Memorandum of Agreement

This Memorandum of Agreement is made and entered into as of the _____ day of August, 2024, by and between:

McBrayer Elementary School, with the street address of 550 Viking Dr, City of Morehead, State of Kentucky

AND

The Center for STEM+eXcellence, Morehead State University, with the street address of 150 University Blvd, City of Morehead, State of Kentucky

PREMISES

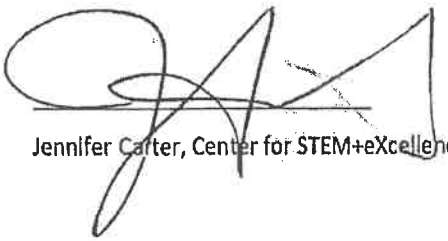
WHEREAS McBrayer Elementary is one of four Elementary Schools in the Rowan County School district, serving 564 students, kindergarten through 5th grade.

WHEREAS McBrayer Elementary school teachers have created a hands-on, informal educational curriculum to establish a tradition to reinforce a school family to students and the community, then building an opportunity for students and staff to work hand in hand toward a goal. Students would become scientists, mathematicians, authors, etc. by researching the types of plants that would work best in the space provided. In addition to social and emotional lessons students learn, the garden would be used to support the school

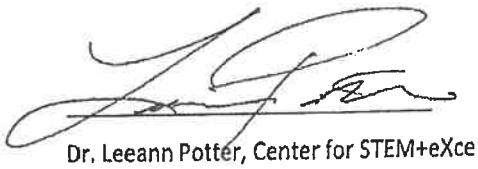
AGREEMENT

1. Responsibilities of the Center for STEM+eXcellence
    a. Provide support for preparation of program, implementation, and research.
    b. Provide funding for purchase of consumable and non-

IN WITNESS WHEREOF, the duly authorized representatives of The Center for STEM+eXcellence, Morehead State University, and McBrayer have executed this Agreement as of the date first written above.



Jennifer Carter, Center for STEM+eXcellence



Dr. Leeann Potter, Center for STEM+eXcellence

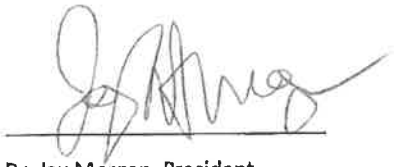
Carol Christian

Dr. Carol Christian, Craft Academy

Rajeev Parikh

Dr. Raj Parikh, Interim Provost

Mary Fister-Tucker, CFO



Dr. Jay Morgan, President

Abby White

Abby White, Principal, McBrayer Elementary

EXHIBIT A: Proposed Budget

ITEM	AMOUNT	COST
Greenhouse	1	$4,770.80
Irrigation System	1	$50.98
Louvers	4@ 105.86	$423.44
Tables	14@ 113.77	$1,592.78
Heater	1	$105.90
Peat Planters	20 @ 14.98	$299.60
Planter Labels	10 @ 8.59	$85.90
Tool Set	5 @ 28.99	$144.95
Gardening Gloves	4 @ 29.98	$119.92
Water Hoses	4 @ 29.98	$119.92
Watering Can	3 @ 29.99	$89.97
Watering Can	6 @ 9.99	$59.94
Amplify Science	1	$28,125.52
Generation Genius	3@1795	$5,385.00
Mystery Science	3@1495	$4,485.00
Microscopes	12@ 79.99	$958.88
Indoor lab tables	8@ 579.88	$4,639.04
STEM Solar robots	6 @ 24.99	$149.94
Foundational STEM LAB	2@ 169.99	$339.98
Stem Pathways Lab	2 @ 729.99	$1,459.98
Smocks	5@ 35.99	$194.95
Garden hose	5@ 50.99	$254.95
Pliers	20 @ 4.30	$86.00
Bagged soil	100 @ 9.98	$998.00
Soaker hose	3 @ 59.99	$179.97
Safety glasses	4 @ 25.99	$103.96
Toothpicks	4 @ 5.99	$24.00
Liquid glue	25 @13.70 (12 count)	$342.50
Hair dryer	1 @ 10.49	$10.49
Plastic baggies	4@ 7.14	$28.56
Cotton balls	3 @ 10.99	$32.97
Watering can	4 @ 9.99	$39.96
Eyedroppers	5 @ 6.99	$34.95
Spray bottle of water	5 @ 7.99	$39.95
Plant growth collections		$24.99

– seeds: sunflower seeds, dried peas, beans
– shoots: bean sprouts, dill, alfalfa
– seedlings: small tomato, pepper, basil plants
– plants: from module lessons

