

# Applicant: Postville Community School District – NE Region

Email address:

lsalinas@postville.k12.ia.us

Name of Individual Submitting Application:

Lindsay Salinas

## Executive Summary

In 500 words or less, summarize the school district's, non-public school system's or accredited, stand-alone non-public school's vision for your Computer Science is Elementary initiative.

The community of Postville is unique in comparison to other communities in Iowa. 35% of the population of Postville's 2,017 residents are under the age of 18 and more specifically 20% of Postville's population is enrolled at Cora B. Darling Elementary. Cora B. Darling Elementary has received partnership commitments from two businesses in Postville: Norplex-Micarta and Northeast Iowa Resource Conservation and Development (RC&D). By integrating Computer Science into the Iowa Core Curriculum Standards already in place at Cora B. Darling, we are encouraging students to move beyond basic competency in core subject areas. Encouraging 21st Century Skills to be embedded within core subject areas bridges the gap for students to move from basic computer literacy and use of existing technologies, to the side of logical reasoning, creative thinking and problem-solving.

The computer science curriculum that will be implemented is Code.org and Tynker. Students will learn the foundation skills of computer science through a combination of unplugged and online lessons using Code.org and Tynker. Grade level PLC teams and the computer science teacher will develop an integrated computer programming project in at least one core subject area aligned to a math, literacy, science, or social studies essential standard by the 4th quarter of the 2019-2020 school year.

As we continue to build on our existing computer science instruction, our district has designated a teacher to co-teach computer science with classroom teachers. The computer science teacher will plan, co-teach, and implement the foundational skills of computer science as well implement the integrated core curriculum project aligned to a math, literacy, science, or social studies essential standard.

To measure the success of the implementation of the computer science standards, the CS Leadership Team will create a Computer Science Standards Based Grading Rubric aligned with the CSTA standards. The Computer Science Standards Based Grading Rubric would be created by grade span to measure the student's level of understanding of the standard. This rubric will allow teachers to assess where their students are in their computer science understanding.

After the 2019-2020 implementation, the CS Leadership team, consisting of the K-6 principal, K-12 technology integrationist (holds an Iowa K-12 Computer Science endorsement), K-6 instructional coach, and elementary teachers. At the end of every school year, the CS Leadership team will review and revise the computer programming curriculum map to reflect the newly learned computer science knowledge at each grade level. At this time, the CS Leadership team will evaluate and examine the courses within Code.org and Tynker that were taught during the school year. The CS Leadership team may make adjustments to the computer programming curriculum map based on the courses

that were implemented throughout the school year. We anticipate that every year the students will enter the next grade level with an increased level of background knowledge in the area of computer science. Through this evaluation and reflection, the CS Leadership Team will determine how to best challenge our students in computer programming for the following school year.

## Demographics

Points Awarded: / 10

*10 points*

What is the name of the district, system or stand-alone non-public school making the application?

Postville Community School

What is the name of elementary school(s) that will participate in Computer Science is Elementary?

Cora B. Darling Elementary School

What grades does the participant building(s) serve?

JK-6th Grades

Provide the name, email address and phone number of the primary lead for the application.

Lindsay Salinas, lsalinas@postville.k12.ia.us, 563-864-7651 ext. 243

Provide the name, email address and phone number of the fiscal agent or business manager who will handle reimbursement if awarded.

Melissa Fettkether, mfettkether@postville.k12.ia.us, 563-864-7651

In what STEM region is the district/system/stand-alone non-public school located? (<https://iowastem.gov/regions>)

Northeast STEM Region

Based on Student Reporting in Iowa (SRI) Oct. 1, 2018, reporting, what percentage of students in the participating elementary school(s) are eligible for free and reduced-price lunch?

81%

Based on SRI Oct. 1, 2018, reporting, what percentage of students in participating elementary school(s) are underrepresented populations in the field of computer science (African-American, Hispanic, American Indian/Alaskan, Native Hawaiian/Pacific Islander)?

66% overall

African American - 11.5%

Hispanic - 52.2%

American Indian/Alaskan - .4%

Native Hawaiian/Pacific Islander - 0%

Mixed Race - 1.7%

## Goals and Measurements

Points Awarded: / 20

20 points

What are the measurable goals for the Computer Science is Elementary initiative in the district/system/stand-alone non-public school?

