RREV's Innovative Pilot Template

As part of the **Innovative Mindset and Pilot Development** courses being offered through several of Maine's institutions of higher education, the RREV project uses a consistent template for the creation of all future pilots. Because every pilot created and tested with RREV funds WILL BE published in EnGiNE, we want all of Maine's educators to have the assurance of consistency.

This template provides an outline of the components required of an Innovative Pilot. The information in this template will serve as the basis for requests for school/district level project funding.

Section 1: Define the Need

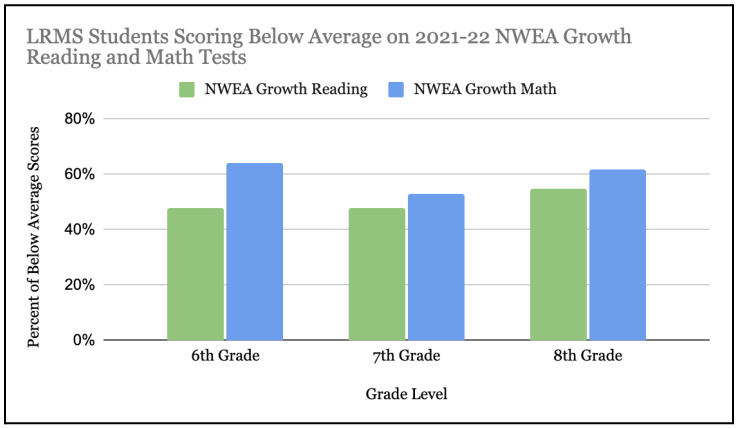
A. Describe your innovation.

Consider what evidence supports the need for an innovation, and the evidence that suggests your innovation will improve the current situation.

The Need:

Lake Region Middle School has a high need for innovative outdoor learning. We serve 434 students from the rural towns of Bridgton, Naples, Casco, and Sebago in grades 6-8. Recently, our school began experiencing more frequent behavioral challenges in the regular education classroom. When analyzing the Office Discipline Referral forms, we can see that the majority of referrals come from students being defiant and disrespectful (29.3%) and the second major challenge with our students is their tendency to skip their classes (14.9%). Since the COVID pandemic, we have also noticed an increase in the number of students who are absent or truant from school. This year, our school sent out a total of 126 truancy letters. Anecdotally, our administrative assistant who has worked at LRMS for 30 years told us that there were more truancy letters this year than she remembers in the past thirty years total.

To combat our challenging behaviors this year, Lake Region Middle School recently implemented a "Reset Room" that is run by our school counselors. When talking with the counselors, they shared that social-emotional skills are also lacking in many of our students. Beyond the ability to engage and empathize with students and teachers, our student population experiences a wide-range of challenges both inside and outside of school. According to the National Center for Education Statistics, only 79.8 percent of Lake Region Students have access at home to Broadband Internet with 12.2 percent of our students living below the poverty level. Because of their absences, disengagement with regular education classrooms, and lack of social-emotional skills, Lake Region Middle School students can struggle academically. As can be seen in the chart to the left, the results from our school's Northwest Evaluation Association (NWEA) Reading and Math tests show that roughly 64 percent of LRMS 6th grade students scored below average on their Growth Math NWEA and roughly 48 percent scored below average on their Growth Reading NWEA. For our 7th



grade students 53 percent scored below average on their Growth Math NWEA test and 44 percent scored below average on their Reading NWEA test. For the 8th grade students, 62 percent scored below average on their Growth Math NWEA while 55 percent scored below average on the Growth Reading NWEA test. These results show that a high percentage of our students could benefit from increased engagement and connections with their studies. Lake Region Middle School has a high need for an innovative change that reduces truancy and disruptive behaviors and increases student academic engagement.

To dive further into students' perspectives on learning, we put together a survey for LRMS 7th and 8th grade students, and 76 percent of the students responded to the survey. Of these students, only 10.2 percent indicated that they highly enjoy coming to school each day, and 18.1 percent of them indicated that they are "very proud" to be a member of the Lake Region school community. When asked if they would enjoy coming to school more if more of their classes were held outside, an overwhelming 81.8 percent of the students surveyed responded affirmatively. When asked how they learn best, the top three responses that the students gave were "hands-on activities" (85.6%), "outdoor games and activities" (72.6%), and "outdoor field research" (55.3%). This survey indicates that a majority of our students will improve academically and behaviorally from a more robust outdoor learning program.

In alignment with our findings, research shows that learning outdoors can benefit students both academically and socially. Specific studies show that students who engage in learning experiences outside of the classroom gain increased academic performance across all areas of study and enhanced critical thinking, creativity, and problem-solving skills (Williams & Dixon, 2012; Chawla, 2015; Wells et al., 2015; Matsuoka, R.H, 2010). Multiple studies have also confirmed that outdoor, environmental education can increase students' scores on standardized tests because of its ability to impact their critical thinking and problem solving skills (Bartosh et al., 2006; Jennings et al., 2005). Beyond academic skills, research also indicates that as a result of learning outside, students develop social-emotional skills in the areas of 21st century skills such as communication, collaboration, teamwork, and conflict management (Ernst & Monroe, 2006; Boyer & Bishop, 2004). Finally, other studies indicate that outdoor environmental education improves students' overall attitudes toward school, including reducing tardiness, increasing their participation, and improving their motivation (Stone, M.K., 2001).

