



Science + Literacy Digital Playlists For K-2 Learners

August 1, 2018



Project Team



Joan Freese, M.Ed.
Project Lead



Momo Hayakawa, Ph.D.
Research Lead



Dennis Ramirez, Ph.D.
Digital Lead



Twin Cities PBS (TPT)

- 1.3 million people watch TPT each month
- TPT is the #1 TV Station for 2-5 year olds in the Twin Cities
- TPT is one of the top producers of STEM programming for PBS
- 35 year history of kids & family programming for national market



Ready To Learn



Hero Elementary

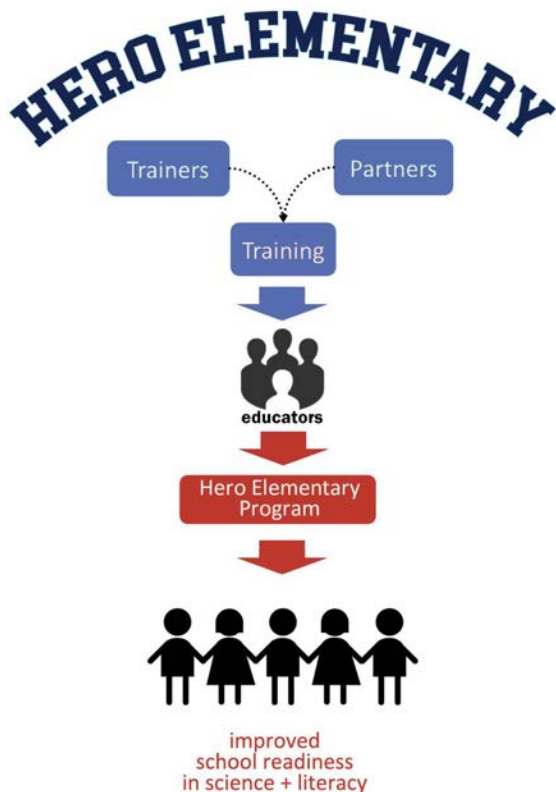


comprehensive media initiative

television + digital media + outreach + research



Outreach



- National partner program for child-serving informal ed organizations
- Professional development training for educators
- Best practice approaches for parents & caregivers



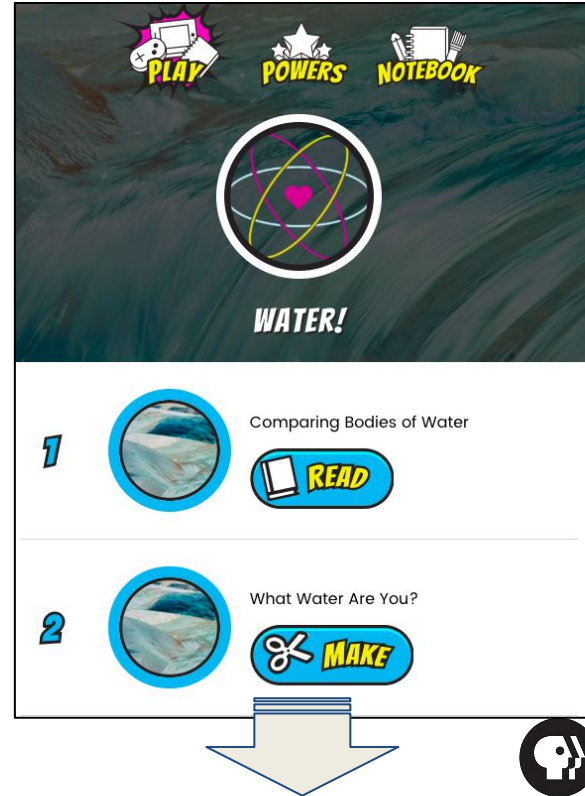
Playlist Goals

- Equity focused
- Considers UDL Guidelines
- Meets NGSS Standards
- Appropriate for target audience
- Connects informal to formal space using modern technology



Playlist Overview

- E-book
- TV show: Track That Pack
- 2 Hands-On Activities (HOAs): 1 short, 1 long
- 2 Notebook activities
- Digital game



