



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2025.** Please include this submission form as the first page of your electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

PROGRAM INFORMATION

County: Henrico County, Virginia

Program Title: Elementary Students Design and Build a New School

Program Category: Health and Human Services

CONTACT INFORMATION

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1. Summary

R. C. Longan Elementary School in Henrico County, Virginia designed and implemented an “If I Built a School” project in the fall of 2024. The Henrico County Public Schools building was slated to be reconstructed starting in 2025 and administrators decided to involve the students and faculty in the excitement. Students participated in a schoolwide STEAM project — science, technology, engineering, arts and math — where they learned about different careers and the importance of numerous factors when constructing a new building.

The R.C. Longan staff wanted to actively engage students in critically analyzing the school community's needs and wants in a new building. Students engaged with the design thinking process to research, design and build a prototype of different areas for a new school building. They were asked to make strategic design decisions after learning job-related skills such as architecture, interior design and sustainability. The project encouraged students to participate in the learning and design process through collaboration, communication and critical thinking. By engaging in this project, R.C. Longan aimed to introduce students to the diverse range of careers involved in planning and constructing their new school building. This exposure could spark student interest in fields they may not have previously considered.

2. The Problem or Need for the Program

R.C. Longan Elementary School staff members recognized the importance of students being actively engaged in learning. Because STEAM projects address real-world issues, including environmental sustainability, STEAM was an important framework for the project. The development of the “If I Built a School” project enabled students to participate in STEAM activities and provided opportunities for students to be exposed to and spark interest in possible career paths. It also helped students develop the necessary foundation for these jobs.

The construction of the new elementary school inspired the development of this program. Up to this point, Henrico County and HCPS leaders have been the decision-makers in the planning and design process for a new building. Creation of a new building was the perfect inspiration to get students involved by having them fabricate their solutions to what the school's new building should incorporate for the best possible learning environment.

3. Description of the Program

The "If I Built a School" initiative at R.C. Longan Elementary School spanned from Nov. 15-Dec. 20, 2024. Families were invited to join in the kickoff event. They were introduced to the project — and reading and math skills — by engaging in the book "If I Built a House." Families collaborated to design their ideal house and calculated the area and perimeter. Over the course of the month, students engaged with several classroom lessons focused on designing and building a school, researching, learning from experts and a culmination day. For this schoolwide project, each grade level was assigned to a developmentally appropriate, specific part of the school as outlined below. The details of the various schoolwide events and classroom lessons are shown in the table below.

- Kindergarten: Overall appearance of the building
- First grade: Playground
- Second grade: Classrooms
- Third grade: Interior map of the school
- Fourth grade: Resource areas: each class was assigned art, music, P.E. or library.
- Fifth grade: Outside spaces: garden, outdoor learning spaces, transportation: bus loop, car rider dropoff and parking

Subject matter experts and community members including HCPS Central Office employees and Henrico School Board members were invited to join for the culminating event. During the

planning phase, administrators met with Henrico County’s career exploration specialist. With her assistance, they were able to identify the various grade level experts and coordinate the classroom presentations.

Date	Activity
Nov. 15, 2024 schoolwide Event	<p>Kickoff event: Focus: Set the purpose</p> <p>Engage:</p> <p>The principal read the book “If I Built a School” by Chris Van Dusen.</p> <p>Exploration:</p> <p>Questions were posed for whole group discussion:</p> <ul style="list-style-type: none">• What is a school? What do you need to have a school?• What do you think a school needs to have? Students were encouraged to turn and talk, then share. <p>Challenge:</p> <p>Each grade level would research, learn and build a prototype of areas for the new building. Students were told to think about the environment, technology, accessibility and learning, and making it look pretty. Each class was assigned to create a prototype and present their findings.</p> <p>Charge: “We’re going to get ready for the build a school challenge by getting the ideas started with a family challenge.”</p> <p>Math and Literacy on the Lawn:</p> <p>Each family received a packet that contained the book “If I Built a House,” crayons and pencils. Families were encouraged to find a space outside to read the book and discuss what is needed in a house and to create a</p>

	<p>blueprint for their ideal homes. Families then calculated the area and perimeter of their space.</p>
Classroom Lesson	<p>Lesson 2: Focus: Make a Plan</p> <p>Engage:</p> <p>Groups discussed the following questions: How do you like to learn? What can we put in these areas to help students learn or to make them excited to come to school?</p> <p>Students brainstormed what they like about their school and things to consider for improvement when planning for a new school.</p> <p>Explore:</p> <p>Teachers read “Iggy Peck, Architect” and discussed the following questions:</p> <ul style="list-style-type: none">• What are some of the materials Iggy used?• What do you think would make the most stable structure?• The bridge the kids built was huge! How do you think they decided who was going to build what?• What jobs might we need to decide on as we build? <p>Students visited the assigned area which they had been asked to re-create. They discussed the important features needed for the space. Students worked in small groups to create a blueprint of their space.</p> <p>Explain:</p> <p>After students created their blueprints, their classes collaborated to brainstorm job skills that may apply to that area.</p>
Classroom Lesson	<p>Lesson 3: Focus: Prepare to learn from experts</p> <p>Engage:</p>