If LRMS does not make a change towards more outdoor learning to increase student engagement, and we follow our current trajectory, we will continue to struggle with truancy, behavior, and academic progress. Because of the overwhelming research showing the successes of outdoor learning, our student survey showing high interest in hands-on outdoor learning, and because of the anecdotal teacher enthusiasm for teaching outside, we will create new structures and systems that will build capacity for increased outdoor education. This will encourage more students to come to school, become less disruptive to their learning, and make stronger academic gains. In the middle and end of the 2022-23 school year, we will compare measurements of the number of truancy letters, the Office Discipline Referrals, and standardized test scores with last year's data to demonstrate the positive gains in each of the categories of truancy, behavior, and academic engagement. For behavior data, we have changed the ODR form to include the location that the behavior took place to easily compare disruptions that happen indoors vs. outdoors. This project will help improve teacher morale, recruitment, and retainment especially in the face of the ongoing teacher shortage. Along with this, as the greenhouse and community partnerships continue in the following years, we will improve our relationships with the wider community.

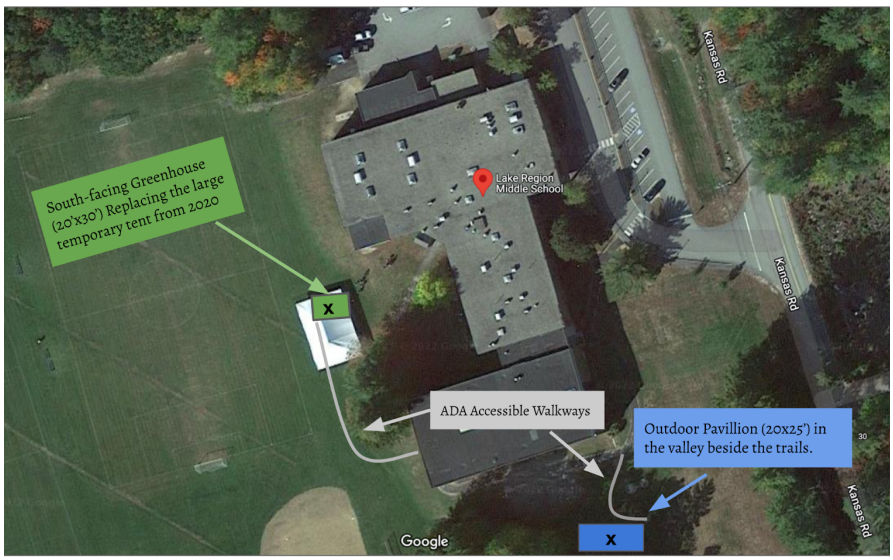
The Project

The Innovative Project at Lake Region Middle School will have two phases throughout the 2022-2023 school year. In Phase 1, we will work to create an infrastructure and systems that will better enable our teachers to

use the plethora of outdoor teaching materials and gear that already exist in our school to allow students to access the forests, streams, and trails that surround us. One of the big challenges that teachers have reported is that when they decide to bring classes outside, they need to find the clothes, boots, and teaching materials that are tucked away in various closets around the school. Anecdotally, many new teachers have also reported that they are unaware of what materials already exist to help with bringing students outside and feel that they do not have enough time in their schedule to take students outside for a meaningful experience.

To combat these challenges and allow all LRMS students to access our natural areas in all types of weather, we will build an outdoor pavilion classroom with seating and WiFi access and a greenhouse large enough to fit a class. The greenhouse will act as a place to grow plants, conduct research, and build community. It will also allow us to move our outdoor gear and tools to a common area where all teachers and students are better able to access them. The pavilion area will be placed off a nearby trail in the woods to give all teachers a covered area to conduct lessons outdoors. We will purchase a 20 foot by 30 foot greenhouse kit. Students will use math and writing/communication skills to design the layout inside the greenhouse and build the raised beds, shelves, and seating area. By being part of the design and building process, students will see a direct result of their actions. This will allow them to have increased ownership over the project and take pride in what we are creating. Because the research stated above shows that outdoor education improves students' attitudes toward school, we will see a decrease in the number of students who are absent or truant and an increase in their positive behaviors and engagement. Also because the majority of our students reported in our student survey that they learn best by hands-on activities, then this type of outdoor, hands-on learning will help to improve their academic scores.

The greenhouse will be built close enough to the school to enable it to have access to power and water. Part of the greenhouse will serve as a storage area for outdoor gear, environmental education tools, snowshoes, maple tapping supplies, etc that already exist in the school. Finally, the outdoor learning pavilion will be a 20x25 ft open air structure located beside the nearby forest to enable the students to sit protected from the sun and rain for outdoor activities and discussions. Both structures will be built off our already existing paved pathways to ensure that they also have ADA accessible pathways to allow all students to access these learning opportunities. The placement of the different structures and their relative sizes can be seen in this image.



