



Educator's Guide

Produced by:



Toured by:



With support from:



Mission

Through play and imagination, children positively impact the future and build STEM identity to become empowered agents of change.



Primary Audience

Children 5 - 12 years old + caregivers

Bilingual: English and Spanish

**With STEM
I can shape
our future!**

Educational Themes & Practices

- Asking Questions
- Investigation
- Communication
- Visual Analysis
- Forming Conclusions
- Decision Making
- Design Thinking
- Self & Social Awareness
- Empathy
- Self-Awareness
- Collaboration
- Relationship Skills
- Engineering Design Process
- STEM Identity



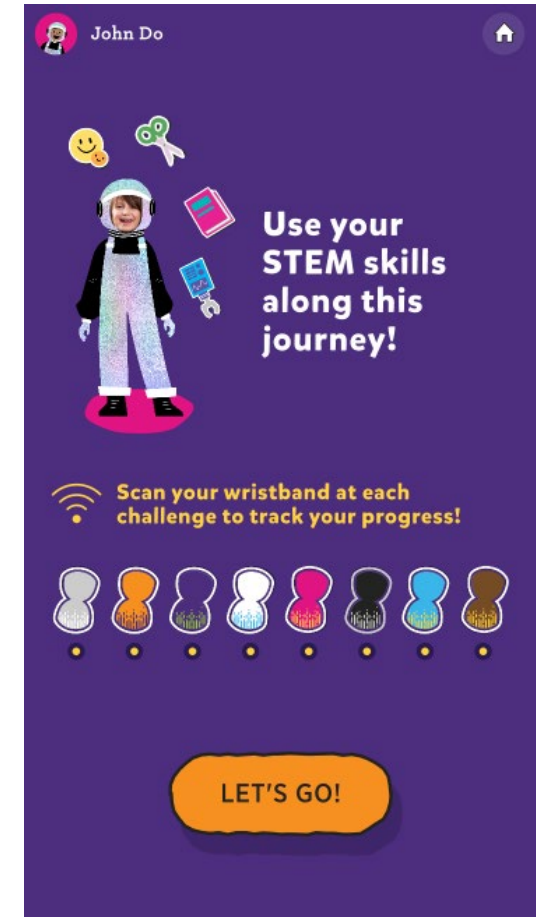
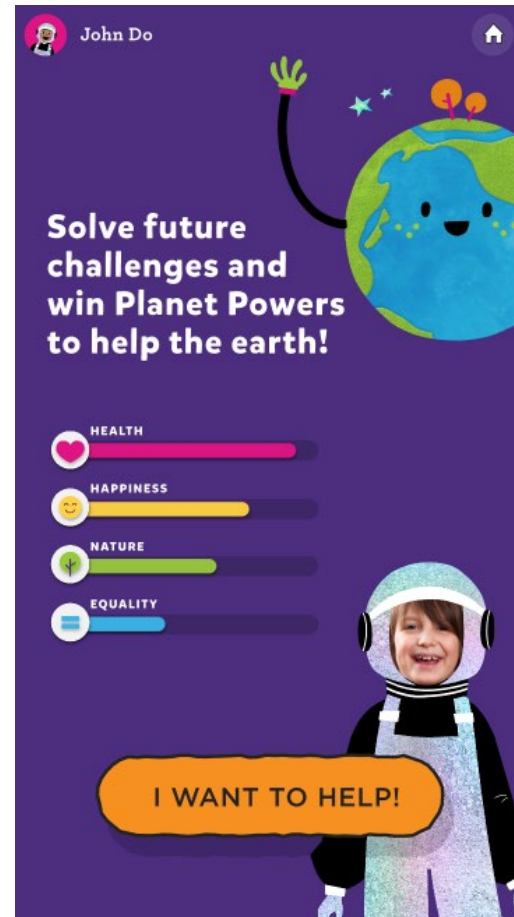
Welcome to the Future Lab

You've been recruited as a STEM Thinker to work in the Future Lab. Collect your bracelet and don your costume for future fun!



Gamification

You are working to win Planet Powers to help the Earth. There are four categories: Health, Happiness, Nature, Equality. You can see how your individual choices affect the entire environment.



You're a Teenager

In the not-to-distant future, contribute to a collaborative weaving house and help keep our waterways clean.



Future Makerspace

Using Visual Thinking Strategies you can determine your own challenge and solution for the future. You are presented with an enigma in the form of an image and encouraged to use it as inspiration.



