

STEAM Themes: A clear and concise STEAM program for Prekindergarten Teaching

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Program Introduction and Checklist

Program Mission

The TPS Prekindergarten STEAM program has been developed to address the Texas Prekindergarten Guidelines. The curriculum through a STEAM-based hands-on design, teaches “learning through play”, a key practice found throughout the curriculum.

Program Overview

This program is a hands-on STEAM (integrated science, technology, engineering, arts and math) prekindergarten curriculum that was designed with the key concept of “learning through play”. The importance of play in prekindergarten (and kindergarten) for the development of important key skills has been supported by many and is a key concept in this curriculum (Bodrova and Leong, 2003). As a result of this focus the curriculum provides purposeful, play-orientated, hands-on experiences, that are engaging, fun, colorful, loud, and messy. These experiences provide opportunities for children to expand their imagination, enhance their curiosity skills, and explore using their five senses.

The simplicity of the program comes from the theme “The Imaginary Kingdom of Color”, where the children follow an imaginary prekindergarten class in the Kingdom as they move through the year. Many of the activities that the children run in their class are introduced from their exposure to the Kingdom as they read about the children’s everyday lives. This theme functions as the framework of the curriculum that ties together the components, and provides elements of fun, curiosity, and fascination. This approach enables teachers to link the concepts and skills back to an engaging theme of interest.

The curriculum is hands-on, recognizing that children ages three to four have a short attention span and learn best through exploration using their five senses. The children create and investigate through building, art media, music, science, cooking, pretend play, and much more.

The curriculum has been designed to meet the Texas Prekindergarten Guidelines. It has been designed with a full-time prekindergarten program in mind, however, can be modified to fill a part-time program.

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Core Components

The core components of the curriculum are available as print only, print with online and online only formats.

The curriculum components include:

1. Teacher curriculum textbook
2. Reader books matched to each unit-theme
3. Activity books for the children's individual work:
 - a. Book of Activities
 - b. Book of Numbers
 - c. Book of Letters
4. Other materials cited in the curriculum that teachers may download i.e., number cards, assessment materials, calendars, and blank schedule guides
5. Professional development

The teacher curriculum textbook has been developed in two parts. The first part covers sections 1 through 10 and includes background and guidance for the teacher to support classroom set-up, scheduling (daily, weekly, monthly and year), class management, teaching pedagogy, progress assessment, and guidance on managing the important parent-child-teacher interface. It also includes recommendations for English language learners and special needs children. Except for professional development, which is covered elsewhere in the blackline master, it contains everything that the teacher will need to set up and implement the curriculum.

The second part of the curriculum textbook contains lesson plans for all the unit-themes in sections 11 through 23. Each unit-theme contains:

- Flexible groupings of children from small to large with opportunities in the schedule for one-on-one teaching
- Except for technology every unit-theme addresses components for all the Texas Prekindergarten domains in a scope and sequence manner
- Every unit-theme also includes opportunities for children to learn through:
 - ◇ Indirect teaching, where the child drives the learning process, for example in the Pretend and Play Center
 - ◇ Scaffolded instruction, allowing the child to learn in a teacher guided space where the teacher gradually steps back, for example in certain center scaffolded activities
 - ◇ Direct instruction, for example in small and large group learning periods
- Every unit-theme includes a variety of instructional methods tailored to each lesson

TPS understands the complexity of demands on a teacher and the lesson plans within each unit-theme have been purposefully developed to be easily navigated and implemented. Each plan provides explicit information on what is needed in preparation for, and how to teach, subject material, and includes the following sections:

- Summary
- Overall objectives of the unit-theme

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- Books and specific guidance on materials (including quantities) needed to teach the unit-theme
- Scheduling information to advise on pacing
- Extensive guidance on setting up and running the themed centers
- Guidance on class strategy and management
- Individual lesson plans each with sections on:
 - ◊ Preparation: Providing explicit information on what is needed and how to set up the lesson
 - ◊ Activity: Guidance on how to teach the lesson
 - ◊ Extension and Practice: Found in some of the lessons, and can be used for differentiated teaching and practice of the skills learned

Readers have been created to support the theme of the “Kingdom of Color” and specific learning themes, for example, *The Pledge of Allegiance*. The readers are beautifully illustrated to engage the children with fun and simple text that can be easily read by the teachers to the class.

Activity books have been created for the children to work on in the centers, or at home, and have fun practicing many of the skills taught.

STEAM

STEAM is a teaching pedagogy that integrates science, technology, engineering, arts, and math, rather than have them taught traditionally as separate subjects. This represents a more realistic approach, as in everyday life these disciplines are encountered in an integrated fashion. Research has shown that children, who are exposed to STEM and STEAM in early childhood through a hands-on-approach, are positively inclined towards these disciplines as they progress up the educational ladder (Dejarnette 2012 and 2018). Developing an early excitement, and experiencing an enjoyment in these areas, can only enhance a child’s development in preparation for kindergarten.

