INSIDE STEM

STEM in the News

"Almost 50,000 fewer cars left factory gates compared to the same month last year, according to new figures released today by the Society of Motor Manufacturers and Traders (SMMT). The total was 78,767 – down 47,428 – as the coronavirus caused UK plants to close, resulting in more than 140 days-worth of total production lost." Car production in the UK fell 37.6% in March as the Covid-19 pandemic has directed the country in lockdown. Among that, output for the domestic market declined 36.8% and exports fell 37.8%. Car showrooms also closed down around the world. As the car industry is ultimately dwindling, let's hope other industries do well amidst the pandemic.

Source:
https://www.imeche.org/news/news-article/car-production-fell-37.6-in-month-that-ended-with-coronavirus-lockdown

STEM Career Spotlight

Mechanical engineers design power-producing machines. They work on, design, develop, build, and test various mechanical devices. Many of these engineers work in offices, and occasionally visit worksites where problems are taking place. Some work on site more often than in the offices. The median wage is $87,370 a year, but can be higher than that based on the years of experience and education.

Required education: at least a bachelor's degree

"At each increase of knowledge, as well as on the contrivance of every new tool, human labour becomes abridged." - Charle Babbage

STEM in History

Mechanical engineering has shown to be an important factor in how we live every day. The first such depictions of mechanical engineering were around c. 6000 BC when Egyptian rock painting showed canoes, dugouts, and rafts — the first few methods of transportation. Fast forward to 1733, where John Kay invents the flying shuttle, allowing textiles to be mass-produced and allowing industries to develop. In 1969, mechanical engineering took a huge leap when Neil Armstrong and Buzz Aldrin successfully landed the Apollo Lunar Module Eagle on the moon. Mechanical engineering is surely important in our lives.

STEM Across the Curriculum

Mechanical engineering can be incorporated into various subjects. Here is an example of a social studies connection, where students research different devices that were invented in the past that helped better many industries. Then students choose the device that they found most interesting, and create a timeline for when they were invented and its uses throughout history.

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STEM Movies

The Martian (2015) is a science-fiction film that depicts an astronaut named Mark Watney's struggle to survive on Mars. When he lands on Mars, Watney is subsequently presumed dead when he is struck by debris and lost in a storm. Mechanical engineering is included in the film through its depiction of rovers and vehicles. One example is when Mark Watney lands on Mars using the Mars Ascent Vehicle (MAV), which has been mechanically crafted to handle and land on Mars. Another example is the Spirit rover they included in the movie, which is currently "roving" around Mars right now.

"The more you find out about the world, the more opportunities there are to laugh at it." - Bill Nye

#STEM@ADM Spotlight

TechFirst, led by Luke, the graduate of ADMS, is an afterschool club where students are able to experiment with and build machinery. Engineering is incorporated into the club as students are able to design and assemble robot models. Mechanical engineering is applied when students utilize mechanical parts such as beams, sprockets, and screws to build and test the designs they have made. In TechFirst, students can innovate new ideas to better existing designs, or construct their own ideas to examine and improve. Thank you , Luke, for your passion for STEM and for giving back to ADMS.

Famous STEM Person

Bill Nye was a mechanical engineer for Boeing Corporation before starring on his hit show, Bill Nye the Science Guy. He invented a hydraulic resonance suppressor tube which is used on the Boeing 747.

STEM Challenge

How to Make a Cardboard Box Marble Labyrinth Game

Materials: A cardboard box, scissors, craft sticks, hot glue gun, a nickel, a pencil

Steps:

1. Cut the lid off and cut a little over an inch off each of the flaps on the lid

2. Build the track a little at a time. Trace a nickel (the perfect size) and cut out the circles with scissors

3. Cut a hole in the bottom of the box in one corner so that you can easily get the marble out if it drops down one of the holes.

Source: https://frugalfun4boys.com/ how-to-make-a-cardboard-box-marble-labyrinth-game/

STEM Puzzle

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5
				8			7	9