TWIN
CITIES
PBS

Playlist Overview

- Parent playlist
- Educator dashboard

The screenshot shows the 'Telemetry Playlist Test' interface. At the top, there's a navigation bar with 'Dashboard', 'Assign & Approve', 'Manage Content', 'Groups', 'Users', 'Reports', 'Account', and a 'Create' button. Below the navigation bar, the title 'Telemetry Playlist Test' is displayed. Underneath, there are two tabs: 'Group Overview' (selected) and 'Group Game Progress'. The main content area shows a table with columns for game levels (1, 2, 3, 4, 5) and a final column with an atom icon. Each level has a corresponding icon: 1 (book), 2 (tablet), 3 (game controller), 4 (game controller), and 5 (game controller). The table lists two students: 'Student1 T' and 'Student10 T'. For 'Student1 T', the progress is indicated by lightning bolts: level 1 is grey, level 2 is grey, level 3 is green, level 4 is green, level 5 is green, and the final column is grey. For 'Student10 T', the progress is: level 1 is grey, level 2 is grey, level 3 is grey, level 4 is green, level 5 is grey, and the final column is grey.

	1	2	3	4	5	
Student1 T	⚡	⚡	⚡	⚡	⚡	⚡
Student10 T	⚡	⚡	⚡	⚡	⚡	⚡



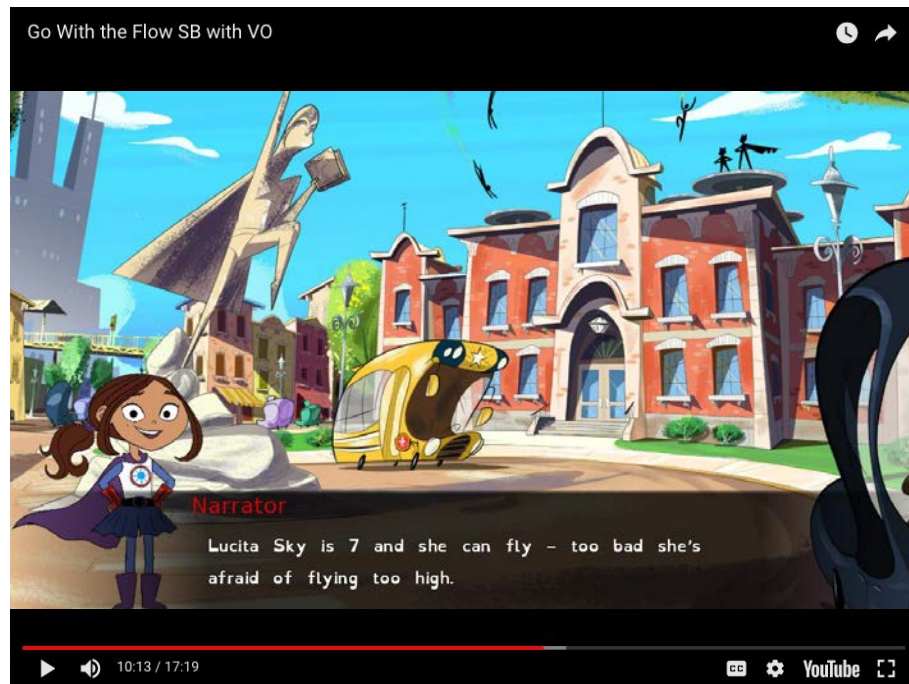
Ebooks

- Text to Voice.
- Word highlighting.
- Partnering with Capstone.
- Collects telemetry for student reading times.



TV Show

- TV show is integrated into the playlist using an embedded player.
- Collects telemetry that tracks start/stop times, if a student skips ahead, and if students re-watched.



Hands-On Activities

- Provides children with the opportunity to directly investigate the disciplinary core ideas using science and engineering practices.