During Phase 1, as the greenhouse and pavilion are becoming established, the 6-8th grade science department with help from the Library Media Technician will spearhead the coordination and organization of these spaces and the outdoor materials. We will create a school-wide online check-out system that lists the materials available and where they are stored, the ongoing projects in the greenhouse, and a sign-up sheet for classes wanting to use the greenhouse and/or the pavilion. These structures will easily tie into the already existing curriculum in science classes (thermal energy transfers, environmental and genetic differences in plants, ecosystems, for example), but through staff meetings and training, we will work as a whole staff to

design opportunities for school-wide collaboration and interdisciplinary projects. We will encourage all teachers to utilize the greenhouse as an outdoor learning classroom to help foster community-building among the students. By creating the check-out system and spreading the word through emails and staff meetings, teachers will feel comfortable and welcome to bring their students to the spaces, ensuring that all 434 LRMS students have increased time spent learning outdoors. Along with this, because teachers have also reported that a lack of time is a challenge that deters them from bringing students outside, individual teams are given the freedom to alter their schedules to accommodate outdoor learning experiences**.** This schedule change will enable teachers to have more time to extend student explorations and dive more deeply into the projects in the greenhouse.

For Phase 2 of the project, we will use the greenhouse to maintain the restorative practices that are already in place at LRMS to improve students' behavior and connections with the school. Each grade level will be in charge of at least one raised bed to maintain in their advisory groups and use as a team-building collaborative challenge. In partnership with the Center for an Ecology Based Economy (CEBE), we will work to invite guest speakers and presenters to teach lessons in the greenhouse that connect with the content that teachers are covering in their outdoor lessons. CEBE is providing LRMS a list of and introductions to a variety of guest speakers that we can invite to speak or lead activities. In this first year, we will have at least 3 guest speakers who use the greenhouse and/or pavilion for their presentations and activities. Anecdotally, teachers at LRMS have noticed that one of the most common phrases our middle school students say is, "When will I ever need to know this?" By connecting with experts from the community who can show the students how the skills they are learning in the greenhouse are applicable to the real world, students will see a direct connection between their lessons and their lives. This will create more student engagement and reduce the number of students who are truant because they will be more interested in learning these skills.

Both Phase 1 and Phase 2 of this project will take place during the 2022-23 school year. They will allow us to build the infrastructure and systems that we need to help make teachers and students comfortable with increasing the amount of time spent learning outdoors. During this first year we will focus on using these spaces to increase student academic engagement, decrease disruptive and defiant behavior, and decrease the amount of truancy and absences that students have. In the subsequent years as Phase 3, which is outlined below, kicks off, we will continue with those goals in mind and with the added goal of bringing in more connections with the wider community. In the first year, building some of those connections with CEBE's experts and guest speakers will allow students to see the real-world applications of the skills they are learning. Also, the hands-on nature of outdoor education will increase their engagement and interest in school. During the first year, we will collaborate to ensure that all students are accessing the outdoor learning areas, and using surveys and interviews, we will collect feedback from teachers and students throughout the year to determine how we can improve these projects as the year continues. Our Outdoor Learning Committee and our Greenhouse Coordinator will help to spread the word at staff meetings of success stories and of specific ideas and activities that can take place outside to inspire other teachers to continue to build upon the program.

Phase 3 for this project will happen after the 2022-23 school year. For this phase of the project, LRMS will create more connections with the wider community and school district. As a final event in the spring, we will invite the incoming 5th graders from around the district to attend mini-lessons and presentations from the outgoing 8th grade students. This will be an opportunity to build community, increase excitement and pride in the middle school, and develop responsibility and leadership skills in the 8th grade students. Finally, the food that is grown in the greenhouse will be harvested and donated to our Family and Consumer Science program, our local food pantries, and available for our summer food programs. We will also develop a summer greenhouse program so that the vegetables planted during the school year will survive and thrive. The

volunteers who will maintain the greenhouse will be invited to harvest any of the vegetables that are ready over the summer. These partnerships and others will continue to improve our connections with the wider community and allow students to see that the work they do in school has larger impacts and implications than just the grade they earn. This will help to further increase their engagement, reduce behavioral challenges, and reduce the number of students who are truant from school

B. Identify which students would be impacted, targeted, or supported by the innovation.

Review the evidence – quantitative and qualitative data and research – that indicates this group of students is considered the most vulnerable and would benefit from the described innovation.

Data you can use to inform your innovation, rationale, and targeted student population include the performance of various groups of students (e.g., students in rural locales, students from low socio-economic conditions, students with disabilities, students who are Els, students at risk for dropping out, student who are homeless) with regard to academic achievement, graduation rates, social emotional and mental wellness, economic data, and/or workforce participation.

For the LRMS Innovative Project, our primary audience is all of the 434 students in grades 6-8 who will participate in increased outdoor learning. The outdoor classroom and greenhouse will be ADA accessible to provide access for all the students of our school. During Phase 1, the 8th grade students will be the majority of students to use the greenhouse because they will be building and designing the greenhouse layout. Once everything is built, however, all students will have access in their classrooms, RTI groups, and advisories.

