:

FULL NAME: __Smith Joel Brandon__ Date: Grade:_____Period:___

Agenda Writing : - Learning Target- from Poster

On board- Bellringer- Warmup question- START:
What is the meaning of _____ in the engineering world? write 5 lines
How does it help or relate to your life or this world? write 5 lines

On Board :
Summarize video and write Important notes:

Your opinion on this video assignment:

Your concerns on this video assignment:

Any questions on this video assignment:

Compare _____ with _____
What are the Fact-Data given in this video assignment
Show /draw an engineering drawing for improvement in this system

On board- Exit: "What was the most important thing you learned today?" "What is one concept you're still confused about?"-

Farnsley FMS - Engineering-Design Class
Mr. DuGla / LESSONS & PLAN Highlights ⇓↓

CELL TOWER DIY- https://www.youtube.com/watch?v=KPtry5HpBRg
TALL EARTHQUAKE PROOF BLDG project , Floodproof library model
Parental IC portal- https://www.jefferson.kyschools.us/page/parent-portal

EIO use: setup-LT- Engineering news - Introduction of topic- Slides- YT Video- Diffit/EdPuzzleKahoot magic school use , , Work sheet on own paper, Drawing, small paper model- Share-speak- Exit question- Cleanup- Submit- Lineup

AMTEC Z Space robotics : https://zspace.com/edu/info/amtec-industry-4
https://amtecworkforce.org/amtec-simulator/
Z space https://zspace.com/apps
https://amtecworkforce.org/emerging-technician-electrical-trainer/
https://amtecworkforce.org/amtec-institute-for-industry-4-0-innovation-ai3/
AMTEC site: amtecin.learnupon.com and login using your email and this password: Amtec2025!.

UoL 3D Mask VID- https://www.wlky.com/article/uofl-basketball-james-scott-mask-speed-school/64236123
https://engineering.louisville.edu/amist-james-scott-mask/
UoL AMIST Lab - AML questions on board : What is the main Point-

:

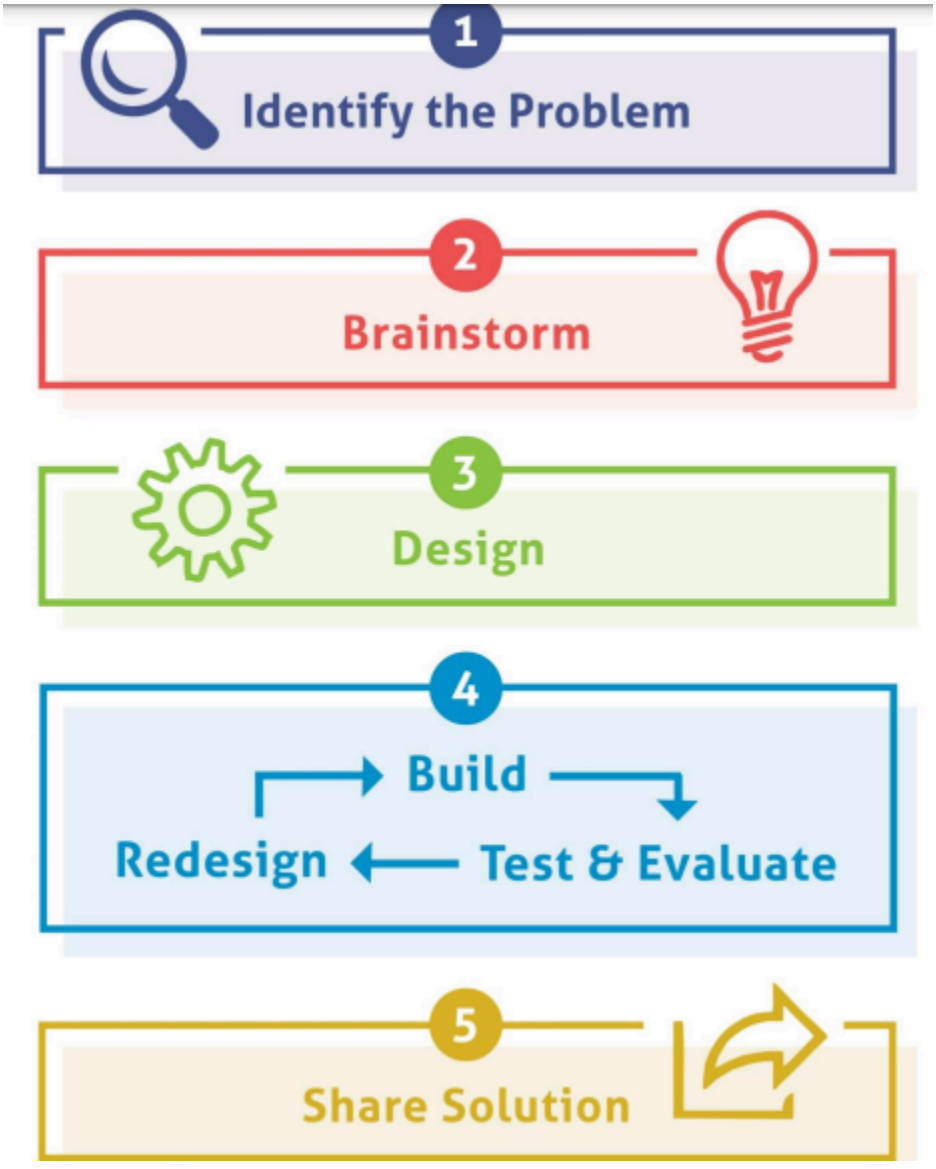
MATH Calc- If it takes 3 hr/mask - we need 25 mask and one time setup time is 2 Hr and each mask use 120 gm of Polyethylne material Time needed ?? and Raw material needed?
Final Vid-
https://www.wdrb.com/university-of-louisville-engineers-save-james-scott-s-season-with-custom-face-mask/video_34ef6765-89e9-52c5-bb0f-d72e3776bfe2.html
Diffit- 3D medical- https://app.diffit.me/packet/f65de232-b0bc-4156-9eea-2b8c1862d248