You're an Adult

As you continue your journey through time, you'll grow and shop for future food while also planning your own city— together!



Leave Your Mark

Your personalized STEM Identity is revealed, and your avatar settles into its future world!



What is futurism?

Futurism is not about predicting the future. Rather, it is concerned with preparing individuals with the tools needed to navigate the possibilities that a future might present

What is STEM Identity?

STEM Identity is when someone identifies themselves as a learner of nature and technology—as someone who knows about, uses, and wants to contribute to science and engineering to answer questions or solve challenges.

What is Augmented Reality?

Augmented Reality (or AR) is an interactive digital experience that supplements the real-world with computer-generated information.

How can I help improve our planet's health?

We all make hundreds—even thousands—of decisions every day. Your decisions impact the environment and each other in different ways. If we work together and focus on decisions that will help Earth, together we can improve the planet!

Household Archeology

While thoughts of archaeology conjure images of the deep past, our own homes—or the local thrift store—are full of objects that represent times gone by. Contemporary Archaeology is a new field of study and is focused on the study of recent human history. Recent is of course a relative term, but in this instance it is commonly agreed to refer to the 20th to early 21st century.

Engage your students with rotary phones, VHS or audio cassettes, and even CD players. Have them deconstruct these objects using a variety of tools, prompting them to think about the parts and purpose of each. Have a conversation after the activity about how the artifact was/is used. Indeed, contemporary archaeology often utilizes interviews as a tool.

(As an aside, archaeology is often confused with paleontology. Paleontology is the study of fossils to understand the history of life on Earth. Fossils are the remains of organisms from the past, such as dinosaur bones. Archaeology strictly focuses on human history and the study of artifacts. In summary, archaeologists study human history through artifacts, while paleontologists study the history of other forms of life through fossils!)



City Build!

Extend the learning from Dream Tomorrows Today's City Lab by having students construct an elaborate city back in the classroom. Using reused cardboard and other materials, ask students to first plan their city by identifying all of the things that a city needs for its people—grocery stores, clothing stores, candy stores, emergency services, schools, museums, and more! The sky's the limit. Then ask them to construct these components and place them together—collaboratively—to create one unified city.

As an extension, you can also ask students to think about the location of their city and its climate? Is it along the shore or far inland? In a hot, warm, or cold climate? How does that environment affect the decisions that they make when planning and creating their city?



Worth a Thousand Words

Visual Thinking Strategies (or VTS) is an educational framework that engages learners with looking closely, making observations, and then extending these observations to inferences. Select an image of your choosing—either a painting or a photograph; the more interesting or funky the better! Now ask your students the following questions, allowing time and conversation to occur after each one:

- 1) What do you see?
- 2) What makes you say that?
- 3) What more do you see?

Learn more about VTS at vtshome.org



Post from the Future

Summary

Students will explore different ways that people view the future. Students will imagine the future, then they will compare their visions. They will categorize their view of the future. And they will practice SEL skills to compare and contrast different views and to determine how different perspectives can be helpful when investigating and designing for the future.



Learning Goals	
The student will:	The teacher will:
<ul style="list-style-type: none"> • Explore visions of the future through pretend play/imagined discussions. • Draw and write a “postcard from the future” for students to imagine their desired future. • Compare and contrast visions of the future. • Categorize responses to determine each student’s unique POV of the future. 	<ul style="list-style-type: none"> • Facilitate a discussion of predictions of the future. • Prompt and scaffold the “postcard from the future”. • Facilitate “compare and contrast” discussion. • Facilitate categorizing future POVs and STEM Identity.

CASEL

- Self Awareness
- Self Management
- Social Awareness
- Relationship Skills
- Responsible Decision Making

Additional Resources

Futures Thinking Playbook - Teach the Future
www.teachthefuture.org

Post from the Future - Set Up

Materials

- Paper
- Writing & drawing utensils
- Post from the Future Hand Out
- Posters of Futures Thinking POV Statements I & II
- Futures POV Types Posters x 4 – Mapmaker, Explorer, Navigator, Observer
- Maker Supply Array – upcycled items, textiles, adhesives, binders, cardboard, etc.
- Cutting tools (scissors, utility knives)
- Measuring tools (tape, rulers, meter sticks)

Actions

- Separate the group into small groups of 2-3.
- Students discuss/role play what they imagine they will be doing one month from now (3 min).
- Educator listens to each small group conversation and scaffolds: ask questions, make suggestions, redirect when needed.

