

**Benchmarks – Indicators -- Mapping
Masonry**

1. **Understand and explain the purposes for studying masonry. (VI, VII) (August) CE, GE**
 - A. Identify various careers in the field of masonry. **(wt)**
 - B. List possible education requirements. **(wt)**
 - C. List skills required of people in masonry. **(wt)**

2. **Understand, explain, and mix mortars. (I, II, III, IV, V, VI) (August) CS, LS**
 - A. State purposes of mortar. **(wt)**
 - B. Match terms associated with mortars to their correct definitions. **(wt)**
 - C. List equipment used in mixing mortars. **(wt)**
 - D. List ingredients used in mortars. **(wt)**
 - E. Match types of mortars to their recommended uses. **(wt)**
 - F. State factors to consider when mixing mortar. **(wt)**
 - G. Discuss the causes and effects of efflorescence. **(wt)**
 - H. Demonstrate mixing reusable mortar. **(pt)**

3. **Identify different types of brick and block. (VI) (August/September) LS**
 - A. Match terms associated with masonry units to their correct definitions. **(wt)**
 - B. Name types of brick. **(wt)**
 - C. Match brick sizes to their correct names. **(wt)**
 - D. State factors to consider when selecting brick. **(wt)**
 - E. Identify brick positions as they appear in a wall. **(wt)**
 - F. State important properties of brick. **(wt)**

4. **Identify different types of bonds. (VI) (August/September) LS**
 - A. Distinguish among the different types of bonds. **(wt)**
 - B. Label basic structural bonds. **(wt)**
 - C. Identify common concrete masonry units. **(wt)**

5. **Explain and demonstrate the proper use of the trowel. (I, II, VI) (September/October/November/December) CS, HOTS, LS**
 - A. Explain the parts of the trowel. **(wt, pt)**
 - B. Explain and demonstrate proper trowel grip. **(wt, pt)**
 - C. Explain and demonstrate using the trowel to work the mortar. **(wt, pt)**
 - D. Explain and demonstrate loading mortar on the trowel. **(wt, pt)**
 - E. Explain and demonstrate spreading the mortar with the trowel. **(wt, pt)**
 - F. Explain and demonstrate cleaning excess mortar with the trowel. **(wt, pt)**
 - G. Explain and demonstrate tapping brick and block for alignment with the trowel. **(wt, pt)**
 - H. Explain and demonstrate cleaning the trowel. **(wt, pt)**

Infused Areas

CE = career education
GE = global education
CS = communication skills
HOTS = higher order thinking skills
MCGF = multicultural gender fair
LS = learning skills
TI = technology integration

Assessments

ws = worksheet
wt = written test
to = teacher observation
pt = performance test

Masonry (continued)

- 6. Explain and demonstrate proper block laying. (I, II, III, IV, V, VI)**
(September/October/November/December) **CS, LS**
- A. Demonstrate setting a row of blocks to a line. **(pt, to)**
 - B. Demonstrate setting a one row L-Corner to a line. **(pt, to)**
 - C. Demonstrate setting a row of blocks to a line between two objects. **(pt, to)**
 - D. Demonstrate setting two rows of blocks to a line. **(pt, to)**
 - E. Demonstrate setting a two row L-corner to a line. **(pt, to)**
- 7. Explain and demonstrate proper brick laying. (I, II, III, IV, V, VI)**
(October/November/December) **CS, LS**
- A. Demonstrate laying a row of brick to a block edge. **(pt, to)**
 - B. Demonstrate laying three rows to a string jig. **(pt, to)**
 - C. Demonstrate laying three rows to an outside corner. **(pt, to)**
 - D. Demonstrate laying three rows to an inside corner. **(pt, to)**
 - E. Demonstrate laying four rows with offset bricks. **(pt, to)**
 - F. Demonstrate laying a simple column. **(pt, to)**
- 8. Demonstrate mathematics used in masonry. (V, VI)**
(September/October/November/December) **HOTS, LS**
- A. Demonstrate reading a scale and recording the values. **(wt)**
 - B. Demonstrate adding, subtracting, multiplying, and dividing common fractions. **(wt)**
 - C. Demonstrate adding, subtracting, multiplying, and dividing decimal fractions. **(wt)**
 - D. Demonstrate calculating percentage and discounts. **(wt)**
 - E. Demonstrate finding the area of a square. **(wt)**
 - F. Demonstrate finding the area of a rectangle. **(wt)**
 - G. Demonstrate finding the area of a circle. **(wt)**
 - H. Demonstrate finding the area of a triangle. **(wt)**
 - I. Demonstrate finding the volume of cubes and rectangular solids. **(wt)**
 - J. Demonstrate estimating of mortar. **(wt)**
 - K. Demonstrate estimating of bricks. **(wt)**
 - L. Demonstrate estimating of blocks. **(wt)**
 - M. Demonstrate estimating concrete for footings. **(wt)**
 - N. Demonstrate estimating concrete for walls. **(wt)**
 - O. Demonstrate estimating concrete for steps. **(wt)**
 - P. Demonstrate estimating for walks and driveways. **(wt)**

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Resources: Handouts, trowels, blocks, bricks, mortar, rake, shovel, levels, squares, tape measures, string lines, string wall jigs, 5 gallon buckets, mortar boards, brooms.