Hands on projet from Sciencebuddies.org projects
Song- https://www.youtube.com/watch?v=6dR3iKaWUoU
https://stemactivitiesforkids.com/the-engineering-design-process/
http://eduspiresteam.weebly.com/uploads/3/5/6/7/3567545/engineeringdesignprocessworksheetsforallstemdesignchallenges.pdf
Password reset - YT - https://www.youtube.com/watch?v=-7almYu17Z0 icps.me/RI 040625LASTNAMEfir
Cardboard car project- https://sites.google.com/dvusd.org/cardboardcar-hillcreststem/grading cARDBOARD WINTER HAT : https://www.youtube.com/watch?v=3sV4PzkETyY
CRD CHAIR-ROLL : https://www.teacherspayteachers.com/Product/Cardboard-Chair-Engineering-STEM-Challenge-Distance-Learning-6044619

Suspension bridge project : https://www.instructables.com/Simple-Suspension-Bridge-Model/ : OR TRUSS BRIDGE CARDBOARD BRIDGE or gEARBOX GAME FROM CARDBOARD GEARS

A) Engineering Design completion for student's system/ideas - Follow listed steps and students work on design sheet as shown below (30 minutes) :

REF: https://www.youtube.com/playlist?list=PLDI1uinbj0U1zRS5d-yRpszQP18i4BXvl
https://www.generationgenius.com/videolessons/engineering-design-process-video-for-kids/



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Use Lined Paper for following questions- Activity sheet

Identify the problem

What is the goal of the challenge?

List the constraints:

Brainstorm

List available materials and how they may be used to solve the problem.

Design

How will you solve the challenge? Sketch your design solution below. Label all parts and materials.

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ENGINEERING DESIGN PROCESS

Build

Time to build your solution! Keep in mind that materials may not work as you predicted. Engineers often have to make several modifications to their original design before they are successful. List any challenges you experience during the building phase.

Test & Evaluate

Test your design and record results below. Circle if the challenge was a success. Remember that failure is an important part of the engineering process! After each trial, review the results and make changes to improve your design.

Trial	Test Results	Ideas for Improvement
1		
2		
3		

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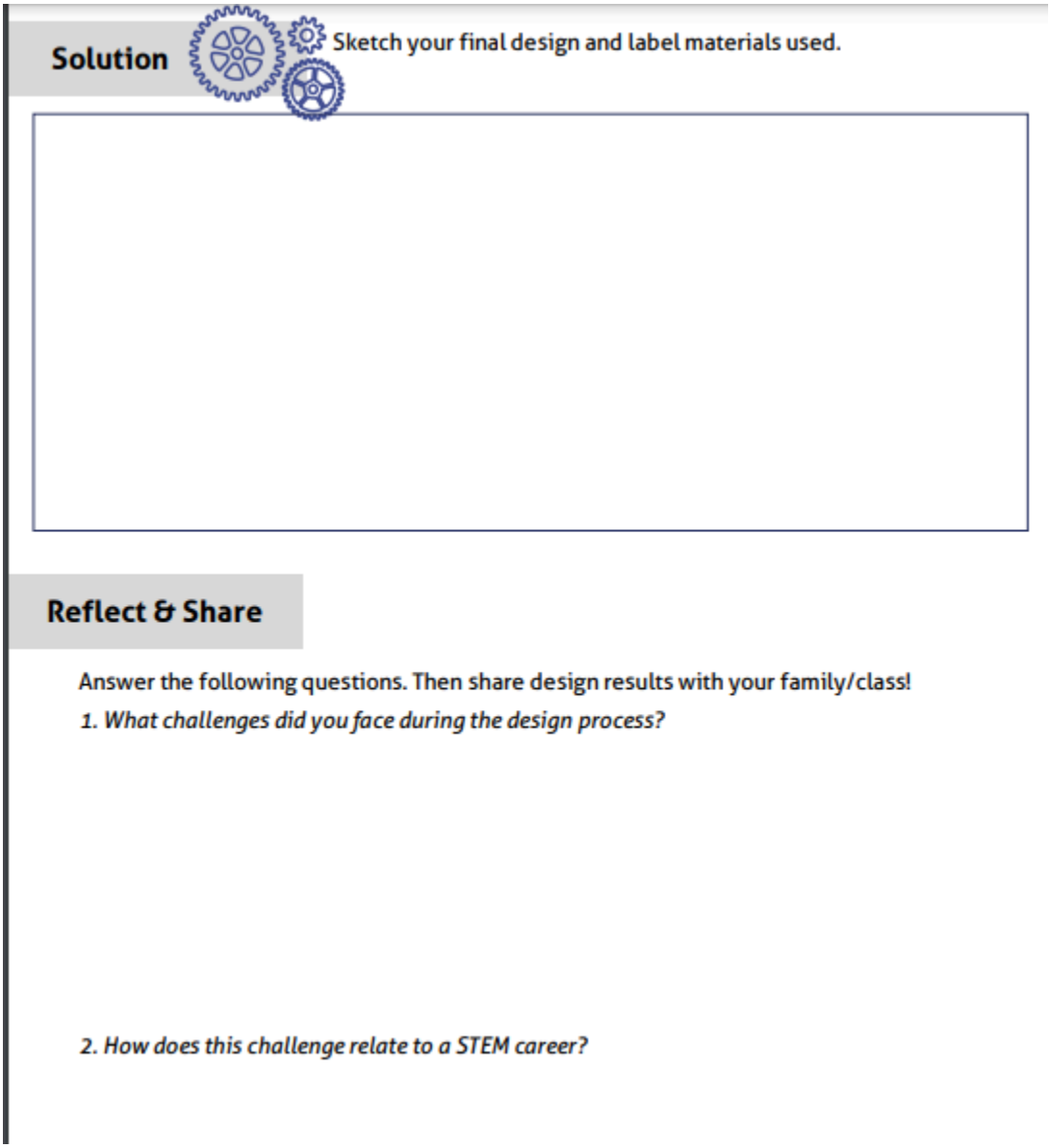

Solution Sketch your final design and label materials used.