ELL and Special Needs

In the background and guidance sections of the curriculum textbook there are sections that cover English language learners and special needs children. In the lesson plans there are also specific guidance notes for teaching English language learners that make the lessons more meaningful.

Assessment

In the background and guidance sections of the curriculum textbook (section 7) there is information that addresses assessment practices recommended for each teacher. They include recommendations for informal and formal assessments of each child with specific templates to measure readiness for kindergarten based upon the Texas Prekindergarten Guidelines.

Professional Development

Professional development is an integral part of the TPS program. TPS offers one- and three-day training courses for its curriculum as well as support throughout the year through webinars, email, and toll-free calls. TPS recognizes the wide scope of prekindergarten children regarding abilities, ages, and day schedules, and will work with preschools to advise on the implementation of the curriculum and trouble shooting problems that may arise.

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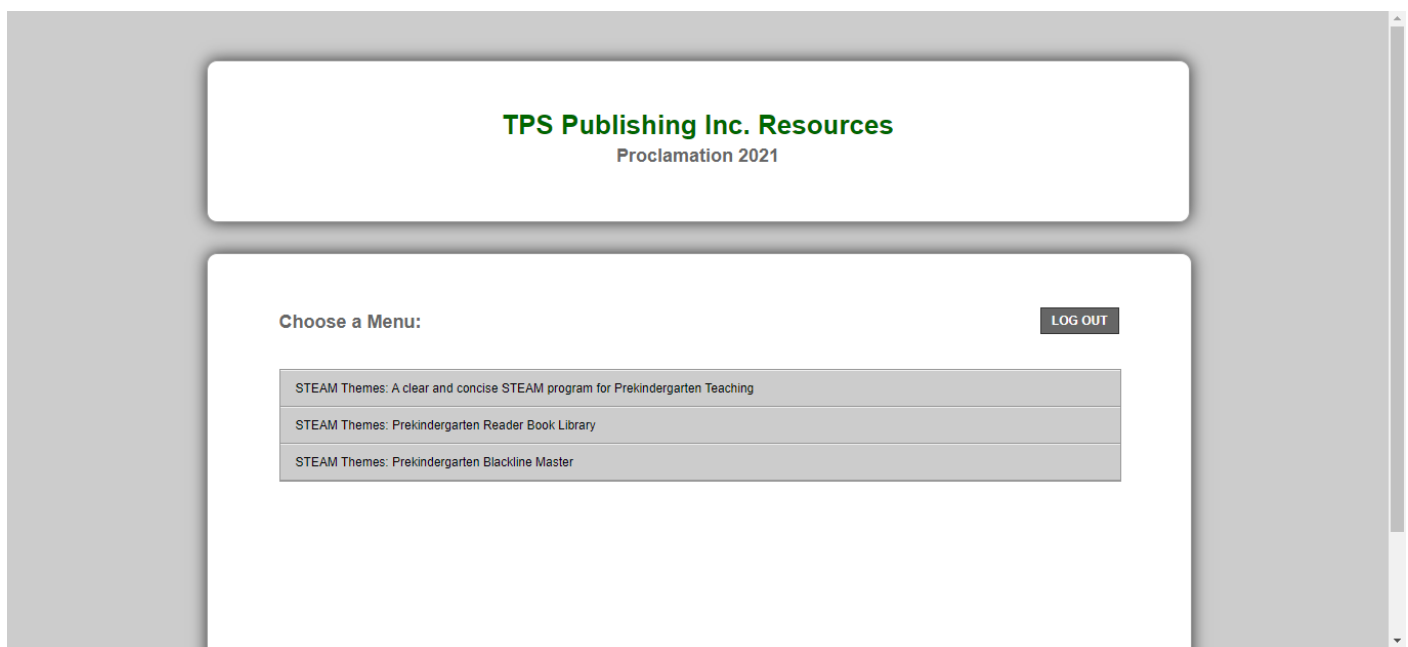
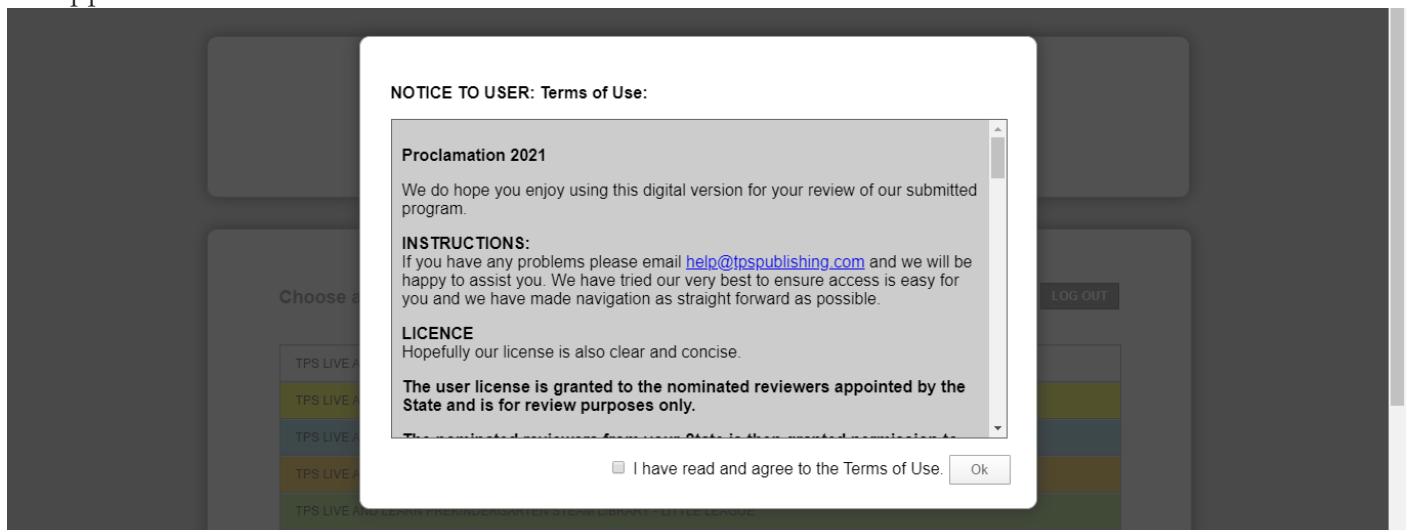
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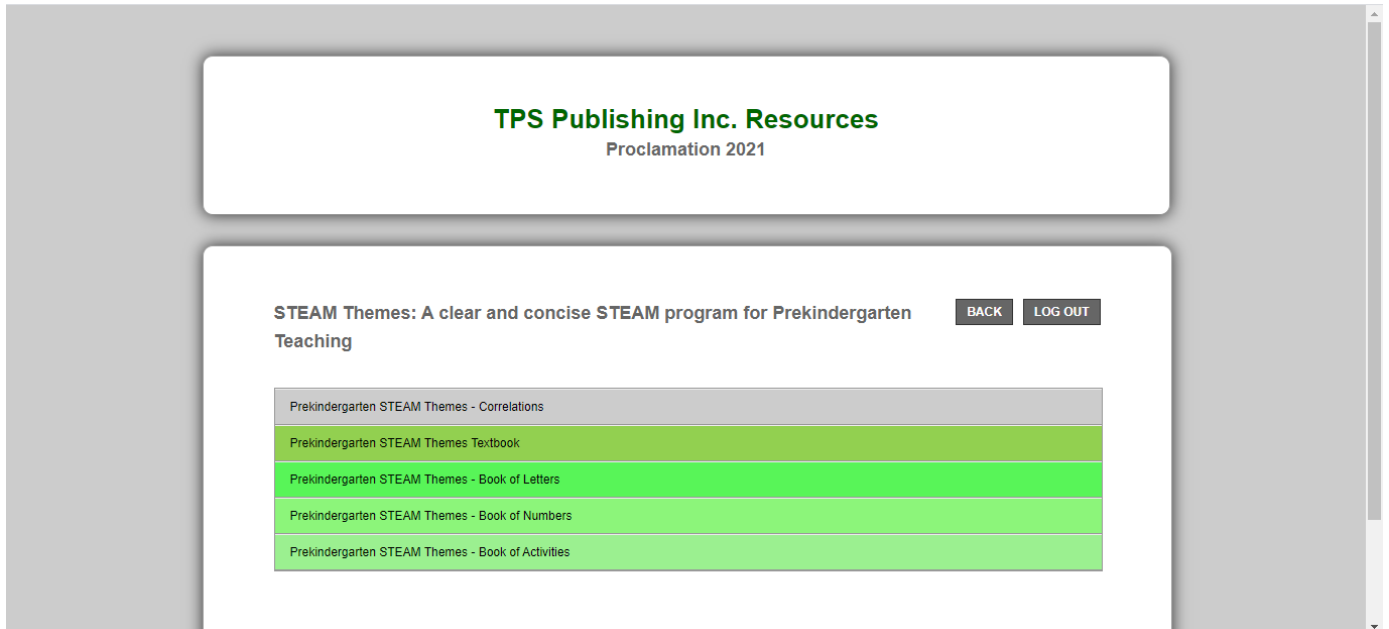
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