Florida's B.E.S.T Standards Manipulatives for K-Geometry

Florida's new B.E.S.T. standards for mathematics have a specific focus on student exploration of math concepts prior to moving from surface level understanding to deep conceptual understanding. Each of the B.E.S.T. math manuals from Kindergarten through Geometry, include the use of manipulatives.

Manipulatives are concrete models students can use to show and work with representations of mathematcial conceps.

Hattie, J., Fisher, D., & Frey, N. (2017). *Visible learning for mathematics: What works best to optimize student learning Grades K-12*. Corwin Publishing Group.

This document is intended to uncomplicate the process of knowing which manipulatives are appropriate and suggested at each grade level according the B.E.S.T. B1G-M manuals. Each manual for each grade level was used to compile this list. While digital manipulatives are often available, it is recommended that students have the concrete materials to be able to manipulate where possible. Many of the items can be found on Amazon. A digital "wish list" may be accessed here: https://www.amazon.com/hz/wishlist/ls/2T90R3VBNE8OG?ref_=wl_share

Organizational Tips

Type of Organization	Definition	Examples	Resource Management
Unit / Skill Bins	Manipulatives that are very specific to units of study, and do not have a wide range of use. These may be used individually or collaboratively.	Geoboards during a geometry unit. Cylinders during geometry / measurement study.	Store items in labeled, clear plastic tubs. Organize them in a resource room to be taken out when in a certain unit (or spiraling a skill).
Everyday Bins	Manipulatives that can be used often to explore current, previous, or future topics that have a wide range of use. These may be used individually or collaboratively.	Connecting cubes Game boards / pieces Algebra tiles Fraction tiles Money Cuisenaire rods	Store items in labeled, clear plastic bins that are organized somewhere in the classroom.
Personal Bins	Manipulatives that are used every day to explore current, previous, or future topics. These are intended to be used individually.	2-sided counters Dice (at least 2) Deck of cards Skinny dry erase marker Eraser Felt square	Store items in personal pencil boxes, enough for each student to have a box in a classroom at a given time. Keep these in desks or easily accessible.

KINDERGARTEN

Class Materials

- Class-sized, laminated 100 chart
- Class set of translucent/fillable 3-d shapes
- Class set of translucent 2-d shapes
- Simple balance scales
- Pennies, nickels, and dimes
- Counting objects (i.e., bears, shapes, etc.)
- Large laminated blank graph poster
- 1” grid paper (consumable or laminated)
- Number cards

Student-Materials

- Student-sized 100 charts (laminated)
- Student-sized part-part-whole mats
- Two-sided counters
- Connecting cubes
- Ten frames
- Number line, 0-20

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)
- Small rekenreks (per student)

FIRST GRADE

Class Materials

- Class-sized, laminated 120 chart
- Class set of translucent/fillable 3-d shapes
- Class set of translucent 2-d shapes
- Clear double bucket balance scales
- Coins: Pennies, nickels, dimes, quarter; Bills: one, five, ten
- Large laminated blank graph paper
- Base-Ten Sets (through 100) – enough for students to work in pairs
- Place value discs
- Dice class set
- Fraction Circles (blank) – class set for small groups
- Fraction Squares (blank) – class set for small groups
- AngLegs – class set for small groups
- 1" grid paper (consumable or laminated)

Student-Materials

- Student-sized 120 charts (laminated)
- Student-sized part-part-whole mats
- Two-sided counters
- Connecting cubes
- Ten frames
- Number line, 0-20
- Mini-geared clock
- Digital timer
- 12" ruler (with centimeters and inches)

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

SECOND GRADE

Class Materials

- Class-sized, laminated 100 chart
- Class set of translucent/fillable 3-d shapes
- Class set of translucent 2-d shapes
- Coins: Pennies, nickels, dimes, quarters; Bills: one, five, ten, twenty, one hundred
- Large laminated blank graph paper
- Dice class set
- AngLegs – class set for small groups
- 1” grid paper (consumable or laminated)
- Yard/meter sticks

