

MCQ Question · mcqquestion.com

Weights and Measures of the Indus Valley Civilization

Free · Share

Weights and Measures of the Indus Valley Civilization

The Harappans cut small stone weights in fixed steps and marked rulers with fine divisions. This article covers the weight ladder, the scales, and what they show about trade.

At a glance

Four key facts on this topic

01 **1 to 64**Binary weights.

02 **160 to 12,800**Decimal weights.

03 **13.2 in**The foot unit.

04 **4:2:1**Brick ratio.

The weights

1 Short Answer

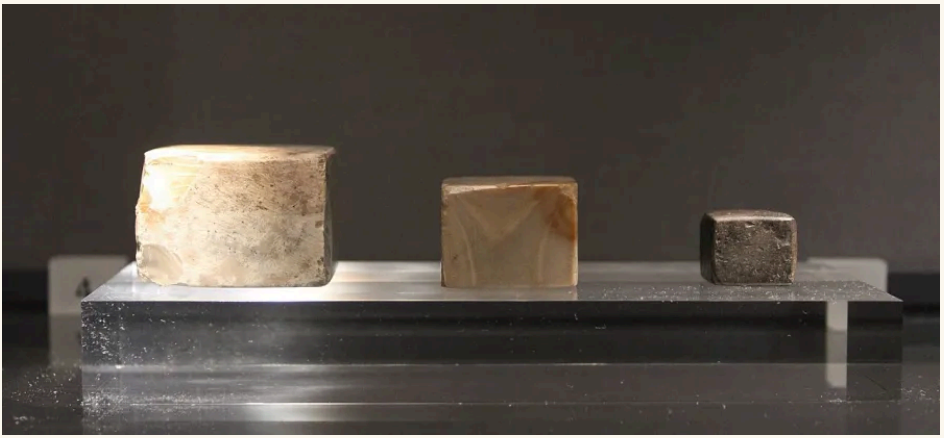
1.1 What were weights and measures in the Indus civilisation?

The Harappans used a standard set of stone weights and a few marked rulers. Weights came in fixed steps, so a trader could weigh goods the same way in different towns.

The mature phase of the civilisation ran from about 2600 to 1900 BCE. That is roughly 4,000 to 4,600 years ago.

1.2 Why does this matter for exams?

Standard weights are evidence of organised trade and exact measuring. UPSC used this idea in the Prelims 2026 paper. The details are in card 6.



Three cubical chert weights from Mohenjo-daro, c. 2600–1900 BCE, in the Ashmolean Museum. Image: Zunkir, CC BY-SA 4.0, via Wikimedia Commons.

12. **Think it through:** What is a weight system? See answer ↓

Quick check 1. True or false: The Harappans used standard weights across their cities. *(True or False?)* See answer ↓

Quick check 2. True or false: The mature Harappan phase ran from 2600 to 1900 BCE. *(True or False?)* See answer ↓

Sources: ncert.nic.in; web.archive.org; commons.wikimedia.org

2 The Weight System

2.1 What were the weights made of?

Most weights are neat cubes of banded grey chert. The stone came mainly from the Rohri hills in Sindh.

A few weights use slate, alabaster, quartzite or jasper. Some are truncated spheres of agate or chalcedony. Their two flat faces stopped them from rolling away.

2.2 How were the weights graded?

The small weights doubled at each step. This is a binary system. The large weights followed a decimal system instead.

The Indus weight ladder

Range	Pattern	Ratios
Small weights	Binary (doubling)	1, 2, 4, 8, 16, 32, 64
Large weights	Decimal	160, 200, 320, 640, 1,600, 3,200, 6,400, 8,000, 12,800

Note that 12,800 belongs to the decimal range, not the binary run.

2.3 How heavy were they?

The base unit works out at about 0.86 grams. The most common weight is the 16th ratio. It weighs about 13.7 grams. The heaviest weight found at Mohenjo-daro is 10,865 grams, or about 25 pounds.

13. **Think it through:** Why is 200 in the decimal range? See answer ↓

Quick check 3. True or false: Weights up to 12,800 follow the binary doubling pattern. *(True or False?)* See answer ↓

Quick check 4. True or false: The most common Harappan weight was about 13.7 grams. *(True or False?)* See answer ↓

Sources: web.archive.org

3 Who Used the Weights

3.1 Where did the weight system come from?

No one knows for sure. One idea links the base unit to the gunja seed. This is the seed of the Abrus plant. About eight seeds weigh roughly one base unit. Kenoyer notes that other seeds could also have set the unit.

3.2 How were the weights used?

NCERT says the weights regulated exchange and were usually without markings. The smaller ones probably weighed jewellery and beads. Metal scale-pans have also been found.

Kenoyer finds the most weights near city gateways and craft areas. Goods entering a city may have been weighed and taxed there. Bead makers also helped make the weights.

3.3 Was the system sudden?

No. Kenoyer argues it spread slowly over 200 to 250 years, between 2600 and 2450 BCE. The stone cubes vanished with the civilisation. The system of weights lived on into the Early Historical period. Kenoyer says it is still used across South Asia.