In our student interest survey, when they were asked the question, "Would you enjoy coming to school more if more of your classes were held outside", 81.8 percent of the students responded affirmatively. As a pilot trial project during the 2021-22 school year, the 8th grade science classes conducted a trail building project, and our rural eighth graders gained workforce experience prior to entering the field. Many students are from low socio-economic backgrounds and will work their first jobs this summer. Throughout this pilot project, they gained trade skills and maintained a safe and collaborative work environment. Students took pride in their work, especially when they could see it mirror their future career paths or their choice to join our high school's vocational program.

This project has multiple stakeholders. In planning for this project and as the project is ongoing, we will hold meetings and surveys with LRMS teachers, administrators, students, parents and our community partners. Our current partnership with the Lakes Environmental Association (LEA) provides us with Mary Jewett, an environmental educator who helps teach a year-long 6th grade standard and supports the 7th grade life science curriculum. Mary teaches at least once a month for 6th grade science classes, but because we do not currently have an outdoor classroom, she often needs to reschedule due to weather and work with limited resources and space that we do have. Her program will benefit greatly from having access to the outdoor learning pavilion where she can conduct her lessons outside of the regular education classroom. Finally, the Center for an Ecology Based Economy (CEBE) is partnering with us for this project. They will provide us connections and introductions to their wide-ranging experts in the field who can provide guest lessons to students either about future outdoor careers, watershed ecology, the effects of climate change in Maine, home weatherization, Wabanaki history, local gardening and farming, or Maine's lakes. By utilizing CEBE's connections, we will choose 3 guest speakers for the first year to help the students see the real-world implications of the lessons that they are learning outdoors. By working with our various stakeholders, LRMS students will discover the interconnectedness of the projects and lessons they are learning outside. The more that our students feel connected to their community and this place, the more engaged they will be in their learning and the less likely they will be to be truant or to misbehave.

After this first year, we will leverage these introductions and projects to form long-lasting connections with local experts in the field. We will also continue to reach out to other community members and businesses including Hancock Lumber, Hayes True Value, Paris Farmers Union, and the Bridgton Farmers Market.

With our initial trail building pilot project during the end of the 2022 school year, we noticed a large number of successful outdoor learners. Students would show up to their science classes on time and ready to go outside, even when, earlier that day, they were tardy to some of their other, more traditional regular educational classes. Many of the teachers who taught classes after students came inside from the trail project agreed with our math teacher who said, "Kids can pay better attention in my class after an outdoor lesson." Students who experienced our pilot projects reported that they enjoyed the forced time away from the computer and technology, working collaboratively with other students, and learning through movement and choice. Students are successful as outdoor learners when they are able to have choice and direct their own learning while also working collaboratively. When this happens, they are more engaged in their learning, have fewer behavioral issues, and are less likely to skip class or school.

Through this mini pilot study, we discovered that for students to be successful in our outdoor learning projects, they will need various supports such as teachers and volunteers who can demonstrate technology and woodworking skills, consistent school-wide expectations and protocols for the shared spaces, and a clear goal that they are working to achieve. As was evidenced in our pilot trail building project, they do not thrive in an environment that provides them with too much freedom or choice without set structures and guidelines. Students will also benefit from having autonomy and trust from their teachers and the administration. To provide perks to some of our outstanding 8th grade students, we will establish a role called the "Greenhouse Leader" where students will apply to be in charge of watering the plants and maintaining the greenhouse during breaks or down time in their day. Because these are middle school students, however, we will need to create a system for allowing students to keep their role as Greenhouse Leaders by demonstrating that they are continuing to maintain high academic standing and responsible behaviors throughout the day.

Section 2: Describe the Innovation

A. Describe the goals of your innovation.

Consider how your innovation will meet the needs of the identified target student population(s) and how you plan to achieve your goals. Additionally, consider any changes in policy, practice or structures you expect as a result of the innovation.

LRMS will build a greenhouse and an outdoor learning pavilion. Our school already owns snowshoes, coats, boots, water testing equipment, etc, but one of the challenges is having enough time during the day for teachers to access those materials easily. By having a dedicated outdoor space, teachers will be able to bring groups of students outside without time lost gathering materials. The greenhouse will be overseen by the science department who will connect it with their curriculum. The sixth grade science courses will use the greenhouse and pavilion to teach about ecosystems, seventh grade will use them to teach life science, and eighth grade science will use the greenhouse to teach about thermal energy transfers and physics. Our eighth grade students take the MEA science test each spring, and we will compare the 2023 with the 2022 MEA scores to determine the positive impacts of increased time spent on outdoor, hands-on science lessons.

In the first year with the greenhouse, we will set up garden beds for each grade to maintain and we will create a new group of 8th grade Greenhouse Leaders who will work to maintain the plants and keep the greenhouse

neat and tidy. Guest speakers and presenters also will come to the greenhouse to teach lessons to various groups of students throughout the year about farming, their careers, or research that they've conducted that connects to the topics students are studying. In this first year, we will have a total of 3 guest speakers who use the greenhouse and/or pavilion for their presentations and activities. To accommodate the schedules of the guest speakers and to provide more time for students to spend in the greenhouse, one major policy change for the school will be the freedom given to each individual team of teachers to adjust their schedule during the week. By providing access to real-world speakers and increased time spent on the greenhouse projects, students will feel more engaged in their learning and be less likely to be truant from school.