Create a Computer Science Standards Based Grading Rubric (SBG) aligned with the CSTA standards to assess the student's knowledge of computer programming.

Increase student math, literacy, and science achievement on statewide assessments: FAST, ISASP, and ELPA

Increase student open-enrollment requests into Postville Community School District

Develop relationships with community and business partners.

Build student's computer programming foundational skills

Create an ICS (Integrated Computer Science) project aligned to the essential standards for either math, literacy, science or social studies

Design a computer programming curriculum map

How do these goals tie to the larger district/system/stand-alone non-public school goals, mission, and vision?

By integrating CS into the Iowa Core we encourage students to move beyond basic competency.

Encouraging 21st Century Skills to be embedded within core subject areas, bridges the gap for students to move from basic computer literacy to the side of logical reasoning, creative thinking and problem-solving. This is extended through community partnerships that allow students to see their ideas represented in a global and diverse society. The learning opportunities today will provide students the ability and confidence to create a successful tomorrow.

How will the district/system/stand-alone non-public school measure the success of the plan using student data, with an emphasis on achievement and engagement?

The CS Leadership Team will create a Computer Science SBG Rubric aligned to CSTA standards. The CS SBG Rubric would measure student's beginning, developing, secure and exceeds level of understanding. Using the SBG Rubric, grade level PLC teams will be able to analyze the assessment data, have data driven conversations and make decisions based on the SBG Rubric.

Grade level PLC teams will measure the student engagement and achievement by monitoring their foundational skills progress with Code.org and Tynker. Grade level PLC teams will include an ICS project into the core curriculum aligned to either a math, literacy, science, or social studies essential standard.

## Plan

**Points Awarded: / 40**

*40 points*

Describe how the plan will be launched or built upon an existing computer science education in the proposed participating elementary school(s).

Computer Science is currently introduced to JK-6th grade students through Code.org's "Hour of Code" initiative. In 5th and 6th Grade, students are formally taught Computer Science skills and concepts through Code.org and CS First/Scratch curriculum for one quarter of the school year. Through the "Computer Science is Elementary" grant, Cora B. Darling Elementary will be able to expand on the existing experience to include teaching an hour of code weekly as opposed to only during Code.org's "Hour of Code" initiative in December.

As we continue to build on our existing computer science instruction, our district has designated a teacher to co-teach computer science with classroom teachers. The computer science teacher will plan, co-teach, and implement the foundational skills of computer science as well as implement the ICS project aligned to a math, literacy, science, or social studies essential standard. The 0.3 computer science instructor portion of the teacher's contract will be paid through the "Computer Science is Elementary" grant over the next two years.

## Impact

**Sub-Section Points Awarded: / 10**

What is the plan for computer science instruction by July 1, 2020?

Computer Science Curriculum:

At the conclusion of the 2019-2020 school year, the "Computer Science is Elementary" grant will have given all students and teachers the opportunity to learn and to teach the foundational skills of computer science. The expectation is that classroom teachers, alongside the computer science teacher, will teach coding for one hour each week. Additionally, grade level PLC teams and the computer science teacher will develop an ICS project in at least one core subject area aligned to a math, literacy, science, or social studies essential standard by the 4th quarter of the 2019-2020 school year.

CS Leadership Team:

During the summer after the 2019-2020 implementation the CS Leadership team, consisting of the K-6 principal, K-12 technology integrationist (holds an Iowa K-12 Computer Science endorsement), K-6 instructional coach, and elementary teachers, will evaluate the previous year's experiences and make adjustments and changes to our computer programming curriculum. The CS Leadership team will evaluate the computer programming curriculum map to include the ICS projects implemented at each grade level and the Standards Based Grading Rubric aligned with the CSTA standards.

The CS Leadership team will also plan and design Professional Development offerings for the 2020-2021 school year to best meet the needs of our students and staff members. It is expected the CS Leadership Team will reconvene at least once per quarter of each school year for program planning and evaluation as well each summer as our Computer Science program continues to grow and evolve. The CS Leadership Team will be encouraged to attend technology and programming focused

educational conferences to continue to bring new and innovative ideas back to Postville Community Schools.