Reflect & Share

Answer the following questions. Then share design results with your family/class!

1. What challenges did you face during the design process?

2. How does this challenge relate to a STEM career?

C) Engineering design and forces lesson:

https://www.generationgenius.com/videolessons/balanced-and-unbalanced-forces-video-for-kids/

D) Electricity- circuits Engineering Lesson:

https://www.generationgenius.com/videolessons/electricity-and-circuits-video-for-kids/

:

E) Simple Machines Lesson:

https://www.generationgenius.com/videolessons/simple-machines-video-for-kids/

F) Material Properties Lesson:

https://www.generationgenius.com/videolessons/material-properties-and-purposes-video-for-kids/

NASA Lesson Video - Watch- Summarize and share your views in class:
https://plus.nasa.gov/video/nasa-for-kids-intro-to-engineering/

https://study.com/academy/lesson/video/engineering-lesson-for-kids-definition-facts.html

https://discovere.org/engineering-careers/

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Quick Science project : https://www.sciencebuddies.org/stem-activities/pencil-trebuchet
Search: stem project middle school quick: paper tower, roller coaster, pinball machine, bridge, rube goldbergetc

Chip - https://ig.ft.com/microchips/ **and VID -** https://roadtripnation.com/roadtrip/microelectronics-documentary

TS- https://docs.google.com/document/d/1uyxFYfPMZVF5vkTJtfouOt65BeH1dP5AlTH0zLXCPNE/edit?usp=sharing

MS. COLLINS- https://sites.google.com/jefferson.kyschools.us/128-engineering/home

6 WEEK EXPLORE FRAMEWORK LINK : https://docs.google.com/document/d/1YtMhO63eYiPnzEqu5uhXElNXVuzGe2EBinqec8MWmdc/edit?tab=t.0

CANVA LIFECYCLE PRESENTATION FOR 6TH GRADE- https://www.canva.com/design/play?template=EAFqKubZuqU

Essay- engineergirl.com - https://www.engineergirl.org/154409/2025-Writing-Contest-Rules#prizes

DC crash reconstrution - https://www.youtube.com/watch?v=HLkF-C6NPL0

TINKERCAD :

https://www.reddit.com/r/tinkercad/comments/10ivi62/i_have_a_12_yo_nephew_who_wants_to_learn/

https://www.youtube.com/@AutodeskTinkercad
https://www.youtube.com/@TinkerThisEducation

https://www.tinkercad.com/blog/cardboard-projects-to-make-at-home
https://www.youtube.com/@Teaching3DPrinting

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Class Expectations:

GOAL: WALK - LEVEL 5 - SEAT- ATTENDANCE- READING-WRITING- DRAWING- MAKING

- Level 5 noise level at entry-exit , in class room and hallway walking in single file line
- Use " Three before me" - so ask for help from 3 friends-partners before asking teacher
- Greet everyone - Be respectful to everyone in class and seat quietly on your seat-table , Listen to teacher and keep working on your worksheet to be turned in for points
- Cleanup and sit in your chair until it is time to leave
- Follow school rules and expectations

Conduct Grade : https://docs.google.com/document/d/1dAi1GMxZE75e7gf_ZJ37N4cD9F8ysTYz-z3TOilgme4/edit?tab=t.0

Best student prize Every Friday - A prize and certificate each week for one best behavior student (Who is Quiet, helping, and follow all expectations) gets prize ->> 

No food, No drink, Seat and Bring 4 pencils- in pouch, writing paper notebooks- worksheet

Submission everyday from our class activity on watching,reading,listening, Math- writing, learning, designing, drawings, sharing in class

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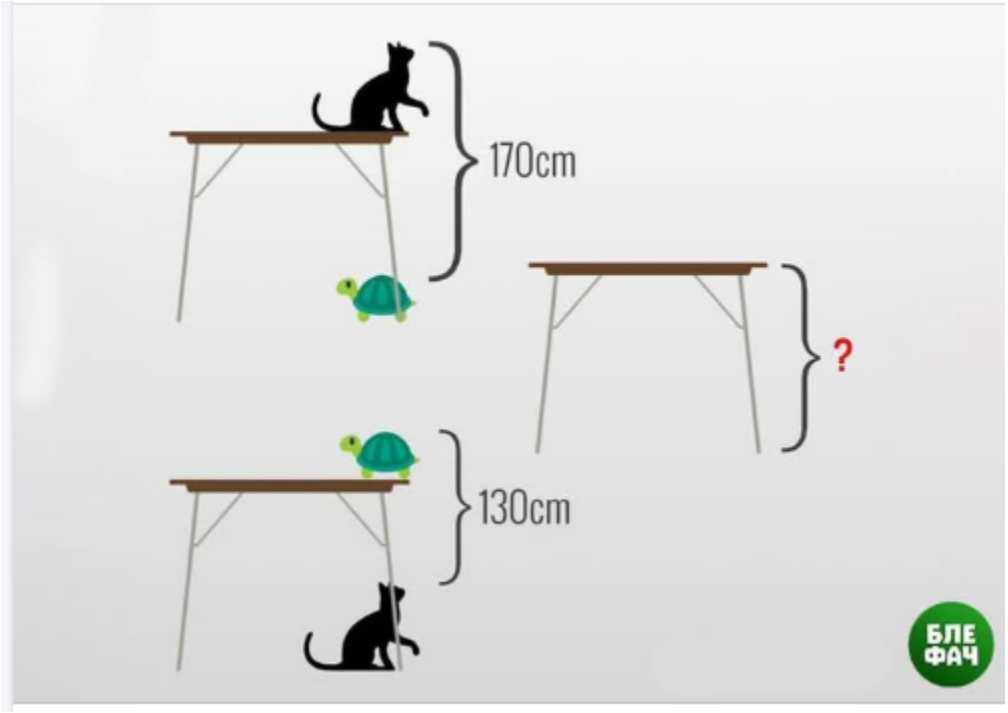
Behavior issues will be reported and shared with Soccer,Football,baseball game coach and with Athletic director to suspend your game program

Engineering design Challenge



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Chemical Dispensing machine construction: By Mr. DuGla

Problem: Engineered Design, development and mini model making of Chemical Lab Dispensing container machine.