Two other major changes that LRMS will create along with the greenhouse and pavilion is an Outdoor Learning Committee and a stipend position for a Greenhouse Coordinator. These teachers and staff members will take the lead in discussing, planning, and organizing the outdoor learning spaces. Already with the planning of this project, we have discovered a large number of teachers who are interested and excited to have the opportunity to use and share their favorite outdoor learning activities with each other. By developing a committee and giving teachers the autonomy to inspire each other, we will develop a culture of innovation and creativity in our outdoor learning spaces.

In future years, we will be able to extend the program to include a robotics challenge for students to figure out how to set up an automatic watering system, develop partnerships with more guest speakers and experts from the field, and connect with the wider community to create a summer program for the greenhouse.

We will know that this project has been successful by multiple measurements. One indicator of success will be if we see that every content area and grade level has been accessing the greenhouse or outdoor pavilion throughout the year. Another metric would be the students' interest and retention in our Greenhouse Leader position. For our behavioral data, we will also review the Office Discipline Referrals and compare them with the 2021-2022 school year data, especially in terms of how often students skip class or are late to and absent from school. A successful program will show a 20 percent reduction in Office Discipline Referrals this first year. We also plan to analyze the difference in referrals that take place from learning indoors vs. outdoors. For our truancy data, we will examine the number of truancy letters that are sent out to see if there is at least a 10 percent decrease in letters to determine if the emphasis on outdoor learning helped encourage students to attend school. For our academic engagement data, we will send out the same Outdoor Learning survey that we gave during the 2021-2022 school year to compare students' interests in outdoor learning and pride in LRMS as a whole. We plan to see a favorable increase in the number of students who enjoy coming to school each day and take pride in LRMS. Anecdotal evidence will also be collected using student interviews. Finally, we will analyze the NWEA test results to determine the reduction in the number of students testing below state average on the math and reading growth tests.

Anecdotally, we discovered through all staff emailing and hallway conversations that Lake Region Middle School already has high interest from teachers across all contents who are excited about this opportunity. The entire science department is thrilled to have a place to store and access our materials, the English department is excited to have a covered outdoor space for reading and descriptive writing, the math department has indicated that they would be interested in using the greenhouse to teach linear growth and practice with graphing, and the social studies department will use it to help teach Maine studies and Wabanaki history. Along with these classes, we spoke with our life skills classroom who plan to use the ADA accessible greenhouse often to help develop fine and gross motor skills along with patience and perseverance. Our School Counselors plan to use the greenhouse therapeutically for restorative conversations with students who are dysregulated. Finally, each grade level will maintain a raised bed that they will work on during advisory to promote responsibility and teamwork.

In terms of the Universal Design for Learning, we will work with the students to set S.M.A.R.T. goals at the beginning of the year. Students will also be able to choose which project in the greenhouse they are most interested in tackling, and we will work to make sure that they see how these projects are relevant to real-world experiences by connecting with the Center for an Ecology Based Economy (CEBE) to bring in guest speakers who use similar skills in their professions. By asking the students to set their own S.M.A.R.T. goals, we will allow them to take ownership over their learning and provide them with the opportunity to direct where the projects in the greenhouse are going. We have found that when the students set goals and feel more in control, they become more reflective during the learning process and can identify how they are personally responsible for their part of the project. This process helps to increase each student's academic engagement with the lesson as a whole and can lead to students diving deeper into their learning as they work to answer their own questions.

To ensure the success of this project, we will share resources from the RREV Accelerator Workshop Series with LRMS teachers and create an Outdoor Learning Committee of teachers who meet twice a month to discuss successes and challenges of outdoor learning. They will be dedicated to spreading awareness, generating lesson ideas, and raising funds to maintain the greenhouse in future years. We will expand our partnership with the environmental educators of the Lakes Environmental Association to include our interdisciplinary greenhouse units. Our 8th Grade Greenhouse Leaders will be dedicated to watering the plants and maintaining the greenhouse during the school year, and the person who is earning the stipend to act as the Greenhouse Coordinator will work to manage all the materials and develop a schedule for teaching in the greenhouse. We will also gather student input and ideas to increase their engagement with the project. Finally, we will work with the grounds crew and maintenance department to determine the logistics of construction and sustainability. By connecting with the Center for an Ecology Based Economy to bring in guest speakers and volunteers from the community, we will also develop a long-term strategy for maintaining the program. In the coming years, we hope to form a team of parent and community volunteers who are willing to work in the greenhouse and gardens throughout the summer. They will water the plants and be allowed to harvest any of the vegetables that are ready over the summer.

B. Describe activities included in your plan for each stage – preparation (P) or implementation (I) – of your innovation.

