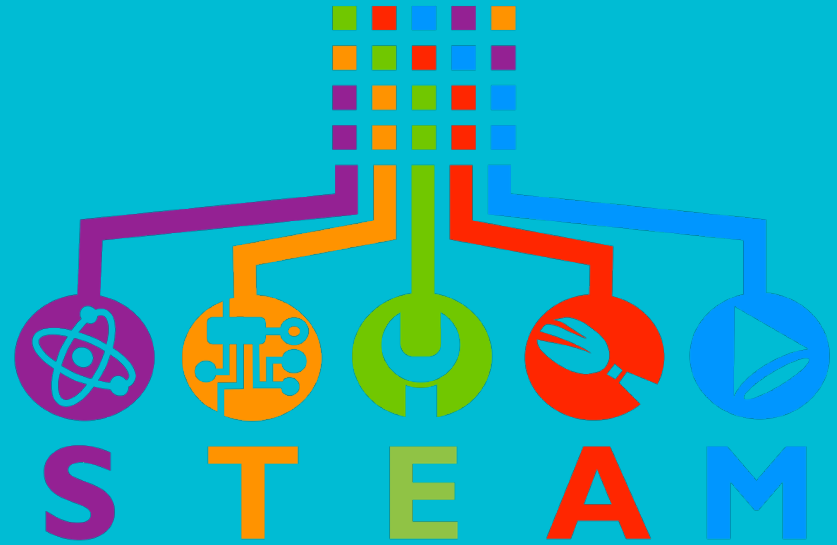




San Diego Unified  
SCHOOL DISTRICT

# STEAMing up Curriculum: Creating Career Awareness in Kindergarten



Work Based Learning  
Summit 2019

# Think of your 5 year old self...

STEAM



# Our **HOPES**

Playful

Curious

Creative



## Thinking back...

- ▶ What did you want to be when you grew up?
- ▶ What careers were you aware of?
- ▶ Share a time that you developed a spark of interest in a career during your TK-12 education.




# Overview

1. What is STEAM?
2. What can career awareness look like in kindergarten?
3. Experience STEAM
4. Reflect and Debrief




# STEAM ARCHITECTS



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NGSS

STEAM

PBL








San Diego Unified  
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# HABITS of MIND

 <p><b>1. Persisting</b> <i>Stick to it!</i> Persevering in task through to completion; remaining focused. Looking for ways to reach your goal when stuck. Not giving up.</p>	 <p><b>2. Managing Impulsivity</b> <i>Take your time!</i> Thinking before acting; remaining calm, thoughtful and deliberate.</p>	 <p><b>3. Listening with understanding and empathy</b> <i>Understand others!</i> Devoting mental energy to another person's thoughts and ideas; Make an effort to perceive another's point of view and emotions.</p>	 <p><b>4. Thinking flexibly</b> <i>Look at it another way!</i> Being able to change perspectives, generate alternatives, consider options.</p>
 <p><b>5. Thinking about your thinking</b> (Metacognition) <i>Know your knowing!</i> Being aware of your own thoughts, strategies, feelings and actions and their effects on others.</p>	 <p><b>6. Striving for accuracy</b> <i>Check it again!</i> Always doing your best. Setting high standards. Checking and finding ways to improve constantly.</p>	 <p><b>7. Questioning and problem posing</b> <i>How do you know?</i> Having a questioning attitude; knowing what data are needed &amp; developing questioning strategies to produce those data. Finding problems to solve.</p>	 <p><b>8. Applying past knowledge to new situations</b> <i>Use what you learn!</i> Accessing prior knowledge; transferring knowledge beyond the situation in which it was learned.</p>
 <p><b>9. Thinking &amp; communicating with clarity and precision</b> <i>Be clear!</i> Strive for accurate communication in both written and oral form; avoiding over-generalizations, distortions, deletions and exaggerations.</p>	 <p><b>10. Gather data through all senses</b> <i>Use your natural pathways!</i> Pay attention to the world around you. Gather data through all the senses. taste, touch, smell, hearing and sight.</p>	 <p><b>11. Creating, imagining, and innovating</b> <i>Try a different way!</i> Generating new and novel ideas, fluency, originality</p>	 <p><b>12. Responding with wonderment and awe</b> <i>Have fun figuring it out!</i> Finding the world awesome, mysterious and being intrigued with phenomena and beauty.</p>
 <p><b>13. Taking responsible risks</b> <i>Venture out!</i> Being adventuresome; living on the edge of one's competence. Try new things constantly.</p>	 <p><b>14. Finding humor</b> <i>Laugh a little!</i> Finding the whimsical, incongruous and unexpected. Being able to laugh at one's self.</p>	 <p><b>15. Thinking interdependently</b> <i>Work together!</i> Being able to work in and learn from others in reciprocal situations. Team work.</p>	 <p><b>16. Remaining open to continuous learning</b> <i>Learn from experiences!</i> Having humility and pride when admitting we don't know; resisting complacency.</p>