Water Postcards



POSTCARD
Hello. Super Hero
I saw a
puddle outside
and I stomp
in it
From Anyah



Water Postcards



Dear Mica
I glad
you got
this

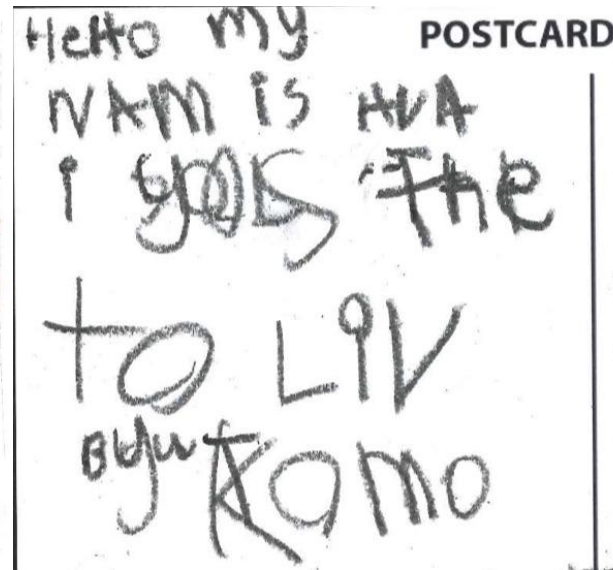
POSTCARD



st Paul

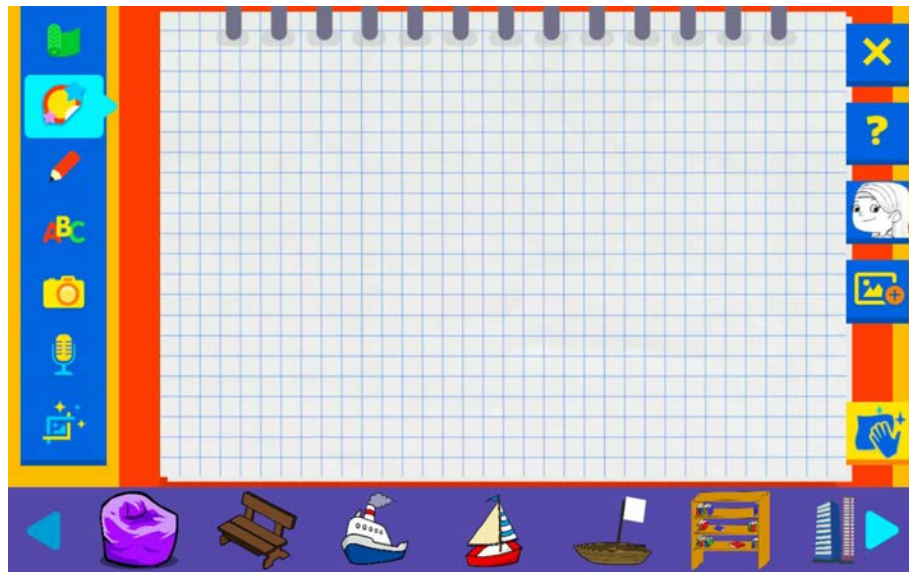


Water Postcards



Science Notebook

- Allows students to make their own content as part of prompted challenges or as free play.
- Tracks the student's use of tools over time and archives their final work.



Games

- Over a dozen games will be developed covering a variety of NGSS content areas.
- All games feature embedded learning analytics.