	<p>Teachers shared with students who their professionals were going to be.</p> <p>They discussed potential experts within their schools who could be helpful, including teachers and resource teachers.</p> <p>Students collaborated to identify questions to ask their in-house experts.</p> <p>Explore: Talked about “thick” and “thin” questions as well as open-ended questions that start with the words how, what and why. Assisted students in considering what information they need to know before they start planning.</p> <p>Students could use online resources to get answers to questions as well as help develop other questions. A list of articles, books and videos were provided to teachers as a starting point for student research. Lesson closed with students gathering questions to help with the next lesson discussion.</p>
<p>Classroom lesson</p>	<p>Lesson 4: Focus: Learn from experts</p> <p>Each grade level heard from several experts within their area. The experts discussed how one job impacts planning and building.</p> <p>Kindergarten: Architect, strategic projects manager, landscape architect</p> <p>First grade: architect, civil engineer, landscape architect, design and construction (HCPS director of facilities)</p> <p>Second grade: Architect, interior designer, construction project manager</p> <p>Third grade: architect, interior designer, construction project manager, landscape architect</p> <p>Fourth grade: Architect, interior designer, design and construction (HCPS director of facilities)</p> <p>Fifth grade: Civil engineer, construction project manager, horticulture teacher, landscape designer</p>

<p>Classroom lesson</p>	<p>Lesson 5: Focus: Revise the plan</p> <p>Engage:</p> <p>The class revisited the recorded lesson and asked: “Compare what you learned to what is currently existing in the plan. What revisions could be made?”</p> <p>Explore:</p> <p>Referred to the list of questions the professionals answered and gave students time to research and revise plans. As students completed plans, they met to share what they liked about their plans. Discussed how plans could be revised, then made changes. Students began to revise plans.</p>
<p>Classroom lesson</p>	<p>Lesson 6: Focus: Revise the plan and decide what materials would be best for the building project</p> <p>Engage:</p> <p>Before this lesson, students considered the materials the class would like to build with. These included recycled materials and LEGOs.</p> <p>Revisited the size criteria of the project and were asked: What other things need to be considered when sharing this with the school?</p> <p>Considerations:</p> <ul style="list-style-type: none">● Ability to move the prototype● Stability● Accessibility of supplies

	<p>How do we want to share the lesson? Examples were making a video or a slide show presentation.</p>
<p>Dec. 20, 2024 schoolwide community event</p>	<p>Final presentation day: R.C. Longan Elementary’s “Build, Create, Connect Day”</p> <p>Attendees: Students, families, subject matter experts, HCPS Central Office staff and HCPS School Board members</p> <p>Engage in preparation for presenting: Time to show off everything the students have been working on.</p> <p>Celebrating all the students had accomplished:</p> <ul style="list-style-type: none">● Brainstorming.● Researching.● Planning.● Visit with professionals.● Building a prototype. <p>Students were asked: What do you think is the most important part of the project? Why do you feel that way?</p> <p>They could also share what they felt was the most important thing people should know about the process. Reflection prompts included:</p> <ul style="list-style-type: none">● What was the most challenging part?

	<ul style="list-style-type: none">● What worked well?● What would you do differently next time? <p>Prompts for student presentations:</p> <ul style="list-style-type: none">● What is the area?● What are the needs and wants for the area?● How will the area fit the needs and wants of the learners?● What did we learn from the professionals?● What materials did we use? Why?● Tell us about the design.● Reflect on the project.
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From the project's start to finish, you could see engagement from students and teachers throughout the school. This was a schoolwide project that brought the school community together.

4. Advancing Diversity, Equity and Inclusion

Students were asked to consider the needs and wants of all learners when designing school spaces, because students need and want to learn in different ways, including those with physical disabilities or other diverse needs. Final prototypes were created by groups of students with diverse backgrounds, abilities and interests to encourage collaboration and understanding, as well as cultural differences. The school partnered with local organizations and employers, which provided resources and expertise, potentially offering opportunities for students of all backgrounds to connect with mentors or professionals.

5. The Cost of the Program

The following materials were purchased, but are not necessary for success of the program:

- Kickoff construction hats for students: \$300
- Cost of creating packets (“If I Built a House” books, crayons, pencils for families): \$2,400
- LEGOs for three grade levels (12 classrooms): \$500
- Base plates for 3 grade levels (12 classrooms): \$100
- Storage for LEGOs and base plates: \$200
- Reference books purchased for grade levels (“Iggy Peck, Architect”): \$250
- “If I Built a House” books (one per classrooms): \$250

7. The Results/Success of the Program

The results of the schoolwide STEAM challenge have had both tangible as well as observation-based results. For example, one of the kindergarten teachers reported that when her students were drawing their plan, they referred to the types of building materials that could be used as well as the textures of the materials. Second grade classrooms not only built their prototypes, but also labeled the important aspects of what they felt would be a welcoming learning environment. Additionally, a third grade classrooms [documented reflections of their lessons and the building process.](#)

Students also developed skills that will benefit them long after the completion of the project. First, STEAM challenges encourage students to analyze problems, break them into smaller parts and explore multiple solutions. Collaborating on this project enhanced student collaboration and communication. Students worked together effectively by sharing ideas,

delegating tasks and communicating their findings clearly. As students were designing their prototypes, they built confidence and resilience as they learned from mistakes, persevered through challenges and developed a growth mindset.

Teachers were also positively affected by the students' engagement. When reflecting on the process, teachers reported that the class enjoyed the process and were excited to share what they had learned.

8. Worthiness of Award

The "If I Built a School" initiative was an opportunity for students to grow and learn through a schoolwide project-based learning experience. R.C. Longan Elementary School deserves to be recognized for identifying an opportunity for learning, thinking outside the box and executing a month-long innovative project. This project enabled all stakeholders, including students, teachers, families and community members the opportunity to collaborate on envisioning their school community's future. At the same time, students had a chance to learn from subject matter experts in various career fields they may not have thought about before. R.C. Longan Elementary School continues to go above and beyond for their students while setting an example for other schools in the division.

9. Supplemental Materials

[Invitation for Build, Connect, Create Kickoff Day](#)

[Kickoff Presentation for Build, Connect, Create Kickoff Day](#)

[Invitation for Build, Connect, Create Showcase Day](#)

[Guided Questions for guests](#)

[Link to student created response \(Padlet\)](#)

[Link to photos](#)