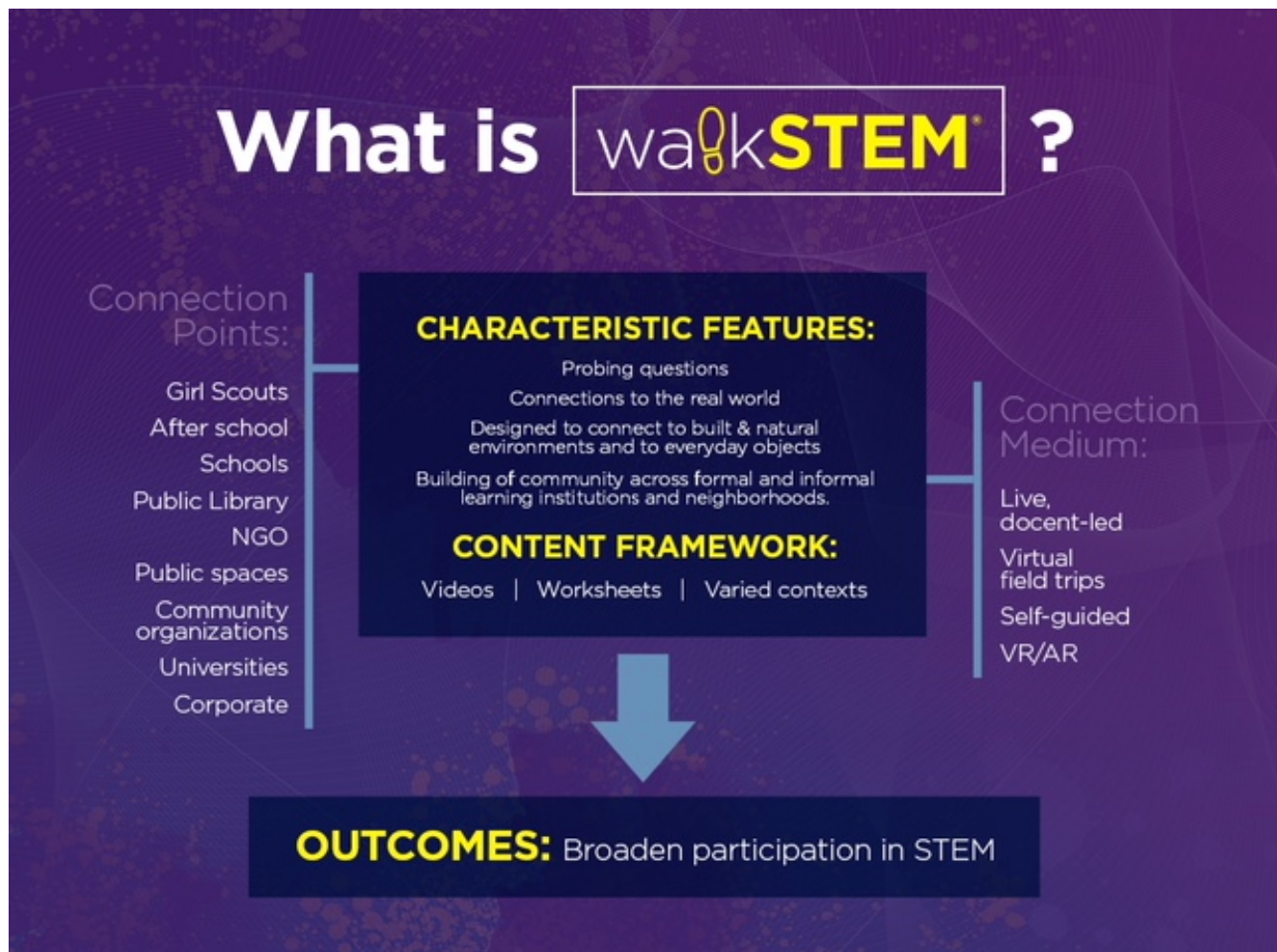


## What is walkSTEM?

The walkSTEM initiative was created by talkSTEM, a 501(c)3 non-profit based in Dallas, Texas, in 2017. talkSTEM aims to build a community of scientists by bringing together individuals across a variety of disciplines and encouraging them to share how they interact with STEM on a regular basis.

walkSTEM is a learning methodology that encourages STEM engagement and literacy among preK-12 students. By highlighting STEM experiences in everyday life, walkSTEM enables students to interact with math outside of the traditional classroom setting but also provides ample opportunities to connect to standards-aligned curriculum. walkSTEM connects formal and informal education, encouraging educators to utilize the methodology to create custom walkSTEM experiences in their schools and communities. The initiative meets students where they are by providing captivating occasions to engage with math in highly-accessible settings, including online and in underserved schools.