- ***Preparation*** *includes building stakeholder awareness, establishing routines and processes, and coordination of logistics.*
- ***Implementation*** *includes planned implementation activities, as well as professional development for the educators participating in the innovation.*

	Activity	**Purpose**	**Stage (P or I)**	**Date of Completion**	**Person Responsible**
1.	Student Survey	To gauge general opinions of LRMS, reasons for absences, etc	P	May 2022	Alaina Clark
2.	Pilot Project--8th grade trail maintenance and student reflection/advice	To see how the current 8th graders react to a school improvement project and what input they have for	P	May/ June 2022	Alaina Clark and Emma Ottenheimer

		the larger project for next year			
3.	Meeting with Lake Region Facilities Director	To determine feasibility, location, and size of possible greenhouse	P	June 2022	Alaina Clark, Michelle Brann, Andy Madura
4.	Meeting with Crooked River Elementary Head Teacher	To generate advice and connections with the greenhouse that she established at her school	P	June 2022	Alaina Clark and Liz Shane
5.	Communication with Greenhouse Company	To get a cost estimate, size , and building requirements and create a budget estimate	P	June 2022	Andy Madura
6.	8th grade Team Meeting	To create an interdisciplinary project for the greenhouse, develop systems for the Greenhouse Leaders, and create a set protocol for expectations in the greenhouse	P	August 2022	Alaina Clark, Heidi Bernier, JR Warren, Nancy Hayes, Rachel Hubka, Brigitte Morse
7.	Facilities Committee Meeting	To request approval from the District Facilities Committee and answer any questions about construction and placement of structures.	P	August 2022	Alaina Clark, Matt Lokken, Andy Madura
8.	Secure Facilities crew and high school builders	To build the greenhouse and pavilion	I	Fall 2022	Alaina Clark, Andy Madura, Mike Porter, Russell Moores, Dave Morse
9.	Faculty Meeting	To establish protocols, introduce the sign-out program, and to introduce an alternative schedule that increases time for the students to spend in the greenhouse	P/I	Fall 2022	LRMS Faculty
10.	Develop Timeline	To identify clear outcomes and deadlines for all the pieces of the project	I	Fall 2022	Alaina Clark, Lindsay Cutting
11.	Greenhouse Leader Interviews and Nominations	8th Grade students will apply for Greenhouse Leader roles and interview in front of 8th grade teacher team	I	Fall 2022	Alaina Clark, Heidi Bernier, Rachel Hubka, Nancy Hayes, JR Warren, Gordon Smith

12.	Science PLC and Community Partner Meeting	Science Teachers meet with the Lakes Environmental Association to plan collaborative learning efforts in the greenhouse.	P	Fall 2022	Alaina Clark, Stephanie Winslow, Ashlyn Bourgeois, Chandra Nizamoff, Kathleen Tragert, Mary Jewett, Alanna Doughty
13.	8th Grade Interdisciplinary Project	8th grade students will calculate budget in math class, construct the greenhouse layout in tech and science class, natural resources and Wabanki heritage in social studies, descriptive writing in ELA	I	Fall 2022	Alaina Clark, Heidi Bernier, Rachel Hubka, Nancy Hayes, JR Warren, Gordon Smith
14	Guest Speakers and Presenters	Teachers will choose from the CEBE Guest Speaker list to bring in 3 outside experts to present to a wide variety of students.	I	Winter and Spring 2023	LRMS faculty, Seal Rossignol
15	Celebration of the Greenhouse	During the 8th Grade Recognition Ceremony, Greenhouse Leaders and other outstanding Outdoor Learners are celebrated	I	June 2023	Alaina Clark, Rachel Hubka, Nancy Hayes, Matthew Lokken, Greenhouse Leaders
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Section 3: Define Innovation Outcomes & Measure to Assess Outcomes

A. Identify the outcomes *(i.e., student outcomes, changes in instructional practices, changes in student practice)* that you expect to see as a result of your innovation.

Consider both short-term and long-term outcomes, at different points in the time (e.g., at 6 months, 12 months, 2 years and 3+ years).

As a result of our pilot, we expect to see an increase in student engagement and the growth of a more positive school culture where students and staff feel connected to the school and each other. This will bolster student achievement and improve readiness for high school.

6 months	1 year	2 years and beyond
Academic Engagement Goal Outcomes: 25% of classroom teachers make shifts in instructional practice, incorporating outdoor learning into at least 1 unit during the year Greenhouse Coordinator begins the stipend position and establishes	**Academic Engagement Goal Outcomes:** 50% of classroom teachers incorporate outdoor learning, and multiple teams create ongoing interdisciplinary projects in the greenhouse to increase student engagement and academic progress. Greenhouse Coordinator's survey	**Academic Engagement Goal Outcomes:** 75% of classroom teachers incorporate outdoor learning interdisciplinary projects, and RTI Groups make use of these spaces during their WIN block interventions. Greenhouse Coordinator's survey

