



TeachEngineering

Around the World and Back



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WHAT IS AN SDG?



- What is a sustainable development goal (SDG)?
- ¿Qué es un objetivo de desarrollo sostenible (ODS)?
- A universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
- Un llamado universal a la acción para poner fin a la pobreza, proteger el planeta y garantizar que para 2030 todas las personas disfruten de paz y prosperidad.

<u>UN SDG</u>	<u>Explanation</u>
<u>SDG Target 10.2</u>	By 2030, empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.
<u>SDG Target 10.3</u>	Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies, and action in this regard.



INTERNATIONAL MARKETS

- **What international markets are in Huber Heights, Ohio?**
- **¿Qué mercados internacionales hay en Huber Heights, Ohio?**

1) Buja International Food and Fashion

2) AHISKA MARKET, Turkish

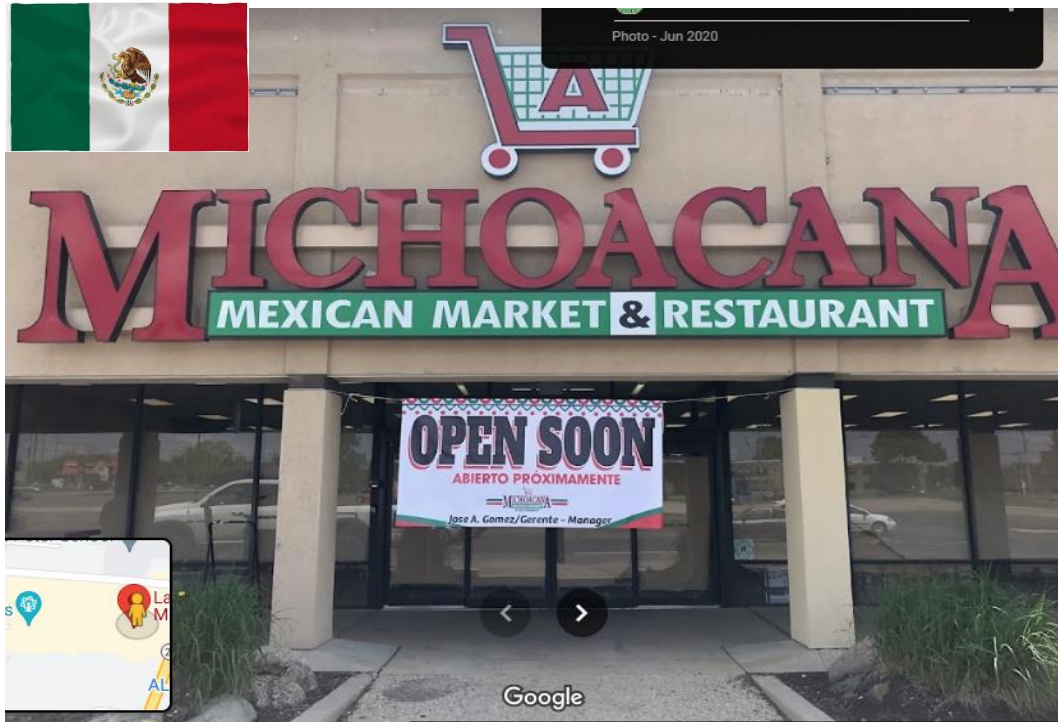
3) Huber Mart, Turkish

4) La Michoacana Market, Mexican

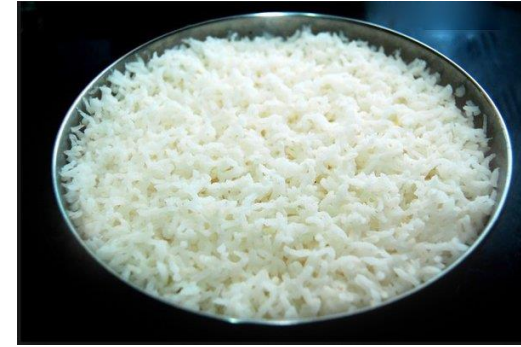


FIELD TRIP STOPS

- What international markets will we visit?
- ¿Qué mercados internacionales visitaremos?