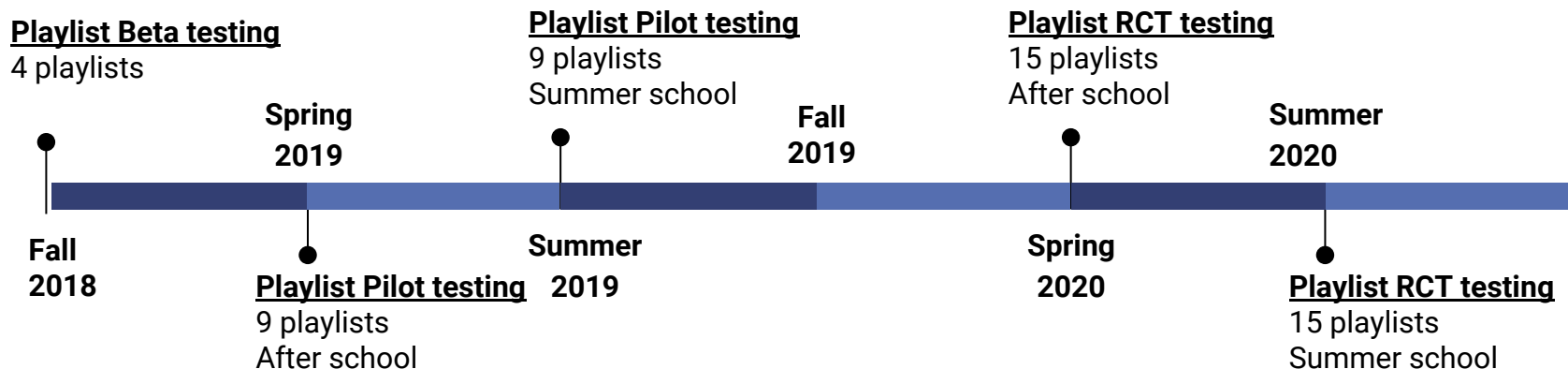


Playlist Development and Research Plan

Colliding	Five Senses	Solid or Liquid
Pushes and Pulls	Animal Body Parts	Changes Caused by Heating and Cooling
Strength, Speed, and Direction	Plant Parts	Properties of Matter
Changing Speed and Direction	Helping Offspring Survive	Classifying Matter
Motion, Balance, and Stability	Animal Parents and Their Young	Properties and Purposes



