



# *Scope of Work: 2022 STEAM Programming for City of Aurora Youth*

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*By*

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## Overview

TinkRworks is a provider of exceptional STEAM experiences designed to cultivate five key capabilities in our students: Foster a love of creating, enhance problem-solving skills, reinforce and expand on concepts & ideas taught in schools, provide delight & inspire curiosity and encourage self-expression.

Our STEAM-X model brings high-quality projects to schools and organization, delivered to your community by your own certified facilitator. The “X” in STEAM-X stands for X-ceptional (exceptional) and for X-ccesible (accessible). That’s what it’s all about. TinkRworks STEAM-X service combines comprehensive professional development (PD) with needed curricular elements in a way for your identified facilitator(s) to delivery exceptional STEAM experiences to students. Once projects are selected and PD is completed, TinkRworks provides curriculum, hardware & software elements (in the form of kits), and extensive support, all of which allows facilitators to seamlessly deliver dynamic STEAM projects linked back to curricular learning objectives and standards (Common Core, NGSS, and CSTA). It’s a great way to enhance the STEAM experience within your organization.

## Objective

To continue and expand upon the continued partnership between APS Training Institute (“APS”), City of Aurora and TinkRworks that enables the implementation of top-tier STEAM curriculum supporting the delivering of highly valuable integrated STEAM experiences to the students of the City of Aurora.

The implementation of leading-edge TinkRworks STEAM learning will allow City of Aurora students to develop and hone core 21<sup>st</sup> century skillsets while also bringing to life foundational elements of the APS mission of being committed to the highest standards of academic excellence, providing a high-quality education by developing the knowledge, values, attitudes, and skills essential for the unique challenges of the 21<sup>st</sup> century and beyond.

## Background

To ensure continuity of engagement and to capitalize on sparked interest in the field of STEAM with children in the City of Aurora and to also provide further accessibility to children who have not yet had the opportunity to participate in the STEAM program, an expanded program has been outlined for the 2022 calendar year.

Specifically, to achieve the goal of accessibility and continuity of education, TinkRworks in partnership with APS Training Institute proposes to expand the City of Aurora’s STEAM Enrichment Program to 1,600 student projects from current scope of 635. This will enable students from Grades k-8 (and potentially even through grade 9) to participate in a year-long STEAM programming, held in 4 quarterly sessions (one project per student per session). The program would start in January, 2022 with a winter session, and then progress through the spring, summer and finally, the fall.

Participation in this programming will help students be able to dive deeply into various aspects of science & technology, and build strong problem solving & critical thinking skills.

Students will have the unique opportunity to register for all four sessions when registration open or alternatively, students may also register for single courses or a set of multiple courses at the point-at-time of registration. Thus, a single student may register up-front for all four courses available to them or they may instead, perform a “drop in” type of strategy where they may register for courses of interest and availability to them, then skip a session, and then register for another course or any combination thereof. Registration in this manner allows for enhanced planning on the side of all parties involved (TinkRworks, APS, and City of Aurora) and also flexibility to the participants (namely the students and parents).

The proposal for aforementioned year-long STEAM program will cost \$300,000 which covers the cost of the earlier-mentioned 1,600 student kits as well as the implementation packs for each classroom project. These implementation packs contain all classroom supplies & materials needed for facilitators to deliver curriculum and projects to City of Aurora students. This cost does not include any facilitation cost to train APS facilitators; training and support costs are outside of the scope of this document and are handled directly between TinkRworks and APS. Explicitly, City of Aurora does not bear any costs related to facilitation or support.

City of Aurora, TinkRworks, and APS will all be working in concert to provide superlative enrichment opportunities to City of Aurora youth. In doing so, each party has key responsibilities, as outlined here:

1. **TinkRworks:** Provide leading-edge STEAM programming opportunities to City of Aurora students. To facilitate this, TinkRworks will provide both projects and training around STEAM projects to APS facilitators.
2. **APS:** Provide superlative facilitation to City of Aurora students with TinkRworks content, both in terms of projects and curriculum. APS will also provide some of the safe venues where City of Aurora students will go to receive STEAM programming.
3. **City of Aurora:** Provide a base of excited and eager students to receive leading-edge STEAM programming. City of Aurora will also provide marketing efforts, infrastructure (e.g., WiFi), and also safe venues where children may receive STEAM programming.

Details related to the implementation plan are provided below, under Deliverables and Implementation Plan.