Does the plan build on existing computer science instruction or launch a first-time initiative?

Our plan builds on existing computer science instruction.

Will computer science be integrated into other subjects or delivered as a stand-alone discipline?

Computer Science at Cora B. Darling Elementary School will consist of stand-alone computer science instruction as well as integrated into the core curriculum.

The beginning of the 2019-2020 school year will be focused on the stand-alone introduction of foundational skills of computer science. Students will need to use their foundational skills of computer programming that was taught as a stand-alone instruction to create an ICS project. By the 4th Quarter of the 2019-2020 school year, grade level PLC teams will develop an ICS project in at least one core subject area aligned to a math, literacy, science, or social studies essential standard.

What grade level(s) of students and teachers will be included initially?

All JK-6th Grade students and teachers will be included in the initial 2019-2020 implementation of the "Computer Science is Elementary" grant. Grade level PLC teams are a key component of Postville Elementary School. During our PLC time, grade level and special area teachers co-plan. This will ensure they are able to plan and teach computer science together as well as other core subject areas. The computer science teacher and technology integrationist will also meet with grade level PLC teams to plan computer science instruction to ensure that every classroom is included in the implementation of the "Computer Science is Elementary" grant.

What is the plan for expansion to all students in all grades in your school?

n/a

## **Curriculum**

**Sub-Section Points Awarded: / 10**

What is the plan to identify, revise or write high-quality computer science curriculum aligned to the Iowa Computer Science Standards, 21st Century Skills, Universal Constructs and career exploration?

To meet the needs of Cora B. Darling Elementary School students, our school will utilize a combination of high-quality computer science curriculum options aligned to the CSTA standards.

Code.org provides students in Kindergarten and 1st Grade the fundamentals of computer science through unplugged and online lessons. We will use Beebot Class Bundles for Kindergarten and Osmo Coding Bundles for 1st grade. Beebots and Osmos provide students to learn coding through manipulatives. The BeeBots give opportunities for Kindergarten students to integrate coding into other core curriculum areas using the activity mats. Osmo Coding Bundles will allow students to manipulate the coding blocks. 2nd-6th grade will use Code.org and Tynker to learn foundational skills of computer science. Code.org will provide the background necessary to understand computer science and showcase career opportunities. Students will use their understanding of CS concepts from Code.org's Fundamentals to continue their learning of programming through Tynker. Through Tynker's courses and projects, students will be given the opportunity to integrate their computer science learning into math, literacy, science, and social studies. 2nd-6th grade students will also be giving the opportunity to integrate coding in a hands-on way using Wonder Workshop's Dash Robots and Curriculum packs to extend their computer science experiences to the physical world around them.

Grade level PLC teams and the computer science teacher will develop an ICS project in at least one core subject area aligned to a math, literacy, science, or social studies essential standard by the 4th quarter of the 2019-2020 school year. The CS teacher will plan, co-teach, and implement the ICS project with the classroom teachers. The ICS project will be assessed through our existing SBG Rubrics for literacy, math, and science.

At the end of every school year, the CS Leadership team will review and revise the computer programming curriculum map. At this time, the CS Leadership team will evaluate the courses within Code.org and Tynker. The CS Leadership team will then examine the CS SBG rubric to analyze how the current courses within Code.org and Tynker's curriculum aligned with the rubric. We anticipate that every year the students will enter the next grade level with an increased level of background knowledge in the area of computer science. Through this evaluation and reflection, the CS Leadership Team will determine how to best challenge our students in computer programming for the following school year.

During Year 1, computer science will be embedded through Code.org and the community and business partnerships. When using Code.org, videos of various careers show students how they can use CS in their future careers by providing students an introduction to computer programming careers. When working with our community and business partners, students will be able to see how computer programming is used in their profession. Employees from RC&D and Norplex-Micarta will come into the classroom and work alongside the students when they are programming and have conversations with the students about computer programming. We will maintain our community and business partnerships with Norplex-Micarta and RC&D through Year 2 and beyond. During Year 2, the CS Leadership team will work to develop a community and business partnership at each grade level.