Student-Materials

- Student-sized 100 charts (laminated)
- Student-sized 100 charts (blank, laminated)
- Two-sided counters
- Connecting cubes
- Blank / writable / erasable number line
- Mini-geared clock
- Digital timer
- 12” ruler (with centimeters and inches)
- Place Value Discs (small student set).
- Base Ten Set
- Geoboards (with rubber bands)
- Fraction Circles (blank)
- Fraction Squares (blank)
- 4-Function Calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

THIRD GRADE

Class Materials

- Class-sized, laminated 100 chart
- Class set of translucent/fillable 3-d shapes
- Class set of translucent 2-d shapes
- Class set of beakers (various sizes)
- Fraction strips
- Cuisinaire rods
- Coins: Pennies, nickels, dimes, quarters; Bills: one, five, ten, twenty, one hundred
- Large laminated blank graph paper
- Dice class set
- AngLegs – class set for small groups
- 1” grid paper (consumable or laminated)
- Yard/meter sticks
- Place value discs

Student-Materials

- Student-sized 100 charts (laminated)
- Student-sized 100 charts (blank, laminated)
- Two-sided counters
- Connecting cubes
- Blank / writable / erasable number line
- Mini-geared clock
- Digital timer
- 12” ruler (with centimeters and inches)
- Base Ten Set
- Geoboards (with rubber bands)
- Fraction Circles (annotated)
- Fraction Squares (annotated)
- Thermometer
- 4-Function Calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

FOURTH GRADE

Class Materials

- Class-sized, laminated 100 chart
- Class set of translucent/fillable 3-d shapes
- Class set of beakers (various sizes)
- Coins: Pennies, nickels, dimes, quarters; Bills: one, five, ten, twenty, one hundred
- Large laminated blank graph paper
- Dice class set
- 1” grid paper (consumable or laminated)
- Yard/meter sticks
- Place value discs
- Place value strips
- Place value flip chart (with decimals)
- Number tiles
- Decimal model multipliers
- Analog scales (for small groups)
- Digital scales (for small groups)
- Class set of fraction options (circles, squares, strips)

Student-Materials

- Student-sized 100 charts (laminated)
- Student-sized 100 charts (blank, laminated)
- Two-sided counters
- Connecting cubes
- Blank / writable / erasable number line
- 12” ruler (with centimeters and inches)
- Base Ten Set
- Geoboards (with rubber bands)
- Thermometer
- Slide and learn place value and decimal kit
- AngLegs (with protractor) for each student
- 4-Function Calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

FIFTH GRADE

Class Materials

- Class-sized, laminated 100 chart
- Class set of 3-d shapes, with 2-d nets
- Class set of beakers (various sizes)
- Coins: Pennies, nickels, dimes, quarters, half-dollars; Bills: one, five, ten, twenty, one hundred
- Large laminated blank graph paper
- Dice class set
- 1” grid paper (consumable or laminated)
- Graph paper
- Yard/meter sticks
- Place value discs
- Place value strips
- Place value flip chart (with decimals)
- Number tiles
- Decimal model multipliers
- Analog scale
- Digital scale
- Class set of fraction options (circles, squares, strips)
- Translucent magnetic cubes (for small groups)

Student-Materials

- Student-sized 100 charts (blank, laminated)
- Student-sized Quadrant 1 coordinate planes (blank, laminated)
- Two-sided counters
- Connecting cubes
- Blank / writable / erasable number line
- 12” ruler (with centimeters and inches)
- Base Ten Set
- Geoboards (with rubber bands)
- Thermometer
- Slide and learn place value and decimal kit
- AngLegs (with protractor) for each student
- 4-Function Calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

SIXTH GRADE

Class Materials

- Class-sized, laminated XY graph coordinate grid
- Class set of translucent 3-d shapes, with 2-D nets
- Large laminated blank graph paper
- Dice class set
- 1” grid paper (consumable or laminated)
- Graph paper
- Decimal model multipliers
- Translucent magnetic cubes (for small groups)
- Cards with different rational numbers for open number line
- Factor triangles
- Pan balance scale
- Marbles
- Graph paper with XY axis