Process: Follow development design, drawing and prototype mini model of Chemical container dispenser machine.

Can use TinkerCAD for project drawing work AND
Small scale prototype will be used in 3D printing machine

Size criteria: Should fit in a Normal size shoe box.

Actual Working Machine model- Example REF:
https://www.youtube.com/watch?app=desktop&v=8AVIl_-8kc4

Procedure:

Material:
Use upscale- recycle material like - paper, straw, cardboard, tape, Glue, string , plastic, water bottle etc etc for safe- successful testing

Steps:

1. Document your design - 15 Steps process you plan to follow- see expectatiosn below
2. Document - details about- problem definition, parts, machine and its future use
3. To solve Chemical handling safety problem- Brainstorm, Revise your ideas ,Use LAUNCH Cycle- follow each steps- write design- making 15 steps detail plan- detailed drawings to make mini model

:

4. Develop-make your team prototype model - should not be larger than a shoe box- maximum size

5. Write team members name on your Model for identifying team, practical testing-grade-points and award

Expectations:

1. **Use L-A-U-N-C-H DESIGN steps and DOCUMENT each steps details (5 Pts)**
2. **Develop 15 step detail plan on how to make it (10 Points)**
3. **Develop at least 10 parts drawing for each part (10 points)**
4. **Develop list of materials required-Qty (5 points)**
5. **Develop 2D and 3D final design drawing of your machine (15 Points)**
6. **Develop prototype mini model and test it for 15 successful reparations test (30 Points)**
7. **H step- Highlight problems and fix prototype and come up with final version of working machine model (15 Points)**
8. **Final test by teacher for at least 15 repetitions of dispenser use for dispensing 10 ml liquid in a small cup (10 Points)**

FINAL ONE - BEST MODEL WITH SUCCESSFUL TEST WILL BE AWARDED A CERITIFACATE

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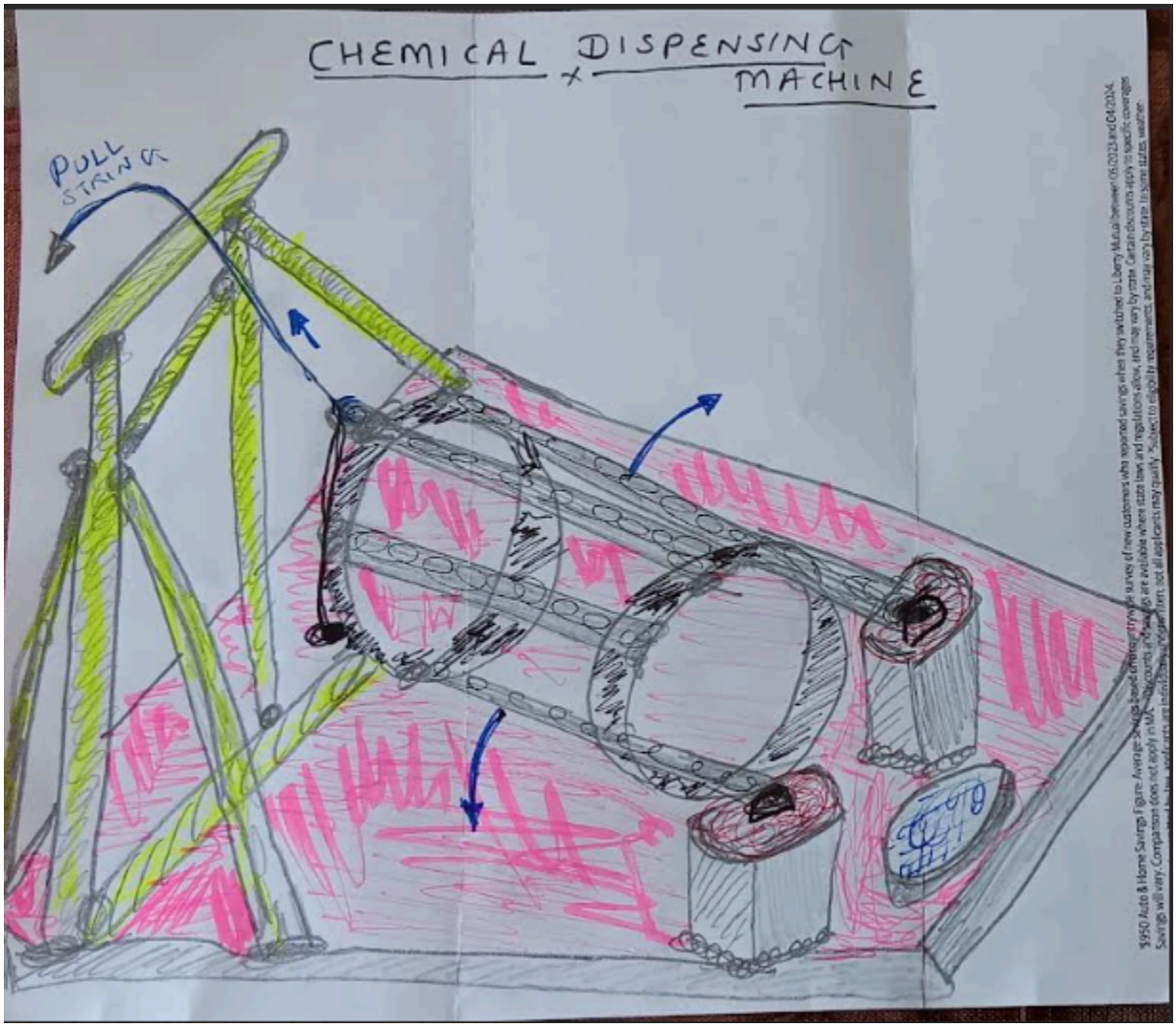
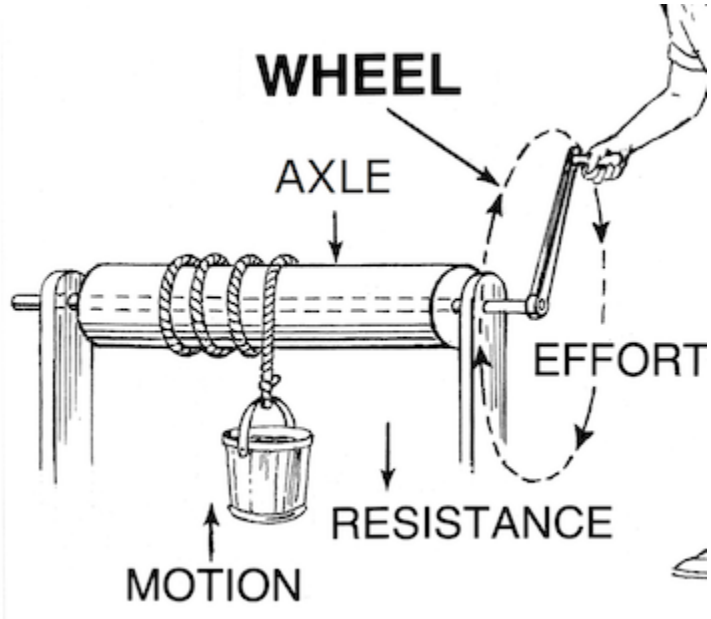


