That which is claimed is:

1. An apparatus for providing instruction, comprising:

at least one instruction tile (27) having a plurality of instruction sites (11) that are each located at a discrete location within a predefined area (14A, 15A, 16A) on the instruction tile (27) and a saturation state instruction site (17) that is located on the instruction tile (27) remote from the predefined area (14A, 15A, 16A); and

a plurality of instruction pieces (24) configured to be positioned on the plurality of instruction sites (11) and the saturation state instruction site (17) in a predetermined order.

2. The apparatus of claim 1, wherein each instruction site (11) and the saturation state instruction site (17) has indicia in the form of a glyph (10) thereon that identifies the instruction site (11) and the saturation state instruction site (17) on the instruction tile (27).

3. The apparatus of claim 1, wherein each instruction tile (27) has an edge (12, 13) and wherein the edges (12, 13) of adjacent instruction tiles (27) are positioned adjacent one another to form an instruction board.

4. The apparatus of claim 3, wherein the edge (12, 13) of a first instruction tile (27) adjoins the edge (12, 13) of a second instruction tile (27) to form a tessellation that defines the instruction board.

5. An apparatus for providing instruction in at least one of mathematics and quantifiable sciences, the apparatus comprising:

an instruction board formed from a plurality of instruction tiles (27), each of the instruction tiles (27) having a predetermined number of instruction sites (11) that are each located at a predetermined discrete location within an area on the instruction tile

(27) defined by a plurality of borders (14A, 15A, 16A) and a single saturation state instruction site (17) that is not located within the area on the instruction tile defined by the plurality of borders (14A, 15A, 16A); and

a plurality of instruction pieces (24) configured to be received on the instruction tiles (27) at the instruction sites (11) and the saturation state instruction site (17) in a predetermined order;

wherein the instruction pieces (24) are manipulated on the instruction sites (11) and the saturation state instruction site (17) on the instruction tiles (27) to perform a change of state operation that provides the instruction in the at least one of mathematics and quantifiable sciences.

6. The apparatus of claim 5, wherein each of the instruction sites (11) and the saturation state instruction site (17) has indicia in the form of a glyph (10) formed on the instruction tile (27).

7. The apparatus of claim 5, wherein each of the instruction tiles (27) has at least one edge (12, 13), and wherein the edges (12, 13) of adjacent instruction tiles (27) are positioned to define a tessellation on the instruction board that is configured to perform at least one of addition, subtraction, multiplication and division.

8. The apparatus of claim 5, wherein each of the instruction tiles (27) has at least one channel (14, 15, 16) formed thereon for sliding the instruction pieces (24) on the instruction tile (27), and wherein the channel (14, 15, 16) is adjacent a corresponding border (14A, 15A, 16A) of the area of the instruction tile (27).

9. The apparatus of claim 6, wherein the indicia formed on each of the instruction sites (11) and the saturation state instruction site (17) uniquely identifies the respective instruction site (11) and the respective saturation state instruction site (17).

10. The apparatus of claim 1 or the apparatus of claim 5, further comprising a stencil (30-39) having means for revealing the next instruction site (11) or saturation state instruction site (17) on the instruction tile (27) in the predetermined order.

11. A method for providing instruction in at least one of mathematics and quantifiable sciences, the method comprising:

providing an instruction board formed from one or more instruction tiles (27) wherein each instruction tile (27) comprises a plurality of instruction sites (11) at discrete locations within a defined area (14A, 15A, 16A) on the instruction tile (27) and a saturation state instruction site (17) at a location remote from the defined area (14A, 15A, 16A) on the instruction tile (27);

providing one or more instruction pieces (24) configured to be received on the instruction sites (11) and the saturation state instruction site (17) of the instruction tile (27) in a predetermined order; and

manipulating at least one of the instruction pieces (24) from the saturation state instruction site (17) on a first instruction tile (27) to at least one of the instruction sites (11) or the saturation state instruction site (17) on a second instruction tile (27) to perform a change of state operation relating to the at least one of mathematics and quantifiable sciences.

12. The method of claim 11 wherein the instruction sites (11) and the saturation state instruction site (17) have indicia imprinted thereon for identifying the corresponding instruction sites (11) and the corresponding saturation state instruction site (17).

13. The method of claim 11, wherein the instruction tiles (27) have at least one edge (12, 13) and wherein the edges (12, 13) of adjacent instruction tiles (27) abut one another to form a tessellation that defines the instruction board.

