# Unit Map 2011-2012
### Hampshire Regional School District
### Collaboration / Technology PK* (D) 📄 / PreK (District Elementary School)
Wednesday, May 23, 2012, 10:06AM

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**Unit: Introduction to BeeBots** (Week 18, 7 Weeks) ▦ 🔲

| Enduring Understandings | Essential Questions |
|---|---|
| Special machines called robots can be programmed to do different things. | How can make your BeeBot move in different ways?<br><br>Can you make it count?  Add?  Follow a piece of tape?  Make different letters? |

**Curriculum Frameworks and Learning Standards**

**MA: Mathematics (2011), MA: Pre-K, Mathematical Practice**
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- 1. Make sense of problems and persevere in solving them.
- 2. Reason abstractly and quantitatively.
- 3. Construct viable arguments and critique the reasoning of others.
- 4. Model with mathematics.
- 5. Use appropriate tools strategically.
- 6. Attend to precision.
- 7. Look for and make use of structure.
- 8. Look for and express regularity in repeated reasoning.

**MA: Mathematics (2011), MA: Pre-K, Counting & Cardinality**
PK.CC Know number names and the counting sequence

- MA.1. Listen to and say the names of numbers in meaningful contexts.
- MA.2. Recognize and name written numerals 0–10.

PK.CC Count to tell the number of objects.

- MA.3. Understand the relationships between numerals and quantities up to ten.

PK.CC Compare numbers.

- MA.4. Count many kinds of concrete objects and actions up to ten, using one-to-one correspondence, and accurately count as many as seven things in a scattered configuration.

**MA: Mathematics (2011), MA: Pre-K, Geometry**
PK.G Identify and describe shapes (squares, circles, triangles, rectangles).

- MA.1. Identify relative positions of objects in space, and use appropriate language (e.g., beside, inside, next to, close to, above, below, apart).

**MA: Preschool Learning Experiences, MA: Preschool , English Language Arts**
Language

- 5. Listen to and use formal and informal language.

Reading & Literature

- 7. Develop familiarity with the forms of alphabet letters, awareness of print, and letter forms.

**MA: Science and Technology/Engineering, MA: PreK - 2 , Physical Sci (Chemistry & Physics)**
Position and Motion of Objects

- 3. Describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

2.1 Identify tools and simple machines used for a specific purpose, e.g., ramp, wheel, pulley, lever.

**MA: Science and Technology/Engineering, MA: PreK - 2 , Science Inquiry Skills**
Skills of Inquiry

- Ask questions about objects, organisms, and events in the environment.
- Tell about why and what would happen if?
- Make predictions based on observed patterns.
- Discuss observations with others.

| Content | Skills |
|---|---|
| The different buttons on the BeeBot make the BeeBot move in different ways.<br><br>Numbers go from 0 to 10 on a number line.<br><br>Numbers can be added together to make a bigger number.<br><br>Letters have specific shapes and can be recognized. | Program the BeeBot to move forward, back, left, right and go in different combination to accomplish specific tasks.<br><br>Reset the previous BeeBot program by using the Clear button. |

**Assessments**

**Task Observation**
**Formative: Performance: Authentic Task**
  Students will be observed in the various tasks to see that they understand each task and will be given help if they are having difficulty.

| Learning Activities | Resources |
|---|---|
| BeeBot Free Play - students are shown what the 4 directional buttons do and can explore their use.<br>BeeBot Counting - using laminated number lines around the room, students "teach" their BeeBot each number by programming it to go forward that many steps.<br>BeeBot Adding - using laminated number lines around the room, students "teach" their BeeBot to add by programming it to go forward the first number, then the second number, and seeing where the BeeBot ends up.<br>BeeBot Race - students program their BeeBot to go across a start line to a finish line and race their BeeBots across the course.<br>BeetBot Letter Recognition - using block letters made from masking tape, students "teach" their BeeBot to recognize different letters.  Each letter should be made from an whole multiple of BeeBot steps. For PK, letters should not need to back track or turn around. Students may need to be taught to "act out" what their BeeBot is doing as they program it.<br>BeeBot Make 10 - Students roll a die and make their BeeBot go that number of steps forward.  Then predict how many more it will take to get to ten.  They keep rolling and programming until their BeeBot is at or | Laminated BeeBot number lines<br>Masking tape<br>BeeBots - one for each pair of students<br>Extra AA batteries<br>Large dice<br><br><br>Terrapin Logo Website |