

<b>Your Name:</b> William A. Miller	<b>Phone: Cell:</b> 217-474-7054
<b>Email:</b> Millerw2@danville118.org	<b>School:</b> Mark Denman Elementary
<b>Grant Name/Project Title:</b> BEE-BOT Stem project	<b>Grade Level:</b> Second Grade
<b>Curriculum Area:</b> STEM/ Math/ Reading	<b>Date:</b> February 21, 2018
<b>Budget - include TOTAL amount requested:</b>	<b>\$1219.65</b>

**Please use as much space as needed to explain your program and why it is important that this project be funded.**

**1. SUMMARY** (Summarize the purpose of the project/ program, including the student need it addresses.)

The BEE-BOT STEM program will be developed to teach early coding of a robot to students in the second-grade classroom. This project is designed to increase the opportunities for second-grade students to work in a cooperative and collaborative learning environment using technology. The students would use a variety of learning situations to use the BEE-BOT to develop their coding skills which will help them in learning more about engineering. Moving the BEE-BOT through a student made maze or on the BEE-BOT mat to learn new vocabulary words, develop better writing skills, or to discover facts about plants and animals in a science lesson will help students develop skills that are necessary to be successful. Students will develop skills that are transferrable to the next grade and beyond.

**2. POTENTIAL STUDENT IMPACT** (How many students will be served by this project/program? Please do not just list "entire school", we prefer the actual number of students.)

This program would be used in one classroom which would serve 18 students in the homeroom plus 30 students who come into the classroom during math and reading flex. The BEE-BOTS would be used during math core and reading core times on a daily basis.

**3. STATEMENT OF NEED:**

Students at Mark Denman Elementary need more hands on activities for learning. Students in my class have used disposable supplies such as straws, marshmallows, and index cards when performing STEM activities in the classroom. The BEE-BOTs would be a hands-on learning tool that would be used by all students in the classroom from year to year. The BEE-BOTs are not currently available in our school and would be a valuable asset that can be used with all of our current and future curriculum.

**4. OBJECTIVES** (What are you trying to accomplish with this project. How will this project/program enhance or support your current curriculum? (Please be specific.)

This program will increase student engagement by giving a hands-on experience with a small easy to code robot. The BEE-BOTS will move according to the coding or programming done by the students. Together, students will learn to collaborate and work cooperatively to perform a given task. Current curriculum will be enhanced by using "game-type" task cards and worksheets giving a learning challenge to the students. BEE-BOT developed curriculum will be used to help integrate and align current learning standards of our current Benchmark Reading Series and Envision Math series. Learning will be differentiated depending on students' learning abilities.

**5. ACTIVITIES** (What will students do? Please be specific.)

The BEE-BOTS perform when coded or programmed by a student. The robot moves to the front, back, left, or right. Students press the keys in the order of the direction the BEE- BOT needs to move. Students will learn basic coding using a mat. The BEE-BOT mat will have task cards for the students to use as directions. The students will collaborate to develop the correct code to move the BEE-BOT to the exact place. As students develop their coding skills the challenges become more difficult. The problem-solving skills will increase as the students continue to use the BEE-BOTS.

Students will develop mazes, and other task type learning games to be used by other students. When using the maze, students will have to perform a certain learning task to be able to move the BEE-BOT again. Other BEE-BOT developed curriculum will be used if purchased.

**6. BUDGET** (Please attach a detailed summary of the expenses. Please provide total numbers by area listed. If the project/program extends beyond the funding of the grant, how will you support it? Use as much space as needed.) *You may insert an Excel Spreadsheet with the information request.*

Materials and Supplies (be specific, include vendor if possible)

Equipment List and Pricing (be specific, include vendor if possible)

Other (be specific, include vendor if possible)

Shipping:

ITEM	VENDOR	AMOUNT
BEE-BOT Hive (6 BEE-BOTs + docking station)	Tarrapin.com	\$599.95
BEE-BOT Card Mats (6 @69.95 each)	Tarrapin.com	\$419.70
BEE-BOT Lessons	Tarrapin.com	\$100.00
BEE-BOT Materials	Teacher pay Teacher	<u>\$100.00</u>
	Total	\$1,219.65

- Waiting If partial funding is provided by the Foundation what other resources are available to fund the balance of this project?