14. A method for SM-table multiplication comprising the steps:

a) providing a multiplier value in canonical form having a tile count;

b) providing a multiplicand value in canonical form having a tile count;

c) providing an instruction board comprising at least a multiplier row having a plurality of tiles (27) and a product row having a plurality of tiles (27), the multiplier row and the product row each having a tile count equal to the tile count of the multiplier value added to the tile count of the multiplicand value;

d) creating an SM-table having four rows using an S-value list of 6, 3, 2, 1 from a top row to a bottom row, setting a 1M M-value in the bottom row to the multiplicand value, and by using addition, generating a 2M M-value, a 3M M-value and a 6M M-value in a second row, a third row and a fourth row, respectively, above the bottom row;

e) zeroing all of the tiles (27) in the product row;

f) duplicating the multiplier value into the multiplier row;

g) setting a multiplier focus tile at a rightmost tile (27) in the multiplier row;

h) determining whether a value in all of the tiles (27) in the multiplier row at and to the left of the multiplier focus tile are zero and if the value in all of the tiles (27) in the multiplier row at and to the left of the multiplier focus tile are zero terminating the method, otherwise continuing the method with step i);

i) setting a focus row of the SM-table to the top row of the SM-table;

j) determining whether the value in the multiplier focus tile is less than the S-value in the focus row of the SM-table, and if the value in the multiplier focus tile is less than the S-value in the focus row of the SM-table, going to step m);

k) reducing the value in the multiplier focus tile by the S-value in the focus row of the SM-table;

l) adding the M-value in the focus row of the SM-table into the product row beginning at the tile (27) in the product row that is aligned with the multiplier focus tile and into all of the product tiles (27) to the left;

m) determining whether the focus row of the SM-table is at the bottom row of the SM-table, and if the focus row of the SM-table is at the bottom row of the SM-table, going to step o);

n) shifting the focus row of the SM-table down one row in the SM-table and repeating step j);

o) shifting the multiplier focus tile one tile (27) left; and

p) repeating step h);

whereby the product row provides the product value.

15. A method for SM-table quotient auto-generation comprising the steps:

a) providing a divisor value in canonical form;

b) providing a dividend value in canonical form;

c) providing an instruction board comprising at least a quotient row, a dividend row, and a subtrahend row, each row having a plurality of tiles (27) and an additional tile (27) above the order of magnitude of the dividend value;

d) creating an SM-table having four rows using an S-value list of 6, 3, 2, 1 from a top row to a bottom row, setting a 1M M-value in the bottom row to the dividend value, and by using addition, generating a 2M M-value, a 3M M-value and a 6M M-value in a second row, a third row and a fourth row, respectively, above the bottom row;

e) zeroing all tiles in the quotient row;

f) duplicating the dividend value into the dividend row;

g) setting a dividend focus tile at a leftmost non-zero valued tile (27) in the dividend row;

h) aligning the tile (27) bearing the leftmost non-zero valued tile (27) of the 1M M-value in the SM-table with the dividend focus tile established in step (g), thereby setting a quotient focus tile to be aligned with a rightmost tile (27) of the 1M M-value in the SM-table, which also establishes a rightmost tile (27) in a partial dividend field of tiles (27);

i) setting a focus row of the SM-table to the top row of the SM-table;

j) comparing the M-value in the focus row of the SM-table to the value in the partial dividend field of tiles, and if the M-value in the focus row is greater, going to step n);

k) adding the S-value in the focus row of the SM-table to the value in the quotient focus tile;

l) duplicating the M-value on the focus row of the SM-table from the rightmost tile (27) to a leftmost tile (27) in the subtrahend row, beginning at the subtrahend tile aligned with the quotient focus tile;

m) subtracting the subtrahend row from the partial dividend field within the dividend row, beginning at the subtrahend tile aligned with the quotient focus tile;

n) determining whether the focus row of the SM-table is at the bottom row of the SM-table, and if the focus row of the SM-table is at the bottom row of the SM-table, going to step p);

o) shifting the focus row of the SM-table down one row in the SM-table and then returning to step j);

p) determining whether the quotient focus tile is aligned to the rightmost tile (27) of the quotient row, and if the quotient focus tile is aligned to the rightmost tile (27) of the quotient row, terminating the method, otherwise continuing the method with step q);

q) shifting the dividend focus tile one tile (27) to the right;

r) shifting the quotient focus tile one tile (27) to the right; and

s) repeating step i) to step p);

whereby the dividend row provides a remainder value and the quotient row provides a quotient value.