤ Mirror Image of a Clock 🕒

Formula

Mirror time = **11:60** - **given time** (equivalently $12:00 - \text{time}$). Use 11:60 so you never subtract a bigger number of minutes from a smaller one.

Worked example – 4:20



Step 1 – write as 11:60.

Step 2 – $11:60 - 4:20 = 7:40$.

Answer → **7:40**. ✓

Quick conversions

2:10 → **9:50**

9:15 → **2:45**

7:35 → **4:25**

9:00 → **3:00** (minutes=0, use $12:00 - \text{time}$)



Self-mirror times → **6:00** & **12:00** are their own mirror image – both hands sit exactly on the vertical 12-6 line, so nothing changes!

⑥ Water Image – The Basics ~

Rule

Imagine the object sitting on the bank of a still pond. Its reflection appears **below a HORIZONTAL line**: the **left-right order stays the SAME**, but every letter flips **top↔bottom** (looks upside-down).

Worked example – water image of CODE

Step 1 – draw a horizontal water line right under the word.

Step 2 – keep the same order (C, O, D, E) and flip each letter upside-down.

CODE

CODE

Answer → still reads C,O,D,E left to right, but every letter looks upside-down. ✓

Mirror vs Water – same word, two answers

Word: **DIG**

Mirror → order reverses to G,I,D + each letter flips sideways.

Water → order stays D,I,G + each letter flips upside-down.

Two completely different pictures from one word – that's the whole exam trick! ✓

Try this

Water image of **LAMP** → order stays L,A,M,P; every letter flips top↔bottom (L,A,M are in the page 7 unchanged-list, only P looks new). ✓



Tip → if the line is drawn **ABOVE** or **BELOW** the figure, think **WATER**; if it's to the **LEFT** or **RIGHT**, think **MIRROR**.

⑦ Letters Unchanged in Water

Rule

A letter looks **identical** in a water image only if its top half already mirrors its bottom half (symmetric about a HORIZONTAL line). **9 letters** qualify:

B C D E H I K O X



Key trick → only **H, I, O, X** are unchanged in **BOTH** mirror **AND** water – they have symmetry along both lines!

Worked example – B vs F

B: $\frac{B}{B}$ — identical ✓ F: $\frac{F}{\text{new shape}}$ — new shape ✗

Answer → B's two loops are top-bottom symmetric so it's unchanged; F's arms are only near the top, so its water image looks completely different. ✓

Full A–Z water-image table

A	V	B	B	C	C	D	D	E	E	F	⌒
G	q	H	H	I	I	J	ɹ	K	K	L	ɿ
M	W	N	И	O	O	P	Ԁ	Q	Ϙ	R	Ԁ
S	2	T	⌒	U	∩	V	Λ	W	∩	X	X
Y	λ	Z	S								

⑧ Water Image of Numbers & Words

The famous swap

0, 1, 8 look the same upside-down. But flip 6 upside-down and it looks exactly like 9 — and 9 flips into 6! The digit ORDER never changes in water (only the shapes flip).

6 ↻ looks like 9 9 ↻ looks like 6

Worked example — water image of 689

Step 1 — keep the same left-to-right order: position 1 = 6, position 2 = 8, position 3 = 9.

Step 2 — flip each digit: 6→9, 8→8, 9→6.

Answer → the water image reads **986** (same positions, new shapes). 

Worked example — water image of DECK

D ✓, E ✓, C ✓, K ✓ — every letter of DECK is in the page 7 unchanged-list!

DECK

DECK

Answer → the water image looks exactly like **DECK** again — a rare “fully self-symmetric” word!



0–9 water-image table

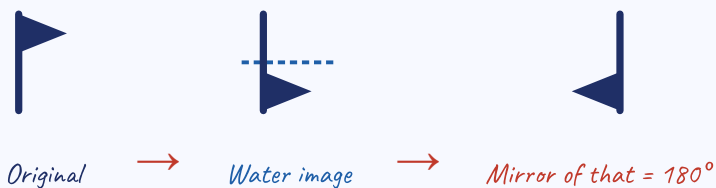
0	0	1	1	2	5	3	3	4	4
5	2	6	9	7	5	8	8	9	6

⑨ Combined Problems & Figures

Key trick

Take the **WATER** image of a figure, then take the **MIRROR** of that result — you get the **SAME** thing as rotating the original figure by **180°**! (Order doesn't matter — mirror-then-water also = 180°.)

Worked example — a simple flag figure



Answer → the flag ends up pointing the opposite way, upside-down from the start — exactly a **180° rotation**. ✓

SUN: mirror vs water side by side

SUN | MƆZ SUN
 200

Mirror — order reverses

Water — order stays same

Same word, two very different images — always re-check which **LINE** the question draws. ✓



Trap → students often apply the mirror rule (reverse order) when the question actually asks for water, or vice-versa. Read the line's direction first!