## **Professional Learning**

**Sub-Section Points Awarded: / 10**

What is the plan for professional learning in years one (fiscal year 2020) and two (fiscal year 2021), including participants, providers, timeline, instructional pedagogy, curriculum connections, alignment to Iowa standards and school community/employer partner connections?

Year 1: 2019-2020 School Year:

CS Leadership Team will be created consisting of the following: K-6 principal, K-12 Technology Integrationist (holds an Iowa K-12 Computer Science endorsement), K-6 Instructional Coach, computer science teacher and elementary teachers.

CS Leadership Team will attend Code.org Fundamentals training at Keystone AEA in the summer of 2019. (Facilitated by Code.org trainer, cost covered by AEA)

CS Leadership Team will meet during the summer to develop a JK-6 Computer Programming Curriculum Map aligned to Code.org and Tynker and a Standards Based Grading Rubric aligned to the CSTA standards (Facilitated in-district by the CS Leadership Team)

All Elementary staff will receive one day of on-site training from Tynker during the initial teacher contract days (Facilitated by Tynker trainer and CS Leadership Team)

All Elementary Staff will receive ongoing professional development about Tynker and Code.org one Wednesday per month (Facilitated in-district by the CS Leadership Team).

All Elementary Staff will be receive ongoing coaching support from the K-12 Technology Integrationist (Facilitated in-district by the K-12 Technology Integrationist)

Each grade level PLC team will collaborate with the computer science teacher to decide on at least one ICS project that is aligned to the essential core standards by 4th quarter (Facilitated by the computer science teacher)

All Elementary Staff will be encouraged to participate in one or more Learning Walks focused on teaching computer science. Learning Walks, based on Diane Sweeney’s Student Centered Coaching model, are facilitated by the instructional coaches and give classroom teachers opportunities to observe their peer’s instructional practices. (Facilitated in-district by the Instructional Coaches) CS Leadership Team will work with the community and business partners: Norplex-Micarta and RC&D to organize presentations and come into the classrooms to work on computer programming. (Facilitated by the CS Leadership Team and classroom teachers) CS Leadership Team will meet at the conclusion of the year to reflect and revisit our computer programming curriculum map including the ICS projects that were implemented that school year and on the SBG rubric alignment to the CSTA standards. (Facilitated in-district by the CS Leadership Team)

Year 2: 2020-2021 School Year

CS Leadership Team will offer training opportunities and support to teachers new to the district before the initial teacher contract days.

All Elementary Staff will receive ongoing professional development about Tynker and Code.org one Wednesday per month (Facilitated in-district by the CS Leadership Team).

All Elementary Staff will be able to receive ongoing coaching support from the K-12 Technology Integrationist (Facilitated in-district by the K-12 Technology Integrationist)

All Elementary Staff will be encouraged to participate in one or more Learning Walks focused on teaching computer science. (Facilitated in-district by the Instructional Coaches)

CS Leadership Team will meet at the conclusion of the year to reflect and revisit our computer programming curriculum map including the ICS projects that were implemented that school year and on the SBG rubric alignment to the CSTA standards. (Facilitated in-district by the CS Leadership Team)

## **Community Engagement**

**Sub-Section Points Awarded: / 10**

How will the community be engaged?

The community of Postville is in a unique position in comparison to other communities in Iowa. 35% of the population of Postville’s 2,017 residents are under the age of 18 and more specifically 20% of Postville’s population is enrolled at Cora B. Darling Elementary. The opportunities the grant provides for our students makes community engagement even more important because of the high percentage of young people in our population. The “Computer Science is Elementary” grant will present Cora B. Darling endless opportunities to prepare our students for the future.

We will communicate our vision and goals of the “Computer Science is Elementary” grant and engage community members through the Postville Elementary Parent and Teacher Organization, school registration, Meet the Teacher Night, Postville Community School’s social media accounts and our local newspaper, the Postville Herald. By communicating our vision and goals for the grant through these outlets, we hope to begin forming more partnerships and develop relationships between the school and the community. As we continue to form our community and business partnerships, this will in turn empower our students to be changemakers and active voices in our community.

How will parents and a broader stakeholder group be involved in planning and implementation of the Computer Science is Elementary initiative?