Play-Doh	4 @ 16.99	$67.96
Folders	4 @ 22.99	$91.96
Green Construction paper	4 @ 7.99	$31.96
Popsicle sticks	5@ 24.99	$124.95
Modeling Clay		$100.00
Cooking utinsels		$24.99
Magnet Boards	24.99	$100.00
Felt boards	15	
Building blocks	1	$21.99
White board markers		$22.99
Dress-up materials	5 sets @	
Hand or Finger Puppets	5 sets @	
Magnifying glass	2 @ 9.99	$19.98
Pipe cleaners		$21.99
Funnel		$23.49
Measuring cup		$32.99
Stopwatch or timer	2 @ 22.99	$46.00
Tweezers		$9.85
Watercolor paints	2 @ 35.99	$72.00
Watercolor paper	3 @ 31.99	$95.97
Paintbrushes		$14.99
Flashlights		$35.99
Metal book rings		$7.98
Mixing bowl	5 @ 15.95	$79.75
Plastic container (5 quarts)		$28.89
Cylinder vases/graduated cylinders	5 @ 19.99	$100.00
Sunflower seeds in the shell		$9.99
Gummy worms (20 to share)		$11.95
Styrofoam cubes (various sizes ranging from 1-inch cubes to 3-inch cubes;)		$24.99
Googly eyes (optional; variety of sizes in the Create Lab)		$11.99
Feathers (optional; variety of sizes and colors in the Create Lab)		$3.52
Simulated eggs (small stones or other weights; variety per workstation)		$20.00
Mirrors (one per student and one for teacher modeling)		$16.99
Rulers (one per student or a cup of rulers per workstation)		$9.98
Building blocks (one set of wood or linking blocks)		$12.99
Plaster mix (amount varies; used by the teacher to create the dig site)		$28.00

Sand (amount varies; used by the teacher to create the dig site)		$44.99
Chisel (two or three to share in the Explore Lab)	4 @ 11.99	$47.96
Small hammers (two or three to share in the explore Lab	3 @ 6.99	$27.96
Toothbrushes (several to share in the Explore Lab)	15.99	$15.99
Birdhouse sets	10 @ 29.99 each	$299.90
Plastic forks (several to share)		$11.79
Plastic knives (several to share)		$11.79
One-cup measuring cups (three to share in the Explore Lab)		$13.99
Mixing spoon (one to share in the Explore Lab) Plastic or paper containers (one per student)		$5.47
Cardstock (blank; 8.5-by-11 inches; cut into four equal pieces; 3-4 cards per student	4 @ 9.49	$37.96
Plants (four per class)		
Birdseed (one small package per workstation; consider dividing a 10-pound bag between the stations)		$13.03
Fabric swatches		$19.99
Velcro (one 3-by-3 inch square per workstation)		$17.99
Flour (yellow-colored; one cup to share)		
Q-tips (several per student)		$8.79
Paper (butcher block; one 24-by-18 inch piece per student)	4 @ 12.97	$51.88
Container for planting (disposable cups or clay plant pots; several per Lab group)	5 @ 18.99	$94.95
Seeds for pollinator-friendly plants (various depending on resources and region)		$11.99
3D Printer Filament		$15.99
Young and mature pollinator plants (various depending on resources and region)		
Corks (optional; to place in containers to encourage pollinator landing and drinking)		$9.99
Scrib3D Pen		$29.99
String (8 inches long; four pieces per student)		$7.99

Water lily plants (optional; three per class)

- Children's socks (one per student)
- Noise-making materials (various kinds such as sand, paperclips, beads, dried beans, popcorn, rice, small and
- dry pasta noodles)
- Tokens (large, dried beans or marbles; one bowl per class)
- Scales (two per class)
- Distilled water (two gallons per class)
- Duckweed plants (nine per group of 2–4 students)
- Jar of pond water (optional)
- Live specimens of common pond plants (optional)

• Live specimens of common bugs found in and around ponds (optional) • Abiotic features of ponds such as a cup of mud, rocks, orsmall fallen tree branches (optional)		$250.00
Vanilla extract (one bottle per class)	2 @ 10.38	$20.76
Petri dishes (three per class)		$42.99
Earthworms (one for every two students)		$50.00
Chicken wings (one per student)		$50.00
Plastic gloves (one pair per student)		$8.99
Safety goggles (optional; one per student)	4 @ 25.99	$103.96
Dissecting kits (one per student)		
Disinfecting wipes (two or three containers to share)		$37.14
Variety of live plants—including those with specialized structures—flowers and leaves, and seeds		
Grass, green bean, corn, lima bean, barley, radish		
Plastic cups (clear; four per small group and four for teacher demonstration)		
• Seed models: packing peanuts, marbles, bingo chips, buttons, beads		$250.00
bubble wrap,		$23.74
Tissue paper	10 @ 1.25	$12.50
Coffee filters	10 @ 1.25	$12.50
pipe cleaners		$21.99
twist ties		$12.99
straws	2 @ 9.99	$19.98
Seeds (grass or other; one teaspoon per pair)		$14.15
Balance scale (optional; one per class)		$89.99
Plastic cups (clear; four per group of four students)		$23.99
Electric tea kettle (one per class)	8 @ 12.99	$103.92
Sawdust, sand, or fertilizer (optional; several kinds to share)		$8.21
Incense, hairspray, or air freshener (optional; several containers to share)		$19.99
		$59,108.88

Total

Dear Leeann,

As a born and raised Kentuckian there are several things about my upbringing that I am proud of, but the part I am most proud of, is the opportunity to grow up in a family of farmers. My fondest memories are from the days when I would help my Mam and Pa feed the cows, gather eggs, and, my favorite, work in the garden. When I would plant, tend to, and harvest from our garden, I found a connection to something bigger, that I now know, healed parts of my 6-year-old self, and chased away my woes. Working in the garden made me feel a sense of control of something, and I knew that not only was I growing vegetables, I was also contributing to my family. I learned many skills working in that garden that had nothing to do with digging in the dirt. It was in the dirt that I learned patience, perseverance, responsibility, and first saw success and achievement.