Name \_\_\_\_\_ #1

	<b>Persisting:</b> I can stick to it!	
Not Yet	Sometimes	Always
		





**STEAM** is a collaborative, interdisciplinary, inquiry approach to learning. It enables students to see opportunities, build empathy, and create innovations with the potential to impact their world in real and powerful ways.

UnifiedTK-12 STEAM experiences are driven by future opportunity in the San Diego region resulting in college, career, and life readiness

# STEAM Goal:

Connect students to the adult world.



# San Diego's STEAM Industry

**NORTHROP GRUMMAN**

USS **Midway**  
MUSEUM

**VERTEX** J. Craig Venter™  
INSTITUTE

SEAWORLD  
**clean**  
LINKLAB



**Raytheon**

THE MARITIME  
ALLIANCE

Promoting BlueTech  
and Blue Jobs®



**biolabs** **illumina**®

Qualcomm **WEBROOT**™  
Smarter Cybersecurity  
thinkabit lab



Rady  
Children's  
Hospital  
San Diego



# 1.

What does  
career  
awareness look  
like in  
Kindergarten?





# Unit 2

Wild About Weather

# Meteorologists



Link to  
Flipgrid

<https://info.flipgrid.com/>



# Unit 5

## Animal Ambassadors







Did you know there are  
wild animals in  
San Diego?















# #7 Questioning and Problem Posing

I can find the  
problem!



**Question:**

**What do you think  
animals do when they get  
sick or are hurt?**

**What do you do when you  
get sick or are hurt?**

**Turn and talk:**

**What do you think  
animals do  
when they get  
sick or are hurt?**

# Project Wildlife



PROJECT WILDLIFE

A PROGRAM OF SAN DIEGO HUMANE SOCIETY

**Turn and talk:**

**What are you thinking?**

**What are you feeling?**

# Find a Partner



Let's go on a safari!