Cora B. Darling Elementary will engage parents and families in our “Computer Science is Elementary” grant through Family STEAM Night, Family Code Night, Career Day, involvement in the Postville Elementary PTO, and communicating the grant to parents and community members. Cora B. Darling Elementary will continue and expand our annual Family STEAM Night. Family STEAM Night is an evening when businesses and community groups are invited into school to engage families in

different activities related to STEAM. This event has become a highly attended event where all students, families, and school board members are invited. We plan to continue to expand the stations offered each year through our community and business partnerships. Each school year, every grade level will host a Family Code Night. Family Code Night would give students an opportunity to teach their families and school board members how to code and share a computer programming project they have completed. Information specifically regarding the “Computer Science is Elementary” grant will be communicated with parents and community members during school registration, Meet the Teacher Night, our school’s social media accounts, local newspaper, the Postville Herald and the Postville Elementary Parent and Teacher Organization. By involving the Postville Elementary Parent and Teacher Organization, we will engage parents in our community who will be able to communicate the “Computer Science is Elementary” grant to others in the community. Our hope is that through the relationships with the parents in the PTO, it will help us continue to expand our community and business partnerships.

Who are or will be the community/employer partner(s) and what is the shared vision for engagement?

Cora B. Darling Elementary has received partnership commitments from two businesses in Postville. Norplex-Micarta, a manufacturing company located in Postville which engineers and creates products for a variety of markets such as; power generation, medical and scientific devices, aerospace, and others, (<https://www.norplex-micarta.com/>). Norplex-Micarta supports the high school with a yearly donation for STEM resources and has now committed to support the elementary by becoming a business partner. The second business we have received a letter of commitment from is the Northeast Iowa RC&D (<https://northeastiowarcd.org/>). RC&D is a non-profit organization located in Postville which focuses on economic development through the protection and enhancement of local natural resources.

When working with our community and business partners, students will be able to see how computer programming is used in their profession. Employees from RC&D and Norplex-Micarta will come into the classroom and work alongside the students when they are programming. Additionally, we will work toward providing real world experiences with RC&D and Norplex-Micarta through Skype sessions or field trips where students can experience computer science. As we continue with the “Computer Science is Elementary” grant, we will maintain our community and business partnerships with Norplex-Micarta and RC&D through year 2 and beyond. During year 2 implementation, our goal will be to increase our community and business connections to include a partnership for each grade level.

All applicants must have at least one community/business partner. Please include at least one signed letter of commitment (in PDF format) on employer letterhead from a community/business partner. Up to 10 employer letters may be added. This must be done in order for the application to be considered complete.

Northeast Iowa RC&D and Norplex-Micarta



## Budget

Points Awarded: / 20

*20 points*

Please include the amount and a brief explanation of the use of funds per cost category not to exceed \$50,000 over two years. Allowable expenditures may include the following categories:

Budget Category	Total Request	Year 1	Explanation of Funds	Year 2	Explanation of Funds
Professional Learning	\$ 3,600.00	\$ 3,600.00	1 full day of on-site training from Tynker for all staff. Additional Professional Learning from Code.org is scheduled during the summer of 2019 for CS Leadership Team paid for through Keystone AEA	\$ -	Professional Learning will be facilitated in-district by CS Leadership Team
Curriculum Development	\$ 6,500.00	\$ 3,250.00	1 year Tynker site license	\$ 3,250.00	1 year Tynker site license
Site Visits	\$ -	\$ -		\$ -	
District Costs	\$ -	\$ -		\$ -	
Staffing Support	\$ 33,266.00	\$ 16,633.00	.3 teacher contract for Elementary Computer Science + \$1000 for CS Leadership Team Summer Meeting Stipends	\$ 16,633.00	.3 teacher contract for Elementary Computer Science + \$1000 for CS Leadership Team Summer Meeting Stipends
Other	\$ 6,505.00	\$ 6,505.00	\$1000 Two BeeBot Class Bundles @ \$500 each; Eight Osmo Coding Bundles @ \$100 each; Dash 6pk Robots @ \$720; Dash Wonder Pack Curriculum Bundle @ \$320; Ten Pads @ 300 each; Ten iPad Cases @ \$20 each; One iPad Charging Station @ \$175; Three BeeBot Activity Mats @ \$50 each; Two BeeBot Charging Stations @ \$70 each	\$ -	
<b>TOTAL:</b>	<b>\$ 49,871.00</b>	<b>\$ 29,988.00</b>		<b>\$ 19,883.00</b>	
<b>TOTAL VERIFICATION:</b>	<b>\$ 49,871.00</b>				
(Formula Written to Sum totals from Year 1 and 2)					

**Cost Sharing** (may include in-kind or cash from partners or other education funding streams)

Anticipated cost share over the two-year funding period.