FIGURE 3: WHAT IS WALKSTEM?



walkSTEM broadens the traditional definition of STEM and encourages interdisciplinary connections. The overall goals of the program are broadening participation in STEM through development of STEM literacy and STEM identity. All walkSTEM content is created by the Executive Director, Program Manager, and talkSTEM Fellows, in consultation with Dr. Glen Whitney, walkSTEM Advisor.

The walkSTEM initiative is made up of three interconnected sets of activities: designing walkSTEM experiences, walkSTEM Academy, and after-school walkSTEM clubs.

## 1. Designing walkSTEM experiences

### Program

- A walkSTEM experience introduces students and their families to STEM encounters in their surroundings. Walks consist of several “stops” and may be self-guided or docent-led. Participants can access videos of each stop via walkSTEM Academy and/or may be given a walkSTEM guide on-site.

### Current Status

- Current walk sites include:
  - ▶ Dallas Arts District
  - ▶ NorthPark Center
  - ▶ Dallas City Hall Plaza
  - ▶ SMU campus
  - ▶ Fair Park ([watch "walkSTEM: Texas Star" on Youtube to see the walkSTEM experience at Fair Park in Dallas, Texas](#))
  - ▶ Dallas Public Library
  - ▶ Dallas Arboretum
  - ▶ Trinity River Audubon Center
  - ▶ Girl Scouts STEM Center of Excellence
  - ▶ UT Southwestern Medical Center
- Upcoming walk sites include:
  - ▶ Texas Discovery Gardens at Fair Park
  - ▶ Dallas Zoo
  - ▶ Dallas Love Field Airport

### Our Vision for the Future

- walkSTEM experiences will exist in cities and surrounding communities throughout the United States.
- All walks will be recorded with high-quality video and uploaded to the walkSTEM Academy site.
- Engaging guides for all walkSTEM tours will be available through a location-based app.

**FIGURE 4: WALKSTEM TOUCHPOINTS**

#### PUBLIC TOUCHPOINTS

- Docent-led, **guided tours**.
- **Self-guided tours**.
- walkSTEM **Academy videos**.
- **Educational materials**, including artist-created maps that facilitate self-guided exploration of walkSTEM sites and activity sheets that accompany walkSTEM stops. Educational materials can be used with walkSTEM Academy Videos or on live tours.
- Otocast **audio guides** (Otocast is a location-based app hosting audio guides to over 3500 points of interest throughout the United States. The app is used by the City of Dallas Public Arts Program).
- **Volunteering** as a docent.
- Additional touchpoints, including an **augmented reality** experience, are currently in development.

#### PREK-12 TOUCHPOINTS

- After-school **walkSTEM Clubs**.
- **Professional development** workshops for teachers.
- **In-class** walkSTEM activities.
- **Field trips** featuring teacher- or docent-led walkSTEM tours.
- **Volunteering** as a junior docent.

## #IwalkSTEM



Torrence Robinson  
President,  
The Fluor Foundation

*"Because STEM knowledge is a great tool for understanding the world and solving problems...it's a foundational element to success."*



## 2. walkSTEM Academy

### Program

- walkSTEM Academy is an open-source, highly accessible, online video library where people can find engaging examples of math, science and related concepts from diverse fields of study. All videos can be accessed via YouTube.
- Examples of STEM in the real world are recorded and uploaded to the walkSTEM Academy site. Short videos allow students to visit or revisit walkSTEM experiences virtually, thus removing limitations caused by transportation.
- walkSTEM Academy cultivates an alliance of students and educators who share interests and intellectual curiosity towards STEM learning.
- The open-source site also includes educator trainings; walkSTEM Academy builds educator competence and confidence in applying walkSTEM principles in their own teaching practices. Free access to a continuously growing, standards-aligned, video collection allows for transformative practice in schools.