14. **Think it through:** Why would a city weigh goods at its gates?

See answer ↓

Quick check 5. True or false: Harappan weights usually carried written markings. *(True or False?)* See answer ↓

Quick check 6. True or false: Small Harappan weights were probably used for jewellery and beads. *(True or False?)* See answer ↓

Lengths and bricks

4 Rulers and Lengths

4.1 What is the Mohenjo-daro shell scale?

It is a ruler made of shell, found broken at both ends. Ernest Mackay, who directed the excavation, called it a measure of length. Its divisions are about 1.32 inches, or 3.35 cm.

The rod is divided on a decimal plan. Groups of ten divisions are marked by circles. Ten units probably give about 13.2 inches, close to the foot used across western Asia.

4.2 What other lengths were in use?

- A **cubit** of about 20.7 inches, or 52.6 cm, is also reported. Kenoyer gives 52.83 cm. Use “about 52 to 53 cm”.
- A bronze rod from Harappa is marked in lengths of about 0.367 inch, or 0.93 cm. Britannica reads this as half a digit of the cubit.
- The Kalibangan scale is reported to have a unit of 17.5 cm. That figure comes from a secondary source.

4.3 How accurate were these scales?

Petrie measured a cast of the Mohenjo-daro scale. He found a mean error of graduation of 0.003 inch. That is very small. Britannica adds that measurements from some structures show the units were applied in practice.

4.4 Were bricks measured too?

Yes. NCERT says Harappan bricks were in the ratio 4:2:1 for length, breadth and height. The ratio held from Jammu to Gujarat. Kenoyer links it to the width of a hand.

> 15. **Think it through:** Why is the Harappa rod only half a digit?
> See answer ↓

> **Quick check 7.** True or false: The foot unit of about 13.2 inches is the same as the cubit. *(True or False?)* See answer ↓

Quick check 8. True or false: Harappan bricks were made in the ratio 4:2:1. *(True or False?)* See answer ↓

Sources: web.archive.org; arxiv.org

What it shows, and the exam link

5 What It Tells Us

5.1 What does the standardisation show?

It shows careful trade and craft work. Kenoyer cautions that this standard does not point to one overarching authoritarian or political force.

Cities followed a general common standard, with some regional variation. So “identical everywhere” is too strong.

5.2 How does this link to trade abroad?

Harappan seals have been found at Ur. NCERT lists seals and weights among finds that suggest long-distance contact. Mesopotamian texts name Meluhha, which may be the Harappan region. Trade with Meluhha is recorded from about 2350 BCE.

5.3 What about Lothal?

Lothal in Gujarat was excavated between 1955 and 1962. The excavator announced a dockyard there, and Ratnagar says the claim caused a stir. The large basin is an interpretation.

5.4 Is the weight scheme settled?

No. A later analysis that added Lothal weights proposes two decimal series. Britannica says much work remains to understand the full system.

16. **Think it through:** Does uniform weights prove a strong state?
See answer ↓

Quick check 9. True or false: Lothal's dockyard is an interpretation of a large basin. *(True or False?)* See answer ↓

Quick check 10. True or false: Harappan weights were perfectly identical in every city. *(True or False?)* See answer ↓

Sources: web.archive.org

6 UPSC Link and Traps

6.1 How did UPSC use this?

Asked before

PYQ 1 · UPSC Civil Services Preliminary 2026, General Studies Paper I, Q8

Consider the following statements about the archaeological findings in Harappan “towns”: I. There is wide occurrence of spindle-whorls in the houses but absence of spinning wheels. II. Weights and measurement scales, complete with graduations have been discovered. III. There are houses built in large part with baked bricks, around relatively spacious courtyards, with their own wells, bathing platforms, and large rooms. Which of the following inferences can be drawn from the above statements? 1. Statement I suggests that spinning was a laborious activity done at home. 2. Statement II suggests the extent of the scientific knowledge that the Harappans possessed. 3. Statement III suggests the emergence of a common property system.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

mcqquestion.com/articles/upsc-csp-2026-general-studies-paper-i-full-question-paper/#q8

Practice these questions with instant scoring on mcqquestion.com →

6.2 Which facts do students mix up?

- Binary ends at 64. Decimal runs from 160 to 12,800.

- 13.2 inches is the foot. The cubit is about 20.7 inches.
- Base unit about 0.86 g. Most common weight about 13.7 g.
- Mohenjo-daro had the shell scale. Harappa had the bronze rod.
- Lothal's dock is an interpretation, not a settled fact.

Quick check 11. True or false: The Prelims 2026 question treats weights and scales as evidence of scientific knowledge. *(True or False?)* See answer ↓

Sources: mcqquestion.com

Remember this

- **Dates:** Mature Harappan, 2600 to 1900 BCE.
- **Weights:** binary 1 to 64, then decimal 160 to 12,800.
- **Units:** base about 0.86 g. Common weight about 13.7 g.
- **Lengths:** shell scale 1.32 in. Foot 13.2 in. Cubit about 20.7 in.
- **Bricks:** 4:2:1 from Jammu to Gujarat.