REF: Simple Machine using Wheel- Axle- or Pulley for above setup



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Read this lesson and complete the quiz.
https://study.com/member/classrooms/share.html?classroom=brown-duck-4150&assignment=9808718

****

Simple Machine Definition & Types

Read this lesson and complete the quiz.
https://study.com/member/classrooms/share.html?classroom=brown-duck-4150&assignment=9803198

Day 3- design process for 6th grade

1. Watch the video The Engineering Design Process: A Taco Party as an introduction video to explain the steps of the engineering design process and define key vocabulary words (i.e. constraints, criteria, prototype, iterate).
2. Show KQED's engineering design process graphic (also in Section 3 of the student notebook). Using the Marshmallow Challenge as an example, discuss the different steps that students made in the process.
3. Watch the video Engineering Is Cleaning Poop From Drinking Water.
4. Watch the video again. This time, have students deconstruct the engineering design process shown in the video using a jigsaw activity: assign each student, or group of students, two steps of the engineering design process to focus on. They should look for evidence in the video of the engineering team working through these steps. Students can record the findings in Section 4 of their notebooks.

JCPS EXPLORS

https://sites.google.com/jefferson.kyschools.us/explore-jcps/curriculum/engineering-and-design/engineering-and-design-grades/6th-grade-engineering/engineeringdesign-structures

Framework

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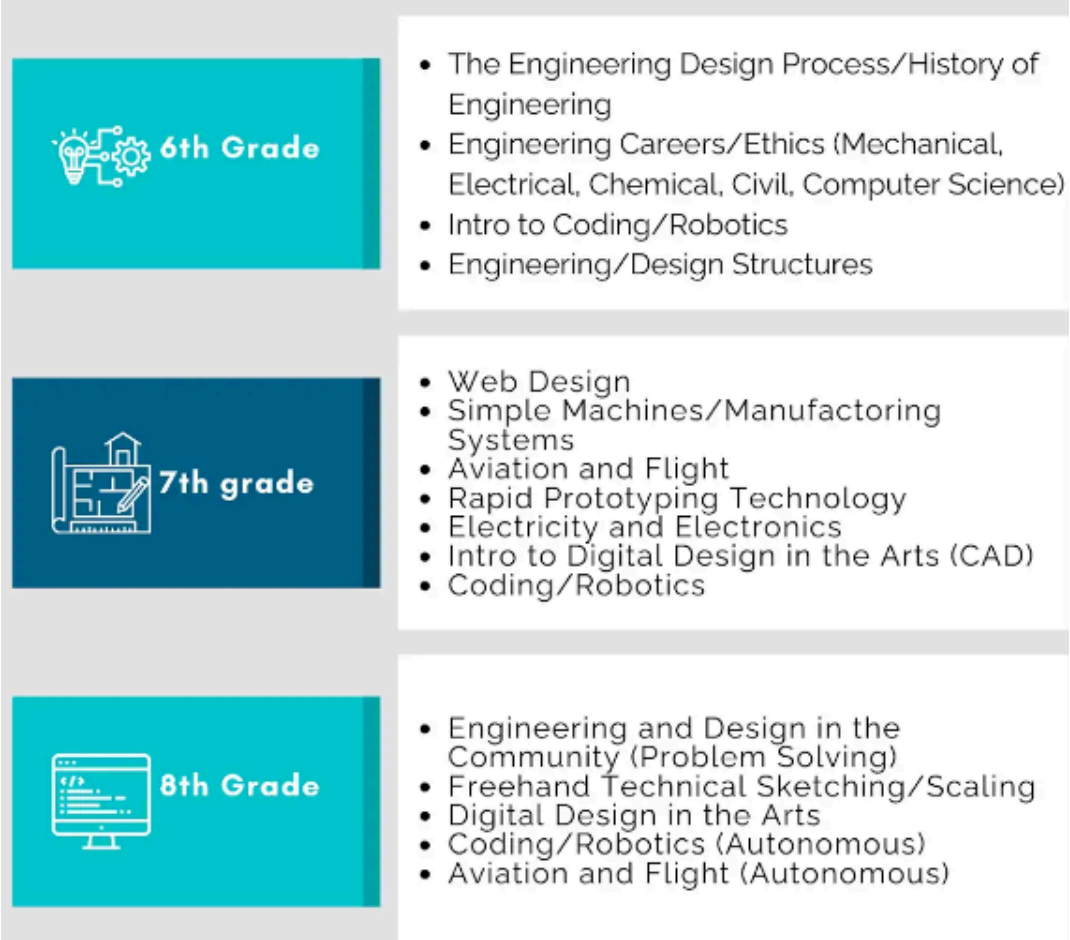