It has been a few years since I was 6 years old, but I have kept gardening. Now, in 2024, I am a first-grade teacher in rural Kentucky at McBrayer Elementary School, in Rowan County with a classroom of 24, 6–7-year-olds who need an outlet that shows them the same things I found in the garden years ago. Our school serves 564 students, kindergarten through 5th grade and our building is buzzing with students who need an outlet and a project where they can learn the same characteristics and feelings I found in my family's garden. Creating a garden or greenhouse would benefit our students by giving them a sense of purpose, belonging, and accomplishment while also making real-life connections to the content they are learning in classrooms. These are all qualities that children strive for, but for some, it is not easy to see success in such a big way. Students would participate in all phases of the greenhouse, including planting, tending, weeding, and eventually harvesting. Following their hard work, our goal would be to have all students enjoy the fresh vegetables and flowers and provide a cooking lesson where they make a meal from scratch. Through a school greenhouse, our students would have the opportunity to practice and apply the skills they are learning and make connections to curricular areas and beyond.

My long-term goal is to establish a tradition to reinforce a school family to students and our community, then building an opportunity for students and staff to work hand in hand toward a goal. Students would become scientists, mathematicians, authors, etc. by researching the types of plants that would work best in the space we can provide. By doing the research, they are automatically the voice and storyteller of this project. The next step would be for them to defend their opinions and research, by writing a proposal for the plants they would like to grow, as well as finding the best layout for the garden. Following the proposal and the layout, we would begin to prepare the planting areas, and then plant the seeds, water them, check the soil, take care of the tools, etc. On a predetermined schedule, each grade level would have a day to care for the garden and understand why their specific job in the garden is important. This provides each student with firsthand experience to work toward and see success and see themselves as a contributing member of our school family. The benefits of their hard work would ensure a harvest that occurs each year.

For this dream to become a reality we would need materials to build and maintain a greenhouse, supplies like seeds, soil, compost bin, buckets, aprons, gloves, watering cans, water hoses, shovels, hoes, etc. Our school is fortunate to have the land space that could hold a greenhouse for a population of our size. We have space in our playground area that is safe, easily accessible for all grade levels, and an already established area known for its good times and positivity.

Beyond the social and emotional lessons that students will learn, the garden would be used to support the schools curriculums and learning outcomes by showing students connections to what they are learning in math, ELA, science and social studies. In first grade, we have already started a few indoor classrooms with flowers, herbs, and potatoes and it has been the best investment. Second graders are also studying plants in our new reading curriculum, and they too have started some planting projects. Viewing this from

my own classroom, I already see my students engaged and making connections. As an added bonus, their families are more involved than I ever could have imagined. The value of doing this through a hands-on approach is a priceless way to enhance their connection to the content. Our school uses EL curriculum for reading and it is heavily tied to science and social studies for all grade levels. All grade levels include themes related to nature, plants, gardening, ecosystems, etc. Our school garden would be the perfect bridge to real life applications in all these themes. We use IM for math school-wide and it is based on exploration, encouraging deeper conversations on what we wonder and notice. Providing a school garden as a project, students can explore math concepts and see how they can be used in real time.

As teachers, our biggest goal is for students to be able to use what we are teaching them in effective ways so they will be productive members of society. We strive to instill values and character traits in our students so that they are kind, understanding and aware. Working in, and exploring nature can be a very healing place, without any bells or whistles. It is my hope that by making our school garden a reality, we can build a refuge from the mundane, the scary, the feelings of losing control. In our building we have young hearts that need to know that they can create good in this world. It is my hope that our kids can harvest their hard work, reap the fruits of their labor, all to know they are caring for something and feel cared for knowing they are part of something positive. I want so badly for our students to know their abilities, see their potential, feel confident in what they bring to our classroom, school, and community, know that they are assets, and above all, never doubt that they are loved. Creating this school garden will really bring our school family together in ways that a letter cannot communicate. Beyond our school walls, I know the future needs positively involved and well-prepared citizens, and by providing hands-on and unique opportunities for our students, just as my family farm provided me.

Thank you for your time and consideration for McBrayer Elementary School to receive this life changing gift. If you have any questions, or if I can provide any additional information about our plan to implement this project, please do not hesitate to contact me.

Emily Mullins
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1st Grade Teacher
McBrayer Elementary School
Morehead KY