Explain it back: Why do standard weights suggest organised trade?

Practice MCQs

1. How did the lower denominations of Harappan weights increase?

A. In steps of ten

B. In doubling steps: 1, 2, 4, 8, 16, 32, 64

C. In steps of sixteen

D. In random steps

See answer ↓

2. Which stone was most often used for Harappan cubical weights?

A. Banded chert

B. Marble

C. Sandstone

D. Granite

See answer ↓

3. The Mohenjo-daro shell scale has divisions of about what length?

A. 20.7 inches

B. 13.2 inches

C. 0.37 inch

D. 1.32 inches

See answer ↓

4. Which ratio gives the most common Harappan weight, about 13.7 grams?

A. The 16th

B. The 1st

C. The 8th

D. The 64th

See answer ↓

5. In what ratio were Harappan bricks made for length, breadth and height?

A. 3:2:1

B. 1:2:4

C. 4:2:1

D. 2:2:1

See answer ↓

6. In the UPSC Prelims 2026 question on Harappan towns, weights and graduated scales were taken as evidence of what?

A. A common property system

B. Use of iron tools

C. Use of the spinning wheel

D. Scientific and mathematical knowledge

See answer ↓

Answer Key

1. **B.** The answer is **doubling steps: 1, 2, 4, 8, 16, 32, 64**. This is a binary system. Why the others fail: the larger weights, 160 and above, follow a decimal pattern, and 200 is not a multiple of 16. Memory hook: binary small, decimal large. ↑ Q1
2. **A.** The answer is **banded chert**. Most weights are cubes of banded grey chert from the Rohri hills in Sindh. Why the others fail: the sources do not list marble, granite or sandstone for the cubes. Memory hook: chert cubes. ↑ Q2
3. **D.** The answer is **1.32 inches, or 3.35 cm**. Ten such units probably give about 13.2 inches, the foot. Why the others fail: 0.37 inch is a division on the Harappa bronze rod. 20.7 inches is the cubit. Memory hook: 1.32 for the shell, 13.2 for the foot. ↑ Q3
4. **A.** The answer is **the 16th ratio**. It weighs about 13.7 grams. Why the others fail: the 1st ratio is the base unit of about 0.86 gram. The heaviest known weight at Mohenjo-daro is 10,865 grams. Memory hook: sixteenth, thirteen-seven. ↑ Q4
5. **C.** The answer is **4:2:1**. NCERT says the length and breadth were four times and twice the height. Why the others fail: 1:2:4 reverses the order. The ratio held from Jammu to Gujarat. Memory hook: longest first, 4:2:1. ↑ Q5
6. **D.** The answer is **scientific and mathematical knowledge**. That is inference 2 in the question. Why the others fail: the houses statement does not show a common property system. The paper says spinning was done without a wheel. Memory hook: scales mean science. ↑ Q6

Quick-check answers

1. **True.** The weights follow one general system, with some regional variation. ↑ 1
2. **True.** NCERT gives these dates for the Mature Harappan phase. ↑ 2
3. **False.** Only 1 to 64 are binary. The larger ratios, 160 to 12,800, are decimal. ↑ 3
4. **True.** It is the 16th ratio. Sources differ slightly in the second digit. ↑ 4
5. **False.** NCERT says they were usually without markings. ↑ 5
6. **True.** NCERT gives this use for the smaller weights. ↑ 6
7. **False.** The foot is about 13.2 inches. The cubit is about 20.7 inches. ↑ 7

8. **True.** Length, breadth and height followed this ratio at all Harappan settlements. ↑ 8
9. **True.** Ratnagar describes the basin as interpreted as a dockyard. ↑ 9
10. **False.** There was a general standard, with some regional variation. ↑ 10
11. **True.** That is inference 2, which is correct. ↑ 11
12. **Think it through.** It is a ladder of fixed units. Each step is a known multiple of the one below it. ↑ 12
13. **Think it through.** It is not a multiple of 16. So the large weights do not simply continue the doubling. ↑ 13
14. **Think it through.** Weighing at the gate lets officials or merchants check quantity before the goods enter the city. ↑ 14
15. **Think it through.** Britannica reads its 0.93 cm divisions as half a digit of the cubit. So the rod worked as a small sub-unit. ↑ 15
16. **Think it through.** Not by itself. Kenoyer suggests traders could keep the standard without a central ruler. ↑ 16

Previous year answers

1. **(a) 1 and 2 only** Weights and scales support inference 2. The houses point away from a common property system. For the full reasoning see Harappan Houses, Weights, and the Private Property Inference .

Practice these questions with instant scoring on mcqquestion.com →

Curated by Arsalan Zuberi · mcqquestion.com

Scan to read online

https://mcqquestion.com/articles/artnculture0175-weights-and-measures-of-the-indus-valley-civilization/