protocols, maintains supplies, and sends surveys that students and staff are excited to take to give feedback on outdoor learning. Multiple 8th Grade students apply and are elected as Greenhouse Leaders. Enthusiasm for this position is evident in the younger grades. The Outdoor Learning Committee presents successes and teaching suggestions for outdoor learning to LRMS staff. **Behavioral Goal Outcomes:** School counselors and administrators use outdoor spaces for restorative conversations to improve student behavior 25% of the time. ODR form data shows that behavior incidents are at least 50% less likely to happen outdoors than indoors. **Truancy/Absence Goal Outcomes:** Anecdotal evidence supports that fewer students skip classes that have an outdoor learning component.	feedback shows that 95% of students have accessed the outdoor spaces at least once, 80% have used them in multiple classes, and 65% of students report favorable opinions of their experiences with outdoor learning. Greenhouse Leaders show initiative and take pride in their accomplishments in the greenhouse. They present about the greenhouse during the 8th Grade Recognition Ceremony. Students make real-world connections to their learning with at least three guest speakers that CEBE provides. NWEA scores in language arts and math show that 70% of students are meeting their growth goals. **Behavioral Goal Outcomes:** ODR form data shows that behavior incidents are at least 50% less likely to happen outdoors than indoors. ODR evidence shows that students are less disrespectful and disruptive compared to the 2021-22 school year. Fewer ODR forms completed than during the 2021-22 school year. Fewer students attempt to use the Reset Room and anecdotal evidence shows that they are more likely to return to classes that are held outdoors. **Truancy/Absence Goal Outcomes:** Truancy reduced by 50% from the 2021-22 school year	feedback shows that 100% of students have accessed the outdoor spaces in multiple classes and 75% of students report favorable opinions of their experiences with outdoor learning. Greenhouse Leaders take the lead during the 5th grade Step Up Day. They lead mini lessons and presentations in the greenhouse. Students lead the charge on donating food grown to the community and/or the Family and Consumer Science Program. The Greenhouse Coordinator continues to maintain outdoor supplies and send surveys to students. At staff meetings they present strategies for connecting with all types of learners outdoors. Students make real-world connections to their learning with at least five guest speakers that CEBE provides. NWEA scores in language arts and math show that 80% of students are meeting their growth goals. Students design and plan a plant sale fundraiser held at the greenhouse after school that also showcases student work and art. **Behavioral Goal Outcomes:** Students spearhead the establishment of a Greenhouse Summer Program and a team of at least 5 volunteers works to maintain and harvest food from the gardens in the summer. ODR form data shows that behavior incidents are at least 50% less likely to happen outdoors than indoors. Anecdotal and ODR evidence shows that students are less disrespectful and more interested in their learning when it takes place outside. Fewer students attempt to use the

		Reset Room and are more likely to return to classes that are held outdoors. **Truancy/Absence Goal Outcomes:** Truancy is reduced by 65% from the 2021-22 school year.

B. Describe your plan for collecting and reviewing data to assess your innovation outcomes.

Potential data to collect includes qualitative and quantitative data (e.g., surveys, interviews, focus groups, observations, exit tickets, and on-demand assessment(s) that can be considered.

	Data Type	**Baseline (B) Interim (I) Summative (S)**	**Frequency of Data Collection**	**Person(s) Responsible for Collection and Data Quality**
1.	Student Outdoor Learning Survey	B, S	May 2022 and May of 2023	Alaina Clark and Stephanie Winslow
2.	Office Discipline Referral Analysis	B, I, S	May 2022, December 2022, May 2023	Alaina Clark, Stephanie Winlow, Matthew Lokken
3.	Attendance Records and Truancy Letters	B, S	May 2022, May 2023	Ginny Nadeau
4.	NWEA Scores Analysis	B, I, S	May 2022, December 2022, May 2023	JR Warren, Matthew Lokken, Valerie Young
5.	Analysis of Outdoor Spaces Signouts	I, S	December 2022, May 2023	Alaina Clark, Lindsay Cutting
6.	Staff Satisfaction PEAR Survey	I, S	December 2022, May 2023	Alaina Clark, Stephanie Winslow
7.	Student Interviews/Circle Discussions	S	May 2023	Alaina Clark, Stephanie Winslow
8.	Science MEA Score Analysis	B, S	June 2022, June 2023	Matthew Lokken, Alaina Clark

C. Describe how you will **scale and sustain** your innovation, including necessary policy changes, changes in mindsets, capacity-building activities, and **long-term financial sustainability**.
Consider the systems changes that this innovation will require and promote.

The Innovative Pilot Project will require a few changes to the systems that are already in place at LRMS. For one, the 8th grade team will be changing their established schedule on a continuous basis to allow for the students and teachers to have more time outdoors implementing the projects. This will help to create perks that 8th graders can earn and the younger students will look forward to. Another change that we will make is to create a stipend position for a Greenhouse Coordinator and to form a Outdoor Learning Committee of teachers that meets once every two weeks according to a pre-established committee meeting schedule. The Greenhouse Coordinator will work to maintain supplies, the plants, and a schedule for the greenhouse while the committee members will use their meeting time to discuss problems and concerns with the greenhouse or pavilion, share activities that have been working well, and develop fundraising projects to maintain the success of the project. Committee members will cover all grade levels and content areas, ensuring that our problem-solving will be successful throughout the school. We have found that teacher committees, when combined with student leadership such as the Greenhouse Leaders program, ensure sustainability with new initiatives. We will also place video cameras in the greenhouse to help reduce the chances of unanticipated issues arising. Policies for outdoor learning will follow expectations within the school. For example, teachers will continue to submit ODRs for student misconduct and use the same consequences they would use in the classroom to seamlessly integrate outdoor learning into our school culture. We have added a question to our ODR form and team behavior form about the location of any misbehavior. This will help us track the location of most of our behavior issues and compare behavior and misconduct that happen inside the school building versus outside of it.