FOOD STAPLES



- **What is a food staple?**
- A staple food, food staple, or simply a staple, is a food that is eaten often and in such quantities that it constitutes a dominant portion of a standard diet for an individual or a population group, supplying a large fraction of energy needs and generally forming a significant proportion of the intake of other nutrients as well.
- **What food staples do you expect to find in international markets?**
- Asian -- ??
- Mexican -- ?? → Corn, beans, rice, avocado, limes, and chiles
- Turkish -- ?? →
- **Where do you think they might be located?** → Rice, wheat, vegetables, *Dolma* , rice- and meat-stuffed vegetables.



PROTECTING PEOPLE WITH **DISABILITIES**

- **What is the American Disabilities Act (ADA)?**

The Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities in several areas, including employment, transportation, public accommodations, communications, and access to state and local government programs and services.

- **Why is ADA accessible design important?**

The ADA and government administrative regulations provide guidance about what is required for a building or facility to be physically accessible to people with disabilities.



ADA ACCESSIBLE DESIGN

List and explain components of ADA accessible design.

- **Priority I – Accessible approach and entrance**
- **Priority II – Access to goods and services**
- **Priority III – Access to public toilet rooms**
- **Priority IV – Access to other items such as water fountains**



ENGINEERING DESIGN PROCESS

What is the engineering design process (EDP)?

A series of steps that guides engineering teams as they solve problems. The design process is iterative, meaning that engineers repeat the steps as many times as needed, making improvements along the way as they learn from failure and uncover new design possibilities to arrive at great solutions.



THE PERIODIC TABLE

How is the grocery store like the periodic table? Explain!

Design a Grocery Store Learning Targets – 23-24 SY

<i>Project Learning Target One</i>	There are different types of grocery stores (e.g., discount, corner, supermarket, specialist, etc). Even though there are various grocery stores, there is still organization, research, and thought involved in setting up each type of grocery store – much like the fact the periodic table is a highly-thought-out organization of elements.
<i>Project Learning Target Two</i>	Grocery stores contain many different items from hundreds to perhaps tens-of-thousands. The number of items at a grocery store will depend upon the type of grocery store. The periodic table contains 118 natural and synthetic elements.
<i>Project Learning Target Three</i>	Grocery stores contain aisles which are often numbered on the ends or even on a sign hanging from the ceiling. Customers may request a particular item and then receive instructions to go to a specific aisle number. Each aisle typically has a major theme such as “International Food” or “Dairy Products.” Rows or columns on the periodic table also have common themes based upon similar or dissimilar chemical properties.
<i>Project Learning Target Four</i>	Each aisle in a grocery store contains similar types of items. The items change from one end of the aisle to the other end. For example, the “Dairy Aisle” may be Aisle 10 in a supermarket. One end of Aisle 10 may be where the milk is located. The, the products transition to creamer, eggs, cheese, and sour cream. Likewise, on the periodic table a group of elements have similar chemical properties due to them all having the same number of valence electrons. For example, Group 1 elements – also called the Alkali metals – possess one valence electron. Group 1 elements are highly reactive. The reactivity of the elements increase moving down the group from hydrogen (H) to francium (Fr).
<i>Project Learning Target Five</i>	There may be transitions of items across the store from side to side or front to back. For example, Walmart in Huber Heights has food items on the left hand side of the store. The middle of the store has clothing. The far right hand side of the store has non-food items like toys, home items, kitchen goods, and outdoor things. The overall pattern of transition is from food items to non-food items. The transitions vary based upon the specific type of store (for example, discount grocery store versus supermarket) as well as the particular arraignment. The periodic table has transitions across the entire length from metals, to transition metals, to metalloids, and to nonmetals.
<i>Project Learning Target Six</i>	The Lanthanide and Actinide Series are both displaced below the periodic table to make the table more easily fit on a sheet of paper. The Lanthanide and Actinide series are part of Period 6 and Period 7, respectively. If these series were part of the main period <u>table</u> then the entire width would be twice as large. Moving the series down a bit is a matter of convenience. Sometimes you may observe parts of a store aisle may be moved to a more convenient location, so customers may choose to purchase item(s). For example, charcoal may be moved from an aisle to the center walkway on the Fourth of July to help people remember to purchase more, which increase the amount of money earned. Further, cases of soda or beer may be moved to the main, center aisle on holidays or before the Super Bowl to increase sales. Moving products from aisles may be done to improve sales.