Mrs. Pabst stated they could come up with up to 50% funding if needed.

- If only partial funding is available, what are the highest priority items to be funded?

BEE-BOTS (3 @ 89.95 each)	Tarrapin.com	\$269.95
BEE-BOT Charging station	Tarrapin.com	\$29.95
BEE-BOT Card Mats (3 @69.95 each)	Tarrapin.com	\$209.95
BEE-BOT Materials	Teacher pay Teacher	<u>\$50.00</u>

7. **TIME LINE** (What steps will you take to put your grant in action? What is the timeline for each step? Include start date and completion date.)

Date to be determined. Once the BEE-BOTS are purchased and arrive, the project will be used in the classroom within 2 weeks. The program will continue until the end of the school year.

8. **MEASUREABLE OUTCOMES** (How will you know this project or program was successful? How will you share the results?)

I will measure student engagement with informal and formal assessments. Students will document all programming and all movements of the robots. Student assessments in Reading and Math will also be analyzed to see if the BEE-BOTS are increasing the students' learning. Student learning standards will be analyzed using rubrics to see if the program is successful BEE-BOTS.

9. **PRIOR EXPERIENCE** (What experience have you had with this project or program? Or, do you know of another teacher or school district's experience with it? Please describe.)

I have no experience with the BEE-BOTS. I have spent time watching videos and researching how to use them in the 2<sup>nd</sup> grade classroom. My wife, Rhonda Miller, teaches 3<sup>rd</sup> grade at Bismarck Henning Grade School. They have a new makerspace room and are using the BEE-BOTS. Students are very engaged and are excited about learning using the BEE-BOTS.

10. **Additional information:** (Feel free to add any additional comments, brochures, flyers or other support information.)

See attached printed material.

*DPSF requests all approved grant recipients to identify their project/program as being funded by DPSF and publicize DPSF to parents and to the community at large. Approved grant recipients are required to submit a report once their grant funds have been expended, no later than the end of the current school year. If requested, you will provide a presentation summary describing the project/program and its outcome. The presentation should be in a format*

**appropriate for DPSF use. Funds are to be used for their intended purpose only. Unused funds are to be reported and returned to the DPSF.**

If awarded I agree to abide by the conditions of the grant.

Signature: William A Miller Date: 2-21-18

**Principal Support:** I have read this proposal and will support its implementation. It is compatible with our school policies, but cannot be funded within our current budget.

Signature KOPALST Date: 02/21/18

**Technology Department Review:**

I have read this proposal and my comments \_\_\_are / \_\_\_ are not attached. (In the absence of comments, it is assumed that the Technology Department has no objection to the purchase. Comments could include support of the project and suggestions of alternate equipment.)

Signature \_\_\_\_\_ Date: \_\_\_\_\_

**Superintendent's Review:** I have reviewed this proposal and it is compatible with the District's policies. Currently there is not funding available for the proposed program/project.

Signature: Alicia Biddis Date: 02/24/18

# Bee-Bot®

**B**ee-Bot is an exciting new robot designed for use by young children. This colorful, easy-to-operate, and friendly little robot is a perfect tool for teaching sequencing, estimation, problem-solving, and just having fun!

Sturdy construction and colorful design entice children to put Bee-Bot through its paces. Enter up to 40 commands with directional keys to send Bee-Bot forward, back, left, and right. Press GO to start Bee-Bot on its way. Bee-Bot blinks and beeps at the conclusion of each command to allow children to follow Bee-Bot through the program they have entered and then confirms its completion with lights and sound.