Questions/Prompts

STEM Investigators – today we will explore our visions of the future. We will use our imaginations like a time machine to explore the possibilities of tomorrow. First, in small groups – we will discuss our ideas of the future.

On our first leap into the future, our imaginary time machine will stop **one month into the future**. Talk with your small group about what you will be doing one month from now.

Post from the Future - Phase 1

Actions

- Students discuss/role play what they imagine they will be doing 1 year from now (3 min).
- Educator listens to each small group conversation and scaffolds: ask questions, make suggestions, redirect when needed.
- Students discuss/role play what they imagine they will be doing 10 years from now (3 min).

Questions/Prompts

Great ideas STEM Investigators! Now, let's set our imaginary time machine to jump one year into the future. In your small group, discuss what you will be doing **one year from now**.

Wow STEM Investigators, you have some great things in store for yourselves in one year! Now let's set our imaginary time machines for a big jump into the future. Imagine what you will be doing **ten years from now!** How old will you be in ten years? What do you think the world will be like in ten years? Discuss with each other.

Post from the Future - Phase 2

Actions

- Students discuss/role play what they imagine they will be doing 50 years from now (2 min).
- Educator listens to each small group conversation and scaffolds: ask questions, make suggestions, redirect when needed.
- Students draw and write their visions of the future 50 years from now. Scaffold and remind students to write and draw as if they were 50 years older and were sending a message back through time to themselves (5-10 min).

Questions/Prompts

Excellent discussions STEM Investigators! Now, prepare yourself for the biggest leap into the future, yet. Set your imaginary time machines for **50 years into the future**. Discuss your ideas, then we will **draw and write a post to ourselves from the future!**

Now we will create post from the future! Use the blank social media post and draw a picture and write a message to yourself from 50 years in the future. How old will you be? What will the world be like? What will you be doing? Write and draw as if you were 50 years older and are sending a message through time back to your younger self. Have fun dreaming your tomorrow today!

Post from the Future - Phase 3

Actions

- Show posters of Futures Thinking POV Statements I.
- **A - What will happen in the future is mostly set and will follow the path we are already on.**
- **B - The future holds many possibilities and is not yet determined.**
- Students write the Statement letter that best matches their thinking on the back of their post.
- Show posters of Futures Thinking POV Statements II.
- **C - We each don't have much individual influence over what the future will be.**
- **D - We each have a great deal of individual influence over how the future will be.**
- Students write the Statement letter that best matches their thinking on the back of their post.

Questions/Prompts

We say futures thinking because there are always many possibilities in the future. Your Point of View or POV is the way you see those possibilities. I am going to ask you some questions. Your answer to these questions will help us understand your view of the future. First, do you think that will happen in the future is already set and cannot change? Or do you think there are many possibilities in the future? Which of the statements on the POV poster matches your thinking? A? or B? Write the letter of the statement that best matches your way of thinking on the back of your post from the future.

(2-3 mins) Now, look at the statements on this poster. Do you think that each person can affect the future? Or do you think that nobody can have an effect on the future? Which statement matches your thinking? C? or D? Write the letter of the statement that best matches your thinking on the back of your post from the future.

Post from the Future - Phase 3

Actions

- Students go to posters that match their code and read about their Futures Thinking type.
- Students vote on which activity they would rather do: free-make/ free explore.
- Tally votes - determine which option had the most votes. Facilitate the winning option.
- Free-Make: provide an array of materials (new and upcycled) and tools for students to tinker and make. They can make whatever comes to mind yet encourage them to make items connected to their visions of the future. Allow time for clean-up.
- Free-Exploration: Go on a walk through the school campus or around the museum. Assign partners and allow for conversation on the walks. Prompt with questions about the students visions of the future and what they find on the walk that is connected to their ideas. Allow time to return to HQ to gather personal belongings.

Questions/Prompts

Prompt Futures Thinking POV gallery walk (5 min):

Now, you may go the poster in the room with the code that matches your code to find your Futures Thinking POV. Read the poster. What do you think of your Futures Thinking type? Does this sound like you? What is the same as you? What is different? This POV code will help you to know your strengths as we explore the future, but your POV code may change over time, So do not feel like you have to stay with this POV type forever.

Prompt free-make/ free exploration (10-15 min):

At the end of some sessions, we will have time to do some free-making or free exploration. Would you prefer to free make or free explore?