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FARNSLEY Home - https://sites.google.com/jefferson.kyschools.us/farnsley/home

EXPLORE WEB HOME-
https://sites.google.com/jefferson.kyschools.us/explore-jcps/curriculum/engineering-and-design

EPD attendance:
https://docs.google.com/forms/u/0/d/e/1FAIpQLScD-CAMbpqpts6hLoNu7tMhHyTHpVA_22PBhqpy0XCFC-R3gw/formResponse
EPD List:
https://docs.google.com/document/d/1Qq9K9FXQ20ZUBRY8KTnREwGWmCHJrpNGiEoFh65Lr6w/edit?tab=t.0

Dekeuster Exit sheet dismissal for car: https://bit.ly/46KsLKg

Explore FMS page-calendar Ms. DK:

:

1. Folder of Syllabus : https://drive.google.com/drive/folders/1OKAVc1Bot-YG7UiAXEjpmRANY-yWp1yb?usp=drive_link

2 .Living Calendar (Explore)

Leonard- Floor 8 locker folders - https://drive.google.com/drive/folders/17lDzSbKrFzHbwDF30P1yeRg2AMZmrC2Z?usp=sharing_eip&ts=6890efaa

Detention OOPS SPREADSHEET Miller https://docs.google.com/spreadsheets/d/109sOAySG3nlYx-zHQn-zc69upRXcGNYRrZZXfkhkdnw/edit?gid=404614881#gid=404614881

Primary top schedule: https://docs.google.com/spreadsheets/d/1qahLMHeZhB2iJ25SHABJmbz24n1yPDdRfISIT94HAJ8/edit?gid=519845270#gid=519845270

Hallway schedule links- https://docs.google.com/spreadsheets/d/1scJCvRuQDmi-tt1D0MtxvZMK-nLKkrRnS0oPnbeo56Q/edit?gid=1979474807#gid=1979474807

Explore shawney EIO links DK: https://docs.google.com/spreadsheets/d/1y79mUDZTVAZJ0ntGpvvxuzdmJ1MgF9wWQ082wnlFdDk/edit?gid=1168464570#gid=1168464570

KSA related Links:

Sheet- xcel schedule: https://docs.google.com/spreadsheets/d/1uslt9HXBlBh3KlLtFM1qNx8SxOr7GuN-DNOw0d6HtcY/edit?gid=0#gid=0

PPT slides- https://docs.google.com/presentation/d/1LhkYxz3MfOWONTF96bp1sYNjZgrX1gLl9XVOts8zP94/edit#slide=id.gd5408c3169_0_32

Denzel message Video- https://youtube.com/watch?v=KtlMPSTRyDg&si=wKtjET_YHvbhMTCu

:

FLIGHT [2012] Scene: "I am Free"/Whip's Speech. - YouTube

After finally confessing to his lies, Whip Denzel Washington) speaks to his fellow nmates about overcoming the hurt and ıddiction.'Flight'; A film by Rober...

outube.com

https://engineering.louisville.edu/experiencespeedschool/outreachprograms/
Summer program links UofL Speed engineering,

ENGINEERING FIELD AND LAB TESTING VIDEOS AND SUMMARY-BUILDING TEST

LAB CHEM

https://www.youtube.com/results?search_query=lab+accident

NDT

https://www.youtube.com/watch?v=cIlmgeuW7Gs
https://www.youtube.com/watch?v=UM6XKvXWVFA

CIVIL LAB test

https://www.youtube.com/watch?v=4crpvxfSOvE

Electrical lab safety:

https://www.youtube.com/watch?v=WtymNvcBdlU
https://www.youtube.com/watch?app=desktop&v=62larc0XLzk
https://www.youtube.com/watch?v=XHvEIWAasX0

:

Please answer following questions - (at least 5 lines)

1. Can you provide a checklist to follow before starting your electrical lab work?
2. Compare the safety measures taken in an electrical lab to those in a chemistry lab.
3. Summarize the steps one should take if there is an electrical fire in the lab.
4. Classify the following items as safe or unsafe to use in an electrical lab: metal tools, rubber gloves, water, and plastic containers.
5. Estimate the distance you should maintain from exposed electrical wires in home.

1) **TESTING- EVALUATION AND INSPECTION ENGINEERING VIDEOS AND SUMMARY**

MIDDLE SCHOOL STANDARD
https://www.education.ky.gov/CTE/cter/Documents/MS_Engineering_Standards.pdf

Incompatible chemical USCSB - Dupont etc
https://www.youtube.com/watch?v=8j8EprZP4IE
https://www.youtube.com/watch?v=d5N8hxhJD7E

General Lab Safety Rules and Procedures

:

LT resources: Include Reading- writing- math- video- summary-group discussion-class speaking

OB1 Describe general lab/shop safety rules and procedures
https://app.diffit.me/packet/1e8f0d9c-cb06-42e3-9c4d-474eeacef8d3

Videos:
https://www.youtube.com/watch?v=N0QqLVUDkvA&list=PLp8ZmYD6CNgzih0vjf9ov0RIsF09h_5JW

OB2 Comply with the required use of personal protection equipment (PPE) (e.g., safety
glasses, ear protection, gloves, shoes) during lab/shop activities
OB3 Identify and wear appropriate clothing for lab/shop activities
OB4 Secure hair and jewelry for lab/shop activities
OB5 Perform housekeeping duties
OB6 Follow verbal and written instructions to complete work assignments
OB7 Demonstrate ergonomically safe use of lab equipment, furniture and materials
OB8 Identify the location of the posted evacuation routes

OB1 Describe general lab/shop safety rules and procedures

:

Science, engineering, technology and field test labs and workshops can be exciting places to learn, but it's important to follow safety rules to keep everyone safe. Here are some important rules to remember:

Always listen to your teacher and follow their instructions carefully. If you don't understand something, ask for help before you start working. Never do an experiment without your teacher's permission.