1. Project Wildlife  
Specialist

1. San Diego Zoo  
Safari Park Senior  
Bird Keeper

1. SeaWorld Rescue  
Ambassador



 PROJECT WILDLIFE



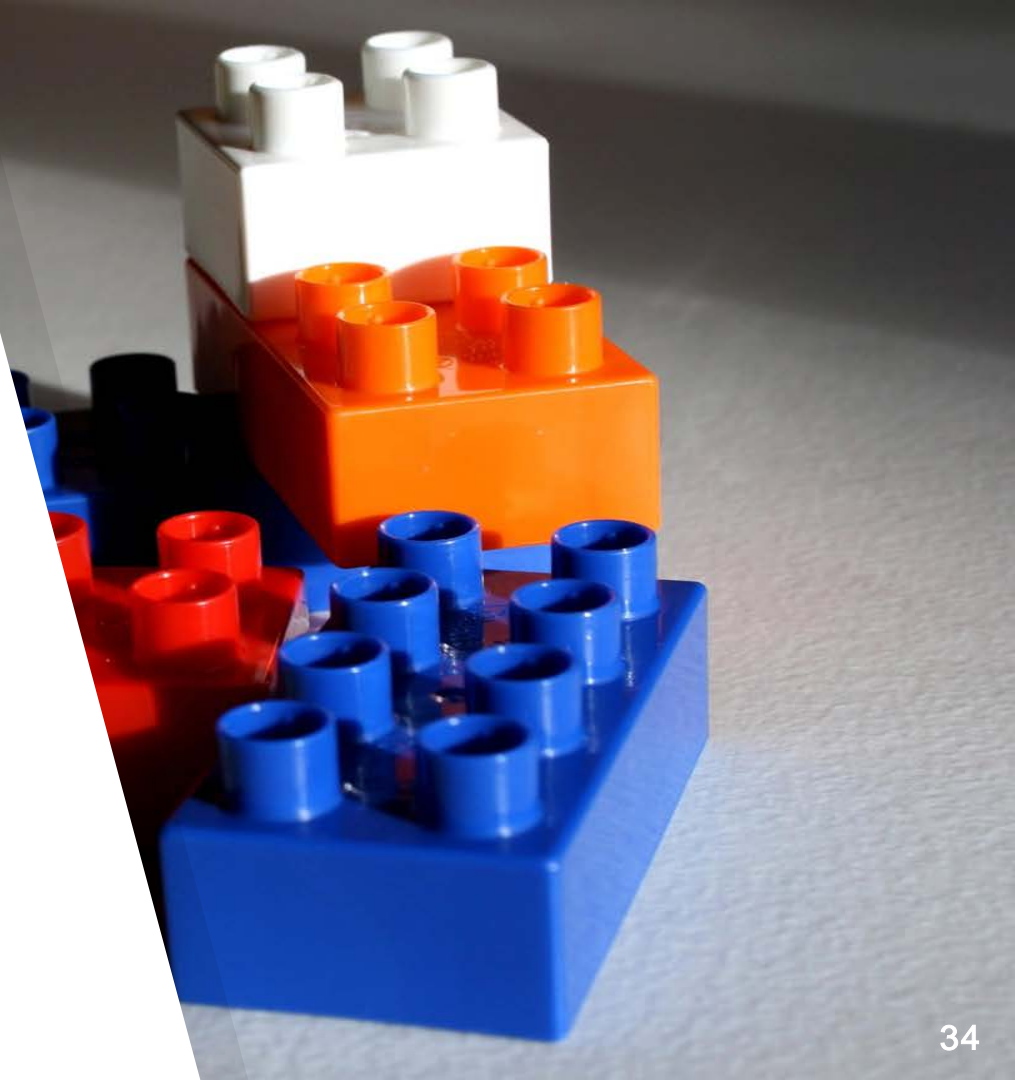
 





# MODEL With LEGO

- ▶ With your partner, build a habitat for your animal.
- ▶ Include everything it needs to survive.



**Share:**

- 1. Your animal's habitat**
- 2. What you built to help it survive.**

# REFLECTION AND DEBRIEF

- ▶ What are you thinking after knowing how kindergarteners might experience the world of work?
- ▶ What did you take away from this experience that can apply to your work?



Please provide  
us feedback on  
our session.

Feedback Link:

[https://forms.gle/  
54TWHSSfUTWt6P  
GP7](https://forms.gle/54TWHSSfUTWt6P<br/>GP7)

# Additional Information:

## Unit Flow and NGSS Standards

Anchor Phenomenon



**Animals live in environments that help them survive**

Investigative Phenomenon

Animals live in different environments

Lesson 1  
Lesson 2



Animals eat different things



Lesson 3  
Lesson 4



Animals find their food in their environment

Lesson 5



Animals need different things to survive

Lesson 6  
Lesson 7  
Lesson 8

The environment is a system that helps animals survive

Lesson 9  
Lesson 10  
Lesson 11  
Lesson 12  
Lesson 13

Lesson 14- Students share their reflection on learning



## Kindergarten Performance Expectation

### K-LS1 From Molecules to Organisms: Structures and Processes

#### K-LS1 From Molecules to Organisms: Structures and Processes

Students who demonstrate understanding can:

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.** [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

#### Science and Engineering Practices

##### Analyzing and Interpreting Data

Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

- Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)

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#### Connections to Nature of Science

##### Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world. (K-LS1-1)

#### Disciplinary Core Ideas

##### LS1.C: Organization for Matter and Energy Flow in Organisms

- All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1)

#### Crosscutting Concepts

##### Patterns

- Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1)





## Kindergarten Performance Expectation

### **K-ESS3 Earth and Human Activity**

#### **K-ESS3 Earth and Human Activity**

Students who demonstrate understanding can:

- K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.** [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.]