Playlist Research Timeline



Family Engagement

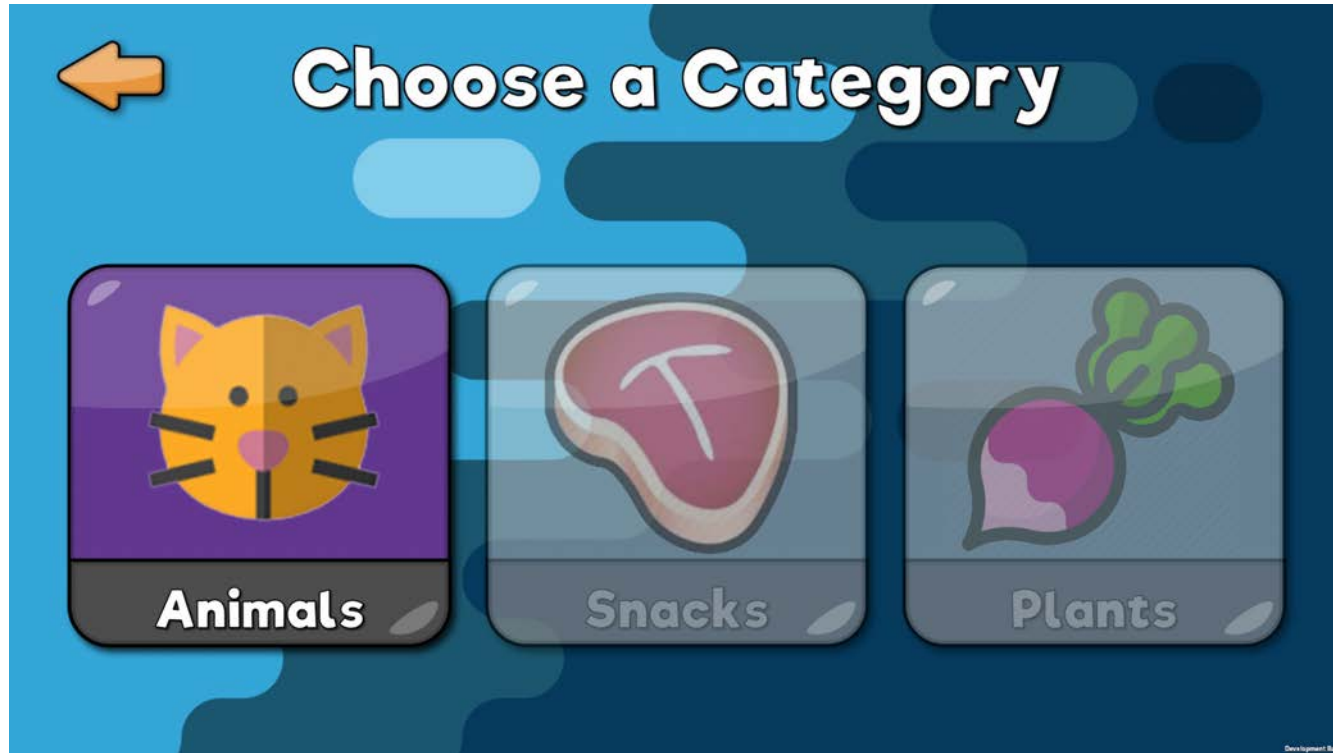


Family Science App



TWIN
CITIES
PBS

Family Science App



Family Science App

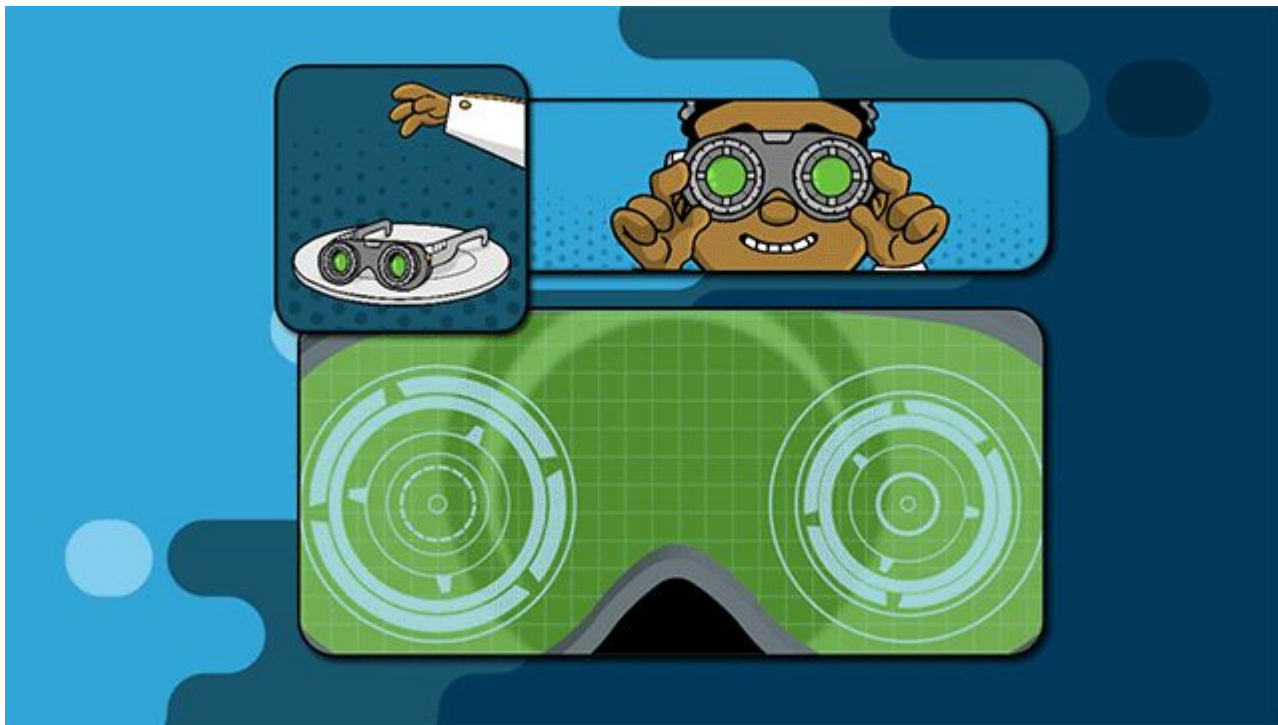


TWIN
CITIES
PBS