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## Deliverables for Year 2022

The following table outlines high-level services that TinkRworks will provide to the City of Aurora (COA) and APS for the 2022 calendar year:

| Item   | Description   |
|--|---|
| 1. <b>Student Project Kits</b>   | <p>All components needed to comprehensively run TinkRworks projects, including:</p> <ul style="list-style-type: none"> <li>• Student project kits</li> <li>• Licensed TinkRworks curriculum and software</li> <li>• Licensing to TinkRworks e-Learning platform for selected projects</li> <li>• Support</li> </ul> <p>Full details of the above components are provided under the “Details on Deliverables” section below. Each bundle includes 12 project kits, 1 Spare Parts/Consumables Kit. Detailed pricing for this service is provided in Appendix A.</p>   |
| 2. <b>Facilitator Professional Development, Certification, and Support</b> | <ul style="list-style-type: none"> <li>• TinkRworks will train and certify identified APS &amp; COA staff member(s) across 11 projects for 2022 (see “Implementation Plan” section later in this document); recommended implementation approach and timeline of four projects every quarter.</li> <li>• Facilitator(s) will gain an understanding of the full curricular lesson plans, the assembly process, the software (as needed), and a run through of all challenges—along with solutions—associated with the projects. Elements that identified facilitator(s) will receive around professional development (PD) and support include the following: <ul style="list-style-type: none"> <li>○ Training/curriculum materials – Comprehensive curricular elements including lesson plans (e.g., class notes, slides, worksheets, videos) in electronic format as well as curriculum maps; these curriculum maps are mapped back to CCSS, NGSS, and CSTA standards.</li> <li>○ One Project kit per facilitator – For each facilitator to assemble as part of their comprehensive training.</li> <li>○ Classroom toolsets – Reusable components, e.g., materials and toolsets (e.g., wrenches, screwdrivers) used in project assembly and demonstration activities. TinkRworks provides these kitted toolsets specific to each project, which contain all needed tools and supplies to run the project suitably and seamlessly in class.</li> <li>○ Access to TinkRworks' Support – in the form of email, phone calls, to answer all reasonable questions that APS facilitators may have.</li> <li>○ Certification for a period of 1 year following completion of PD. During this time, certified facilitator(s) will have full access to project kits, curriculum, and TinkRworks eLearning platform. Access to these elements will lapse at the end of the certification period and then will require re-certification directly with TinkRworks to renew the certification. Re-certification includes PD refreshment, curricular updates, and updates to the eLearning platform.</li> </ul> </li> </ul> <p>In-depth details of the certification process are outlined below. Pricing is provided in Appendix A.</p> |

## Details on Deliverables:

### Licensing Curriculum & Programming Software, Student Project Kits and End-to-end Support

Student project kits, licensing of curriculum and software, as well as needed support to deliver TinkRworks projects to students of City of Aurora & APS. Specifically:

- Sufficient kit bundles to cover the 16-project request made by COA & APS to TinkRworks. Each of these kit bundles contains 12 project kits and 1 spare parts/consumable kit.
- Licensing of all curricular elements and full access to TinkRworks eLearning platform, to suitably run the selected projects.
- Full access to the TinkRworks proprietary computer-programming environment needed for selected projects; this programming environment is embedded in TinkRworks eLearning platform.
- Sufficient support from TinkRworks to certified facilitators to enable smooth delivery of the projects.
- Technology requirement for remote and in-person delivery of TinkRworks projects is outlined in Appendix B & C.

### Facilitator Professional Development, Certification & Support

Certification for teachers delivering the STEAM-X projects, that includes full end-to-end run-throughs of the selected project(s). All STEAM-X projects spanning K-8<sup>th</sup> Grade detailed in STEAM-X project catalog are available for training and delivery for implementation. As part of the certification, facilitators will gain an understanding of the curricular lesson plans, assembly processes, software, and a run through of all challenges—along with solutions—associated with the project(s). Each facilitator will also receive:

1. Comprehensive curricular elements including lesson plans (e.g., class notes, slides, worksheets, videos) in electronic format as well as curriculum maps.
2. STEAM-X Implementation packs are required for each STEAM-X project and include reusable tools (e.g., hammers, wrenches, screwdrivers) and supplemental resources to support lesson activities (e.g., light sets, markers, sound kits). TinkRworks provides these toolsets for each project.
3. Upon completion of certification, TinkRworks will provide formal TinkRworks certification letters to the APS Facilitators. This certification remains valid for one year. This certification allows the certified facilitator the following benefits:
  - a. **Curricular updates:** All certified facilitators will receive curricular updates as they become available and will receive training on any updates. Only certified Facilitators may receive training on curricular updates.
  - b. **Software updates:** If/as applicable, software updates will be made available to certified facilitators. Any needed training sessions related to software updates will also be included to certified facilitators.
  - c. **Support:** APS may contact TinkRworks via phone, e-mail, or other mutually agreeable method to both parties. TinkRworks will provide responses within 24 hours of their submission, except if requests come in on a Friday or on the day before a holiday; in these cases, it will be the next business day.

## Implementation Plan

City of Aurora, TinkRworks, and APS have agreed upon the following project schedule for the 2022 year across the grade levels identified below:

|     | 1Q2022             | 2Q2022            | 3Q2022               | 4Q2022            |
|-----|--------------------|-------------------|----------------------|-------------------|
| K   | STEAM Academy      | Smart Lamp        | Pushes, Pulls & Pins | STEAM Academy     |
| 1-2 | Art Electric       | Smart Lamp        | Pushes, Pulls & Pins | Pampered Plant    |
| 3-5 | Art Electric       | Weather Station   | Pampered Plant       | TinkRbot          |
| 6-8 | Planetary Pathways | <u>TinkRdrone</u> | SensorBot            | <u>TinkRsynth</u> |

### Commencement date

The overall project plan can commence as early as the week of January 24th.

