## STATE@fthe

DISTRICTwith Dr. Shepherd

## REAL WORLD PROBLEM STATEMENT

The city of Victoria has contracted your engineering company to build them a bridge to cross over a large river to a neighboring city. It is up to you to determine what type of bridge would have the strength for the task and stay within budget.

## DRIVING QUESTION

How can you and your partner design and build a bridge that stays within a $\$ 70,000$ budget; that you can successfully drive your sphero across?


## Imagine \& Plan

## Build a bridge that can support the Sphero and stay within budget.

## CONSTIRAINTS5

1. Bridge can only be constructed out of the provided materials
2. May not be held or supported by you
3. Must span the the length of the river
4. Must be strong enough to support the weight of the Sphero and be stable enough for the Sphero to cross the bridge at least 3 times
5. Your materials cannot exceed a maximum budget of $\$ 70,000$
6. How might you use the materials to solve the problem?
7. How might you consider tension and compression in the design of your bridge?
8. How might you design your bridge to support the Sphero?

## Create-Test-Improve

## Build a bridge that can support the weight of the Sphero and stay within budget.

## CONSTRAINTS:

1. Bridge can only be constructed out of the provided materials
2. May not be held or supported by you
3. Must span the the length of the river
4. Must be strong enough to support the weight of the Sphero and be stable enough for the Sphero to cross the bridge at least 3 times
5. Your materials cannot exceed a maximum budget of $\$ 70,000$

With your bridge complete, did you stay in budget?

Did you succeed? Did your bridge hold the weight of the Sphero? Were you able to drive the Sphero across the bridge?

Did you fail? Improve and re-build!


## Reflect

## Build a bridge that can support the required weight and stay within budget.



Compare your design with the other teams. What are some similarities? Differences?

How did you use your materials to create your bridge?

What challenge did you face in this mission? How did you overcome failure?











- 213 college hours completed, to date
- 45 college hours offered per P-TECH pathway
- Over $\$ 470,000$ secured for pathway development



## VISD

Fund Balance



FINANCIAL INTEGRITY RATING SYSTEM OF TEXAS

## Fund Balance Uses



SCHOOL SAFETY IMPROVEMENTS


Replacing oldest buses out of the fleet


Repairing roofs


Updating antiquated phone system


Priority repairs of aging facilities

## A Balance of Needs



36 School Buses that have exceeded their useful lifespanof 15 years


11 campuses with roofs that remain aged out
\& in disrepair


Updating antiquated phone system

$\$ 10$ million in HVAC
systems that have exceeded their lifespan

## ?

VISD Total Tax Rate: 2000-2022



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