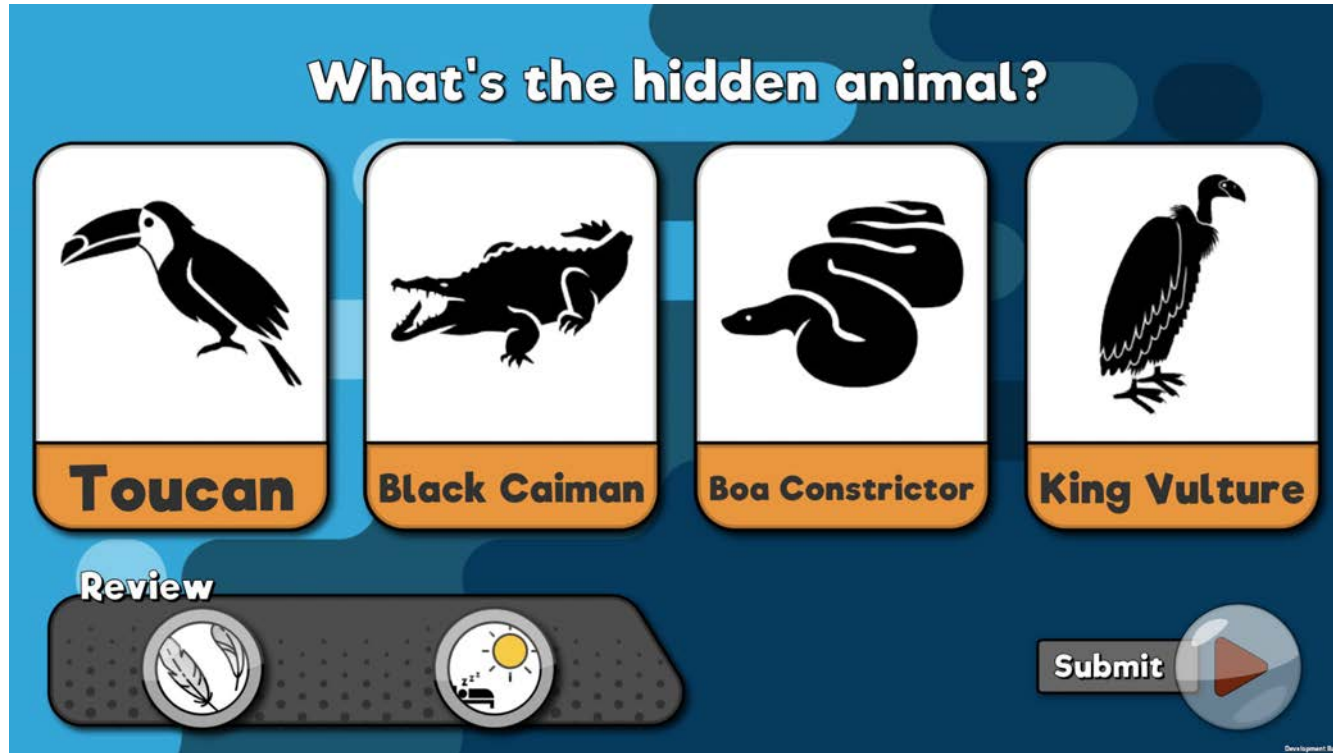
Family Science App



Family Science App



Family Science App



Family Science App

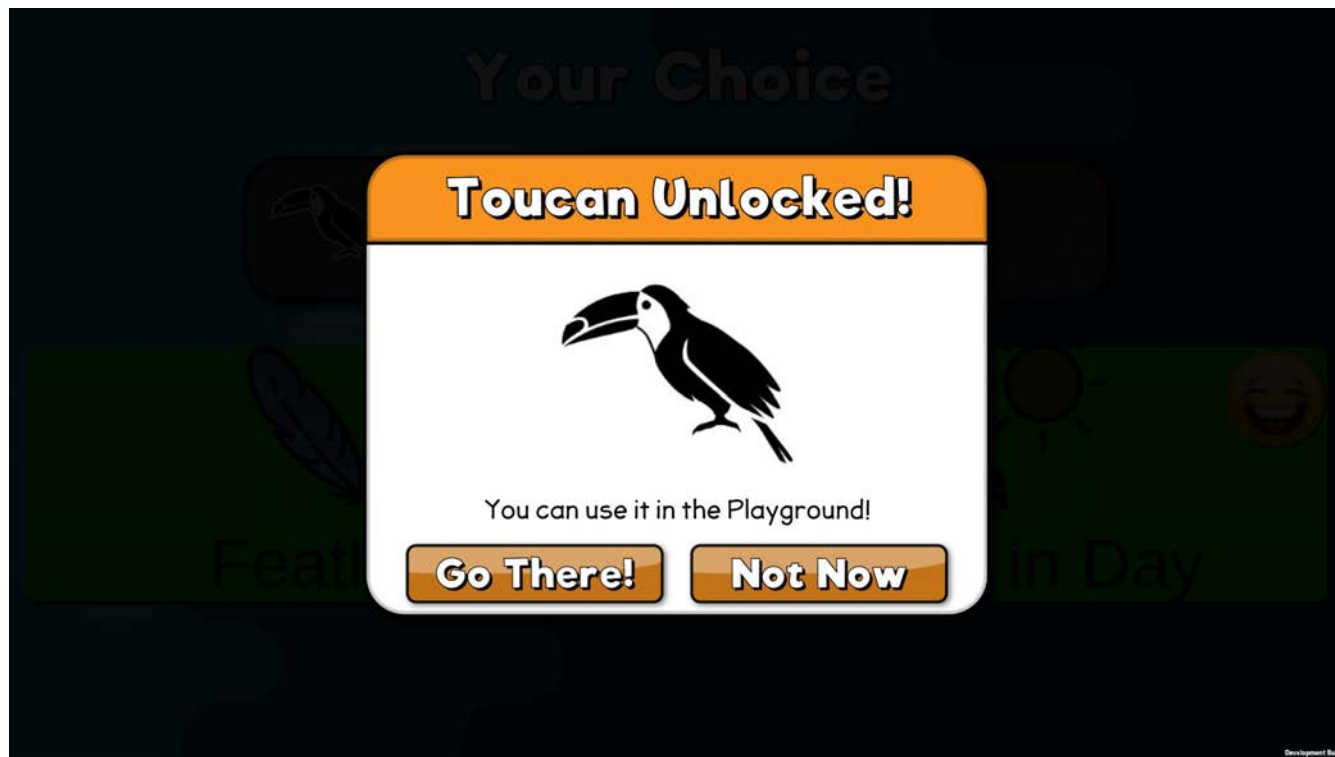


Family Science App



TWIN
CITIES
PBS

Family Science App