### Facilitation plan

TinkRworks will train and certify APS facilitators every quarter (3 months) on the STEAM projects explicitly highlighted earlier. TinkRworks will provide the needed student kits every quarter for the selected quarterly projects, for a total of 16 projects and 1,600 student project kits for calendar year of 2022. TinkRworks will work directly with APS on facilitation scheduling.

## Payment process and terms

TinkRworks will be provided quarterly estimates of projects by APS and City of Aurora. City of Aurora, then, will formally place orders for a subset of the 1,600 student kits each quarter. The order will include full payment for the items ordered. Once TinkRworks receives payment, they will ship all needed kits to the specified entity (either APS or City of Aurora).

On occasion, additional kits may need to be ordered to fulfill certain swell periods (especially in the summer). In this case, City of Aurora will place these additional orders directly with TinkRworks and once payment has been received by TinkRworks, projects will then be shipped.

Pricing will be on a per-bundle basis, with each bundle comprised of 12 student-project kits and one spare-parts kit (see Appendix A). The price of each bundle is \$2,250. City of Aurora will provide monies to TinkRworks of \$300,000 across the entire 2022 calendar year. For this payment, TinkRworks will provide all 1,616 kits mentioned here to City of Aurora, at the points in time specified by City of Aurora.

## SIGNATURE PAGE

Upon signature of this proposal by both parties, we will initiate the onboarding process.

### **TINKRWORKS, INC.**

Name: Anu Mahajan

Title: CEO, TinkRworks

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

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

### **CITY OF AURORA**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

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

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

## APPENDIX A: Quote for City of Aurora for Year 2022

| Category                                    |   | Item  | Price          |                |
|---|---|-------|----------------|----------------|
| STEAM-X Project Kits & Implementation Packs |   |       |                |                |
|   | STEAM-X Kit Bundles   | Qty*  | Price/kit      | Total          |
| Project Kits                                | STEAM-X Project kits (134 kit bundles)  | 1,616 | \$ 187.50      | \$ 300,000     |
|   | Classroom implementation packs to support each and every project delivered for the 2022 calendary year effort |       | Included above | Included above |
|   |   |       | Total          | \$300,000      |

\*STEAM-X kits are sold in bundles of 12 units and as such, a total of 1,616 kits will be provided. This allows for some spare kits as well which can be used by students and/or facilitators.

NOTE: Pricing above excludes any facilitation fees (professional development and support) as these fees are outside the scope of this document and outside the scope of City of Aurora. Professional development, support, and all associated costs with these elements are handled directly by TinkRworks and APS. City of Aurora does not bear any of these facilitation costs.



## APPENDIX B: Infrastructure & Technology Requirements for eLearning Platform by TinkRworks STEAM-X

1. **Equipment:** The requirements of equipment capabilities to access eLearning platform are outlined for students in the following table.

| Project  | Student Equipment  |
|--|--|
| Steam Academy, Smart Lamp (K), Pushes Pulls & Pins (K)   | <ul style="list-style-type: none"> <li>• iPad Air 2 or later with TinkR Pad application</li> </ul>                                 |
| Art Electric (1-5), Planetary Pathways, Smart Lamp (1-2), Weather Station, Tinkrdone, Pushes Pulls & Pins (1-2), Pampered Plant, Sensorbot, Tinkrbot, TinkrSynth | <ul style="list-style-type: none"> <li>• Chromebook/Desktop or Laptop with IOS or Mac</li> <li>• A mouse is recommended</li> </ul> |

2. **Part replacement procedures:** In the case that a part becomes damaged during assembly, replacement parts will need to be delivered to the student prior to that student's continuation of the course.
3. **Waivers/safety instructions:** As applicable, facilitators are to deliver information about safety protocols during courses and take-home packets are to be delivered to families.
4. **Crafting Tools & Household Materials**  
Students will need some basic crafting tools and household materials like scissors, paper, scotch tape etc. for each project in addition to the various materials provided within the TinkRworks Student Project Kit.

## APPENDIX C: Infrastructure & Technology Requirements for in-class/remote delivery of TinkRworks STEAM-X Curriculum

| Project  | Instructor Equipment   | Student Equipment   |
|--|--|---|
| Steam Academy, Smart Lamp (K), Pushes Pulls & Pins (K)   | <ul style="list-style-type: none"> <li>• Computer</li> <li>• Microsoft Office</li> <li>• iPad Air 2 or later with TinkR Pad application</li> </ul> | <ul style="list-style-type: none"> <li>• iPad Air 2 or later with TinkR Pad application</li> </ul>  |
| Art Electric (1-5), Planetary Pathways, Smart Lamp (1-2), Weather Station, Tinkrdone, Pushes Pulls & Pins (1-2), Pampered Plant, Sensorbot, Tinkrbot, TinkrSynth | <ul style="list-style-type: none"> <li>• Google Chrome</li> <li>• Microsoft Office</li> </ul>  | <ul style="list-style-type: none"> <li>• Google Chrome</li> <li>• A mouse is recommended</li> </ul> |