**Animal Ambassadors  
Project  
Career Spotlight  
Videos**

# Wildlife Specialist



 PROJECT WILDLIFE

# SeaWorld Rescue Ambassador



# San Diego Zoo Safari Park Bird Keeper



# Student Work

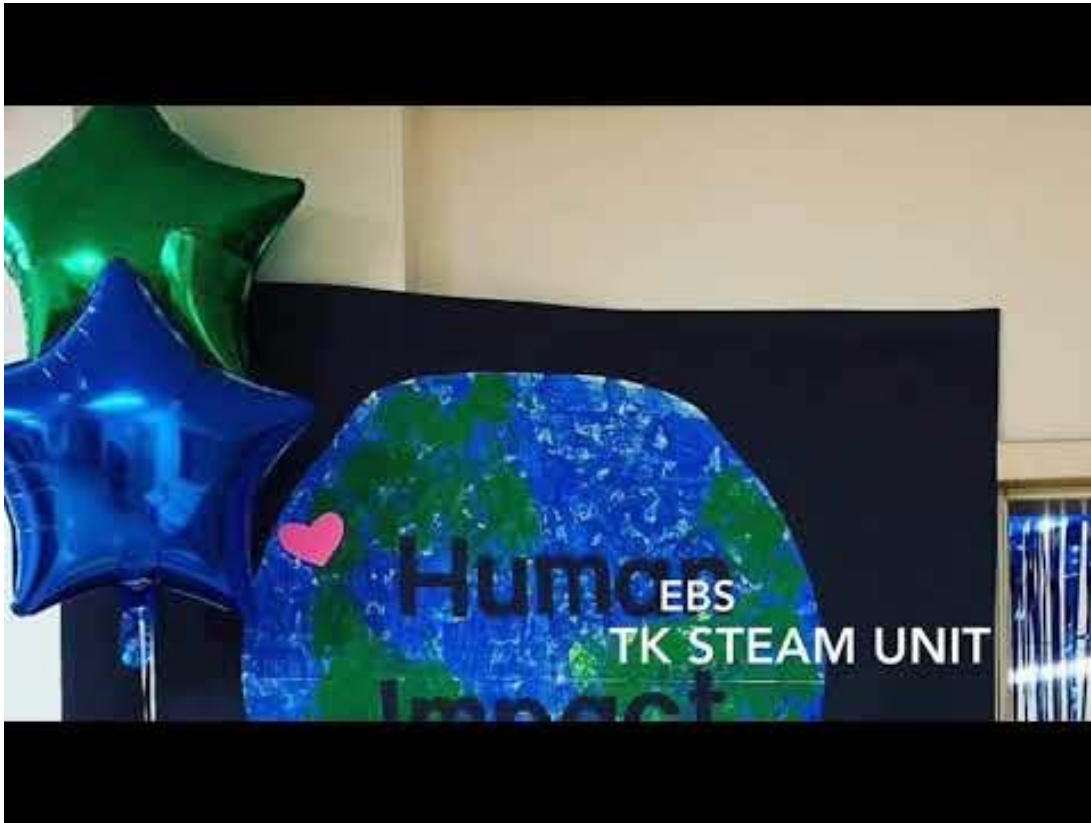


### Environment Model Checklist

My environment has the following:

- Food 
- Water 
- Shelter 

Animal Habitats - Sunset View Elementary Kindergarten



Human Impact PSA Project - E.B. Scripps Elementary TK