Student-Materials

- Student-sized coordinate planes (blank, laminated)
- Two-sided counters
- Connecting cubes
- XY coordinate pegboard with moveable axis
- 12” ruler (with centimeters and inches)
- Geoboards (with rubber bands)
- Thermometer
- AngLegs (with protractor) for each student
- Blank / writable / erasable number lines (vertical and horizontal)
- Algebra Tiles
- Scientific calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

SEVENTH GRADE

Class Materials

- Class-sized, laminated XY graph coordinate grid
- Class set of translucent 3-d shapes, with 2-D nets
- Large laminated blank graph paper
- Yard/Meter sticks
- Measuring cups
- Graduated cylinders
- Different sized circle stencils
- Dice class set
- 1” grid paper (consumable or laminated)
- Graph paper
- Dot paper
- Translucent magnetic cubes (for small groups)
- Cards with different rational numbers for open number line
- Pan balance scale
- Marbles
- Playing card decks

Student-Materials

- Student-sized Quadrant 1 coordinate planes (blank, laminated)
- Two-sided counters
- Connecting cubes
- Compass
- 12” ruler (with centimeters and inches)
- Geoboards (with rubber bands)
- AngLegs (with protractor) for each student
- Blank / writable / erasable number lines (vertical and horizontal, double)
- Algebra Tiles
- Tracing Paper (patty paper)
- Generic clear spinners
- Scientific calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

8TH GRADE: PRE-ALGEBRA

Class Materials

- Class-sized, laminated XY graph coordinate grid
- Large laminated blank graph paper
- Yard/Meter sticks
- Different sized triangle stencils
- Dice class set (including more than 6-sided dice)
- Graph paper
- Dot paper
- Pan balance scale
- Marbles
- Playing card decks

Student-Materials

- Two-sided counters
- Connecting cubes
- 12" ruler (with centimeters and inches)
- Geoboards (with rubber bands)
- AngLegs (with protractor) for each student
- Blank / writable / erasable number lines (vertical and horizontal, double)
- Algebra Tiles
- Tracing Paper (patty paper)
- Generic clear spinners
- Access to graphing software (free: https://www.geogebra.org/calculator or https://nrich.maths.org/secondary)
- Graphic calculator
- XY coordinate pegboard with moveable axis

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

ALGEBRA 1 / HONORS

Class Materials

- Class-sized, laminated XY graph coordinate grid
- Large laminated blank graph paper
- Dice class set (including more than 6-sided dice)
- Graph paper
- Dot paper
- Playing card decks

Student-Materials

- Two-sided counters
- Connecting cubes
- Blank / writable / erasable number lines (vertical and horizontal, double)
- Algebra Tiles
- Access to graphing software (free: https://www.geogebra.org/calculator or https://nrich.maths.org/secondary)
- Graphing calculator
- XY coordinate pegboard with moveable axis

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)

GEOMETRY / HONORS

Class Materials

- Class-sized, laminated XY graph coordinate grid
- Large laminated blank graph paper
- Graph paper
- Dot paper
- Different sized triangle and circle stencils
- Class set of translucent 3-d shapes, with 2-D nets
- Streamers

Student-Materials

- Two-sided counters
- Connecting cubes
- Blank / writable / erasable number lines (vertical and horizontal, double)
- Clay and Wire
- Compass
- Tracing Paper (patty paper)
- Access to online geometry software (free: https://www.geogebra.org/geometry or https://nrich.maths.org/8647
- Geoboards (with rubber bands)
- AngLegs (with protractor) for each student
- XY coordinate pegboard with moveable axis
- Scientific Calculator

Optional

- 8x8 Felt Mats (per student)
- Vis-à-Vis markers (per student)
- Plastic pencil box (per student)