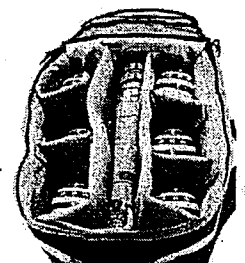


Children want to use Bee-Bot over and over and are inspired to enter ever more creative and complex command sequences.

Bee-Bot is a great introduction to the on-screen Logo turtle as well as a learning tool in its own right. It can be utilized in many subject areas including math, art, and social studies. A variety of Bee-Bot accessories, curriculum, and mats enhance its teaching potential.

## Bee-Bot School Bundles

*Terrapin offers economical bundles with multiple Bee-Bots and accessories to bring the excitement Bee-Bot inspires to as many students as possible. Standard bundles include popular combinations or contact Terrapin to construct your own discount bundle with exactly the number of Bee-Bots and accessories that best fits your situation.*



**Terrapin**  
Tools for thinking

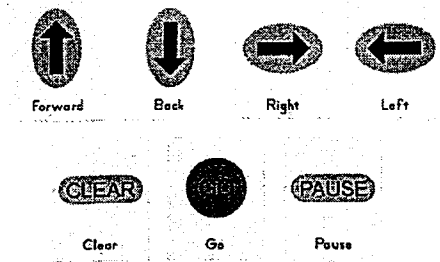
800-774-LOGO (5646)

[www.bee-bot.us](http://www.bee-bot.us)

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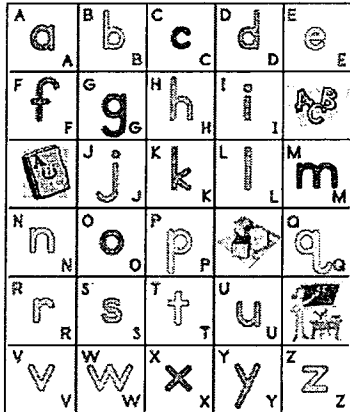


## Accessories, Curriculum, Mats and *KinderLogo*



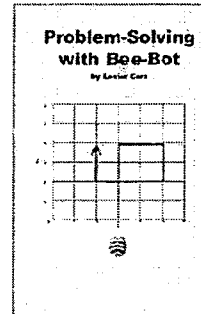
### Accessories

Terrapin offers a wide variety of accessories to extend and enhance the use of Bee-Bot as a creative learning tool. Use colorful shells to decorate Bee-Bot and differentiate between multiple Bee-Bots in a classroom. Use Command Cards to record the Bee-Bot program as it is entered. There is even a specially-designed Bee-Bot Backpack to safely store and transport Bee-Bots.



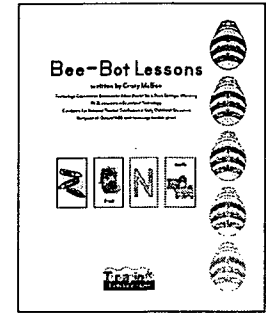
### Mats

Terrapin offers a variety of mats calibrated to Bee-Bot which provide great surfaces while enhancing learning. Skills mats use Bee-Bot to learn, develop, and practice particular skills. Narrative mats inspire student imaginations and teach mapping, sequencing, and storytelling. With the customizable Card Mat, Bee-Bot may be used in nearly any teaching situation.



### Curriculum

Terrapin offers curriculum materials to guide the use of Bee-Bot in the classroom. *Bee-Bot Lessons* includes 100 lessons in 10 subject areas from the K-2 curriculum along with printable images. *Problem-Solving with Bee-Bot* develops problem-solving and critical thinking skills with 150 sequential Bee-Bot challenges on the accompanying CD.



### *Kinderlogo*

*Kinderlogo* includes 24 Logo-based activities for students in kindergarten through 3rd grade. Lessons are organized sequentially across five levels of difficulty. Controlling the *Kinderlogo* "turtle" utilizes the same principles as using Bee-Bot so the two go hand-in-hand. Bee-Bot provides hands-on experience and *Kinderlogo* extends those concepts to the computer.



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