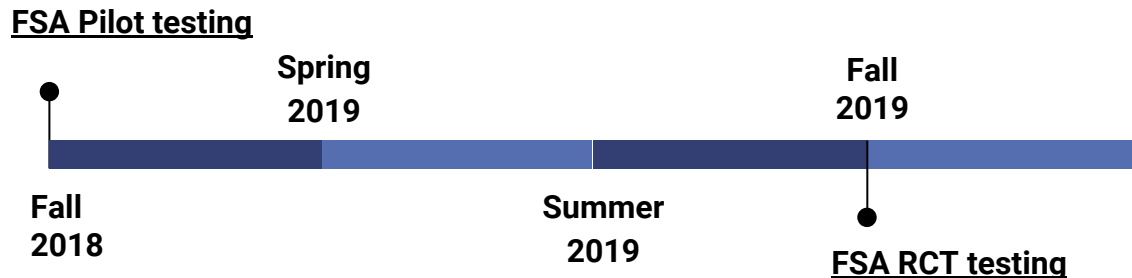
TWIN
CITIES
PBS

Family Science App



TWIN
CITIES
PBS

FSA Research Timeline



Thank you!

Joan Freese

jfreese@tpt.org

Momo Hayakawa

mhayakawa@tpt.org

Dennis Ramirez

dramirez@tpt.org, @dramirez