### Current Status

- 32 videos are available on the walkSTEM academy site. More will be added in the next few months from walkSTEM experiences at SMU, Girls Scouts STEM Center of Excellence, Dallas Zoo, and Dallas Love Field Airport.
- walkSTEM educator guides will be available for each video thanks to a grant from the City of Dallas Office of Cultural Affairs.

### Our Vision for the Future

- walkSTEM Academy will become a platform for innovative thought leadership about the walkSTEM methodology and informal STEM learning practices.
- The Academy will be in part curated by walkSTEM program designers and in part by partners across the country, who will be encouraged to submit their own videos following the walkSTEM methodology. This encourages students and educators to take ownership and engage with STEM experiences in the world around them.
- walkSTEM Academy will be hosted through an updated walkSTEM website. Videos will be complemented by robust educator guides. All material will be tagged and organized into categories for ease of use by educators.
- All walkSTEM Academy videos will be accessible on computers and mobile devices through the walkSTEM app. Participants will be able to utilize academy content while engaging in live walkSTEM experiences.

**FIGURE 5: DISSEMINATION PARTNERS**

PARTNER ORGANIZATION	REACH
ATTPAC	500,000 visitors served each year
KERA Education Newsletters	2,100 individuals reached
City of Dallas Office of Cultural Affairs	Promotes walkSTEM and disseminates walkSTEM content via Social Media
Dallas Afterschool	180 partner sites
	14,000 children served each year
Dallas ISD STEM Department	Presented walkSTEM materials to 700 STEM team members representing all DISD schools
Dallas Museum of Art	80,000 visitors served in 2017
Dallas Zoo	1.2 million visitors served each year
	120,000 students served each year
Nasher Sculpture Center	100,000 visitors served each year
	12,000 students served each year
Dallas Symphony Orchestra	Disseminates walkSTEM educator guides to 150 schools each year
	Features walkSTEM on <a href="#">DSO kids website</a>

### 3. Afterschool walkSTEM clubs

#### Program

- walkSTEM clubs bring engaging STEM learning opportunities to students in their neighborhoods and schools. Students develop walkSTEM tours of their own with teachers and peers whom they are familiar with.
- walkSTEM academy videos provide models for teacher and students so they can build their own walkSTEM experiences with these models in mind. Educators are encouraged to upload the walkSTEM experiences they create with their students to the Academy site.

#### Current Status

- walkSTEM piloted a free Afterschool Club in Spring 2017 at Mount Auburn STEAM Academy, a Title 1 school in DISD. In January 2018, walkSTEM clubs were initiated at two additional DISD schools, Gooch Elementary and Solar Preparatory School for Girls. St. Philips School and Community Center, Wesley Rankin Community Center and others plan on launching walkSTEM clubs in Fall 2018.
- An in-class experience using similar methodologies was piloted at a DISD elementary school in Spring 2018.

#### Our Vision for the Future

- Clubs will exist at schools and community centers throughout the United States.
- Best practices in engaging preK-12 students in informal STEM experiences will continually be published and updated on an expanded walkSTEM website.
- walkSTEM practices will be incorporated during the school day through in-class informal learning occurrences.
- walkSTEM will host educator conferences to foster collaboration and community in the STEM learning space.

### Audience and Impact

walkSTEM's programming serves a wide audience including preK-12 students, educators, and families throughout Dallas, with a focus on disadvantaged communities and girls.

walkSTEM is uniquely poised to make an impact in STEM education because of the flexibility and access that its model provides. By cutting across formal and informal education models, walkSTEM works outside the traditional preK-12 pipeline to provide touchpoints online, in the community, and through afterschool programs. The multiple media and connection points offered by walkSTEM result in broad participation with the potential to reach many populations.

walkSTEM expands its reach collaboratively with its strategic partners, including the Girl Scouts, Southern Methodist University, and the Dallas Museum of Art. Moreover, we see social media as a critical tool in building our community; we invite all walkSTEM participants to continue the conversation by engaging with our channels.