\$122,000

Year 1 anticipated cost share (in dollars). Please provide a brief explanation.

0

Year 2 anticipated cost share (in dollars). Please provide a brief explanation.

122,000 Postville School District has committed to expand our Technology Program from our current 5-12th grades 1:1 and K-4th Grade 2:1 to a full K-12th Grade 1:1 environment. Starting in the 2020-2021 school year our district will deploy 1:1 iPads in K-3rd grade and 1:1 laptops in 4th-12th grade. This is broken down approximately as: \$90,000 in devices, \$20,000 in charging stations, \$6,000 in cases, and \$6,000 in deployment and management costs.

The expectation for the Computer Science is Elementary award is that the plan uses primarily existing school revenue sources to execute a plan. After year two of the award, what is the plan for sustainability using existing or any additional funding sources?

Postville Community School District is committed continuing with our vision of Advancing Learning Today; Creating a Successful Tomorrow for all our students. Our district has the support of the Superintendent and School Board as well as our Community and Business Partners to continue making Computer Science a priority beyond the 2020-2012 school year.

## Computer Science is Elementary Model Network

**Points Awarded: / 10**

*10 points*

To be eligible for the award, participation in the Computer Science is Elementary Model Network is necessary. By checking this box, the district/system/stand-alone non-public school is willing to participate in a Computer Science is Elementary Model Network including, but not limited to, hosting visits and sharing best practices, challenges, opportunities and successes with colleagues across the state.

**I agree**



03/26/2019

Iowa Department of Education  
% Lindsay Salinas  
Postville Community School District  
314 W. Post St.  
Postville, IA 52162

To Whom It May Concern:

Northeast Iowa Resource Conservation and Development is pleased to support the application by Postville Community School District to the *Computer Science is Elementary* initiative. We have over 30 years of experience working with Postville leaders, organizations, and residents to create a community where children can thrive. From our own efforts to create an economically and culturally vibrant community here, we are familiar with the critical need to develop workforce skills that can benefit our town and our region for decades to come. Over 35% of Postville's population is under the age of 18. In order create opportunities for all of Postville's young residents, we need to prepare them for the economy of the future and build skills that can help foster entrepreneurialism and create a talented workforce.

Northeast Iowa RC&D uses Geographic Information Systems and many other computer software programs to collect and analyze data, create websites, convey information, and provide other benefits for partners throughout the seven-county region that we serve. We would be pleased to partner with the Cora B. Darling Elementary to provide information about coding and technology by providing information, presenting to classrooms, attending events, or participating in a business fair.

Sincerely,

Paul Berland  
Associate Director  
Northeast Iowa Resource Conservation & Development, Inc.



**Global Thermoset Composite Solutions**

**Industrial Laminates**

**Norplex, Inc.**

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Web Site: [www.norplex-micarta.com](http://www.norplex-micarta.com)

March 20, 2019

Lindsay Salinas

Postville Community Schools

Re: Cora B Darling Elementary “Computer Science is Elementary” Initiative

Dear Lindsay,

Norplex-Micarta has committed to partnering with the Cora B. Darling Elementary in the Postville Community School district to work collaboratively and support the school's Computer Science is Elementary initiative. This partnership could include Norplex-Micarta employees; working with students in classrooms on computer science projects, attending a showcase of computer science projects, participating in a business fair in which students could learn about the importance of computer science education, how computer science is used within our company, as well as other opportunities to enrich student's work in Computer Science. We look forward to working with you on this exciting opportunity. Please let us know if you have any additional questions or concerns.

Sincerely,

Alan Johnson  
Director of Operations

Dixie Doepcke  
Human Resources Manager

**Reviewer Name:**

**Reviewer Signature:**

**Total Points Awarded:**

**/100**