How to Attack ANY Mirror/Water Question

- 1→ Identify the line: **VERTICAL** = mirror, **HORIZONTAL** = water.
- 2→ Mirror → **reverse the order** of characters, then flip each one sideways.
- 3→ Water → **keep the order**, flip each character upside-down.
- 4→ Check each letter/digit against the unchanged-lists (pages 2, 7) before assuming it changes.
- 5→ For a clock, use **11:60 - time**. For a combined question, do one flip at a time.



Common traps → swapping mirror/water rules; thinking 6↔9 happens in a mirror; forgetting order reverses only in a mirror; miscounting clock minutes.

Quick-Revision Gallery – one-glance recap

Mirror: vertical line, order **REVERSES**

Mirror-same letters: A H I M O T U V W X Y

Same in BOTH: H, I, O, X

Digits same (water): 0, 1, 8

Clock: mirror time = 11:60 - time

Water then Mirror: = 180° rotation

Water: horizontal line, order **SAME**

Water-same letters: B C D E H I K O X

Digits same (mirror): 0, 8

6 ↔ 9: swap **ONLY** in water

Self-mirror clock: 6:00, 12:00

Line direction: V=mirror, H=water

Exercise – Mirror or Water?

Real SSC-style questions — solve, then check the Answer Key on the next page.

Q1. Mirror image of **FROG** is?

(1) GORF (2) FROG (3) GROF (4) ORGF

Q3. Which letter looks **DIFFERENT** in a vertical mirror?

(1) H (2) O (3) R (4) X

Q5. In the water image of **CODE**, which letter is **FIRST** (left to right)?

(1) C (2) E (3) D (4) O

Q7. Mirror image of clock time **9:00** is?

(1) 3:00 (2) 9:00 (3) 6:00 (4) 12:00

Q9. The digit 6 turns into 9 in which image type?

(1) Mirror only (2) Water only (3) Both (4) Neither

Q11. In a **WATER** image, the order of letters:

(1) stays same (2) reverses (3) alphabetical (4) random

Q2. Mirror image of **MATH** is?

(1) HTAM (2) MATH (3) HTMA (4) MTAH

Q4. Which letter looks the **SAME** in a water image?

(1) F (2) G (3) K (4) L

Q6. Mirror image of clock time **4:20** is?

(1) 8:40 (2) 7:40 (3) 8:20 (4) 7:20

Q8. Which clock time is its **OWN** mirror image?

(1) 3:00 (2) 6:00 (3) 9:00 (4) 5:30

Q10. In a **MIRROR** image, the order of letters:

(1) stays same (2) reverses (3) alphabetical (4) random

Q12. Water image, then mirror image, of a figure equals:

(1) original unchanged (2) 180° rotation (3) 90° rotation (4) two water images



Sketch the line first for every question, then flip element by element – then flip the page to check.



Answer Key

Q1 → **GORF** — none of F,R,O,G are symmetric; order simply reverses.

Q2 → **HTAM** — M,A,T,H are ALL mirror-unchanged; order reverses to H,T,A,M.

Q3 → **R** — H, O, X are in the 11-letter mirror-unchanged list; R is not.

Q4 → **K** — K is in the 9-letter water-unchanged list (B,C,D,E,H,I,K,O,X); F,G,L are not.

Q5 → **C** — water image keeps the SAME left-right order, only flips each letter upside-down.

Q6 → **7:40** — $11:60 - 4:20 = 7:40$.

Q7 → **3:00** — minutes are 0, so simply $12:00 - 9:00 = 3:00$.

Q8 → **6:00** — both hands lie on the vertical 12-6 axis, so it's self-mirror (12:00 also works but isn't an option here).

Q9 → **Water only** — flipping 6 top-to-bottom makes it look like 9; a sideways mirror flip does NOT do this.

Q10 → **Reverses** — Golden Rule 1 from page 1.

Q11 → **Stays same** — Golden Rule 2 from page 1.

Q12 → **180° rotation** — the page 9 combined-image key trick.

Score yourself

10–12 correct → **excellent**, mirror & water is your strength! 6–9 → **good**, revisit pages 2, 7 & 9.

Below 6 → **redo** the “How to Attack” steps on page 10 slowly.

30-second final recap

Vertical line = **MIRROR**, order reverses

Horizontal line = **WATER**, order same

Mirror-same: A H I M O T U V W X Y

Water-same: B C D E H I K O X

Clock mirror = $11:60 - \text{time}$

$6 \leftrightarrow 9$ swap only in WATER

☆ Flip the line, flip the answer! ☆

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