Safety goggles are a must in the lab. They protect your eyes from chemicals and flying objects. Wear them whenever you're working with chemicals, heat, or sharp objects.

Keep your workspace clean and organized. Put away any extra items like books or bags. Make sure the floor is clear so no one trips.

Long hair should be tied back to avoid catching fire or getting tangled in equipment. Wear closed-toe shoes for safety. Loose clothing should be secured so it doesn't get caught in flames or chemicals.

Never eat, drink, or chew gum in the lab. Chemicals can be dangerous if they get into your mouth.

Don't touch, taste, or smell chemicals unless your teacher tells you to. Some chemicals can be poisonous or cause skin irritation.

If you see a spill or an accident, tell your teacher right away. Don't try to clean it up yourself.

:

Be careful when working with heat. Hot glassware can cause burns. Let it cool down before touching it. Use tongs or heat-resistant gloves to handle hot objects.

Always know where the safety equipment is located. This includes the fire extinguisher, eye wash station, first aid kit, and safety shower.

Be aware of your surroundings and what others are doing. Don't bump into someone while they're working with tools or chemicals.

If you're working with machines, always wear safety glasses. Even if you're not using a machine, you could be injured by flying debris.

Never use compressed air to clean machines. It can blow dirt into your eyes or damage the machine.

If you're unsure about anything, ask your teacher for help. It's better to be safe than sorry.

By following these safety rules, you can have a fun and safe learning experience in the lab. Remember, safety is everyone's responsibility.

1) **Summarize above reading in a paragraph- at least 10 lines/10 key points- for today's submission**

2) **Summarize lab safety Video**

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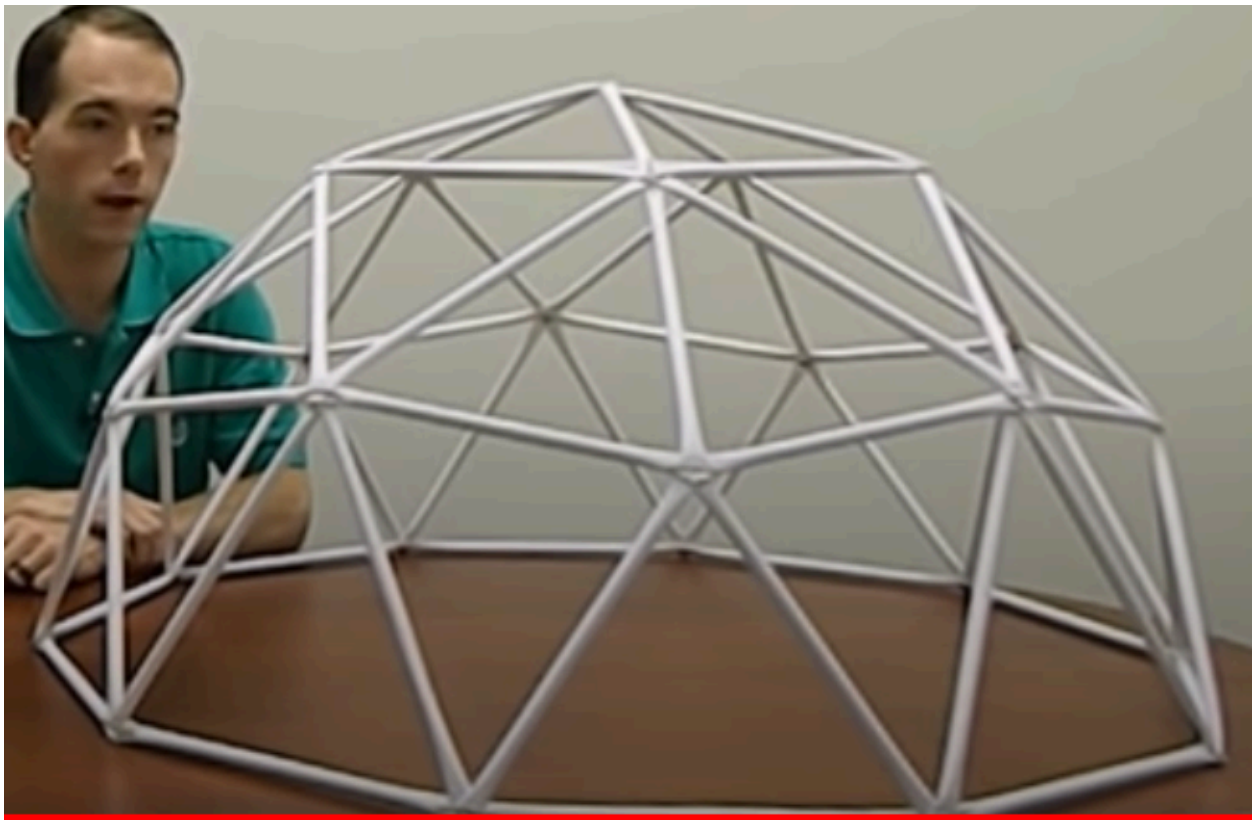
3) **Write 10 key points and a provide a drawing about how would you make your Geodesic dome safely from metals e.g. Steel or Aluminum or wood or PLASTIC PVC- in your experimental lab**