To measure the success of this collaborative partnership, we will use a variety of surveys and interviews with the various stakeholders. We want this greenhouse to become a central part of our school and have the program grow each year. To do so, we will need to make sure that all of the people involved feel valued and as though they have ownership over the program. Along with surveys and interviews, we will invite stakeholders from the community and local businesses to attend our committee meetings to help increase community engagement. Working with the Center for an Ecology Based Economy, we will find at least three guest speakers this first year who are willing to collaborate and show our students how the lessons they're learning in the greenhouse apply to the real world. In the years that follow, we will ask parents and community members to help us plan our day of mini lessons and tours for the incoming 5th graders, and we will eventually have a team of parents, students, and other community members who maintain the garden over the course of the summer.

Long Term Financial Sustainability:
Most of the requests in this pilot project are one-time only expenses to design and create the infrastructure to allow students and teachers to access the outdoors. The district has agreed already to maintain and upkeep the buildings that are built during this time and our Outdoor Learning Committee of teachers will be tasked with helping to fundraise through school dances, bottle redemption, and other programs for the Outdoor Learning areas. Our principal is already dedicated to designing an ongoing stipend position for a teacher each year to be paid to act as the Greenhouse Coordinator to help maintain these outdoor learning spaces and the supplies. The science department and other subject areas also have fairly inclusive budgets and teachers can request outdoor teaching materials as some of the supplies start to dwindle. Once the infrastructure is built, our school is dedicated to using and maintaining it.

D. Describe the feasibility review you engaged in during the development of your innovative pilot plan, including which aspects of the plan for the pilot were reviewed, which stakeholders were engaged, feedback received and revisions made to the plan as a result of the feedback.

In the spring of 2022, we ran a pilot project with 8th grade students for a unit on natural resources. Students cleared the school trails, fixed a broken bridge, built birdhouses, extended a boardwalk, painted raised beds and planted the Garden Club seedlings. We spoke with 8th grade students after the completion of this project and received positive feedback. Students reported that they enjoyed being outside, collaborating with peers, having choices and seeing the results of their efforts. Through this pilot project, we learned a great deal. Most importantly, we discovered that students were highly engaged when the activities were hands-on and outdoors. We also learned the importance of setting high standards for student safety protocols and realistic goals and expectations for each session. The days when we presented them with a tangible goal were often the most productive days compared to when we just wanted to see what they could get done. Students seem to work best with a clear goal and protocol in mind. The outdoor trail pilot project taught us the importance and value of using restorative and empathy-building practices with our most disengaged students. They were generally respectful and grateful to staff members who volunteered their time to assist with construction.

For this pilot, we worked with Hancock Lumber who reduced the cost of lumber for our boardwalk and bridge and we worked with our Design and Technology teacher who created templates and birdhouse kits for the students to use. The Garden Club and Gay-Straight Alliance were also pivotal during this project. At the end of the project, we received feedback surveys from the students, many of whom reflected that this was one of their favorite parts of this year's science class. We also had informal discussions with the staff volunteers who helped us brainstorm how to make the pilot better.

As a result of the feedback, we increased the number of choices that the students could make when we went outside. Each class could choose between four unique projects that included, trail maintenance, birdhouse building, raised bed painting and planting, and boardwalk or bridge construction. After the first week of trying this project out, we had circle discussions with our classrooms, and through their feedback, we re-set our expectations for the groups. We learned that the students needed a clear goal each time we worked on the project and they needed to choose and stay with one of the four options. We did allow them to choose different projects each day to help them respond to their current emotional and physical needs. Through this project, we also learned that 8th grade students need high levels of scaffolding when it comes to construction. Because of this, we worked with the Design and Technology teacher to create templates for the lumber they would be cutting and assembling, and we were lucky to have one of our Special Education Teachers volunteer his time to help guide smaller groups through bridge construction. When we use the lessons learned from this pilot project, we would definitely encourage parent and teacher volunteers to work with the students and increase the number of adult leaders, especially while the students are doing construction work on the greenhouse or pavilion. This trail project fully demonstrated the truth that smaller groups of students accomplish more and allow each student to feel more ownership over their project. This knowledge is what inspired us to plan to have students take the lead as the Greenhouse Leaders and have the 8th grade students help with the design and layout inside the greenhouse for our larger greenhouse project.

Section 4: Identify Key Expenses

A. Identify the key expenses associated with the preparation, implementation, and ongoing refinement of your pilot.

Expenses could include staff time, materials, professional development activities, facilities, and other related expenses. This section does not need to include specific costs, but rather list out the different costs that should be considered to implement the innovation.

Item	**Cost**
Site Development and 20'x30' Greenhouse installation: concrete frost wall, greenhouse kit from BC Greenhouses, crushed rock, electrical line, water line, security camera, etc	$57,000
Stipend Position for Greenhouse Coordinator	$1,200
ADA Accessible Pathway to Greenhouse	$7,000
20x25' Outdoor Learning Pavilion with electrical connections	$22,750
ADA Accessible pathway to Outdoor Pavilion	$4,500
Outdoor Learning Guest Speakers and Experts through the Center for an Ecology Based Economy	$5,000
Lumber, soil, seeds, and supplies for the two spaces	$2,550
Total Cost of Project	**$100,000**