INSTRUCTIONS: REF

1)Keep continue on making your Paper straw Geodesic dome and complete Geodesic dome for weight test - 25 lb test

:

Instructional REF Video- ZZ:

https://www.youtube.com/watch?app=desktop&v=Ym1388CcwuQ

Additional ref ZZ- http://hilaroad.com/camp/projects/dome/dome.html

2) Write summary of paper straw Geodesic dome making - pros and cons

3) Write summary of what worked and what did not worked in Dome making process - 1 page Learning summary

4) Make Drawing of your Dome - parts and assembly drawing and submit

Additional Activity:

:

5) Show Hurricane proof house - Engineered structure Youtube Videos and summarize your learning from this video in 3 paragraph = 1 page

Links:

https://www.youtube.com/results?search_query=hurricane-proof+house+design

https://www.youtube.com/watch?v=xQ8TzzdGuCw

Related Engineering -Design structure Videos for Student's group discussion and Student's summarizing of engineering design concepts:

Hurricane Resistant PREFAB HOMES are now Available on the East Coast!
YouTube video • 9 minutes

Anatomy of Hurricane Resistant Home
YouTube video • 2 minutes

:

Hurricane Proof Modular Homes | Prefab Homes
YouTube video • 9 minutes

Dome Homes - Earthquake and Hurricane Proof - Energy Efficient
YouTube video • 0 minutes

NBC2 explores a hurricane-proof 'Earth Home' in Lee County
YouTube video • 3 minutes

This hurricane-proof home can withstand powerful storms
YouTube video • 4 minutes

This beach house is designed to survive a hurricane
YouTube video • 2 minutes

:

Studying What Hurricanes Do To Buildings
YouTube video • 2 minutes

Inside a Hurricane proof home! Monolithic Dome Home | Pensacola Beach Iconic FORTRESS house Fl
YouTube video • 3 minutes

Middle School Test Out Their Hurricane Proof Structures
YouTube video • 1 minute

Engineers work to make hurricane-proof structures in South Carolina
YouTube video • 2 minutes
Class comments

6th STEM ENGG- https://libguides.nova.edu/virtual-stem/engineering

:

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Mr. D INTRO SLIDES RULES-PROCEDURES
https://docs.google.com/presentation/d/1vvwgugKxWITbWx4Oi3xT8kCF-DZaCJbnmt_VSZN8Iv4/edit?usp=sharing

128-https://sites.google.com/jefferson.kyschools.us/128-engineering/home

049- Farnsley Class postings - https://classroom.google.com/c/NzAxNjgxODI4ODA1

ALL REQUESTED TO BE QUIET AND LEVEL 5 AT WHISTLE - PLEASE KEEP WORKING ON YOUR WORKSHEET PAGE QUESTIONS FOR GRADING POINTS

various Links: ***https://www.nsf.gov/news/classroom/engineering.jsp***

FIU: Curriculum - https://abc-utc.fiu.edu/education/engineering-first/

:

https://www.teachengineering.org/
https://www.teachengineering.org/curriculum/browse?collection=Lessons

https://www.instructables.com/search/?q=paper&projects=all

https://www.engineeringforkids.com/

Plus You tube videos - https://yes.mos.org/curricula/eie-curricula/engineering-is-elementary-2nd-edition/

https://kidsparkeducation.org/curriculum

https://tryengineering.org/teachers/lesson-plans/?pg=3

LEARNING GOAL: READING, WRITING, MATH, GROUP DISCUSSION, GROUP SHARING AND TH QUIZ

1. LEARN ABOUT PROJECT ENGINEERING IN SPECIFIC PROJECT

VIDEO: https://www.youtube.com/watch?v=ldvavPFi5Ic&list=PLavcK0lCLy_K3Hpi4F-ygFmArnz4h16W7&index=6

2. LEARN ABOUT PROJECT ENGINEER

:

3. LEARN ABOUT HOW PROJECT ENGINEER WORK WITH OTHER ENGINEERING

Video:

https://www.youtube.com/watch?v=qld7InnbTKY

https://www.youtube.com/watch?v=7szU9nFNYoc

4. DEVELOP YOUR 10 STEPS PROJECT ENGINEERING PLAN FOR MAKING GEODESIC DOME

5. DEVELOP PROJECT DESIGN FOR GEODESIC DOME MAKING USING LAUNCH PROCESS AND DEVELOP DESIGN STEPS AS WELL AS DEVELOP YOUR GEODESIC DOME DRAWINGS AND DESIGN :

QN: IF YOUR GEODESIC DOME NEEDS FLOOR SPACE OF 12 FEET WIDTH X 20 FEET

:

LENGTH -PLEASE CALCULATE FLOOR AREA NEEDED IN SQUARE FEET:_____ SQ FT

ENGINEERING DESIGN:
https://www.youtube.com/watch?v=KpWrHVo972g

6. TURN IN YOUR WORK AT THE END OF THIS CLASS

7. HAVE EXIT QUESTIONS ON YOUR WORK SHEET SO WE CAN DISCUSS THOSE TOMORROW

- **On the exit slip students to:**
  1. **Write down 3 things you learned during today's lesson. This could be anything from vocabulary words to equations or new-to-them information.**
  2. **Write down 2 questions you have about today's material.**
  3. **Write down 1 thing you need more help with from today's lesson.**

:

GEODESIC DOME FIELD TEST - ENGINEERING ANALYSIS AND PERFORMANCE FOR DESIGN IMPROVEMENT- TEST AND INSPECTION ENGINEERING

1. https://www.youtube.com/watch?v=n_sup80bACg

WRITE 6 LINE SUMMARY PARAGRAPH ABOUT LEARNING FROM THIS VIDEO : HOW WOULD YOU USE THIS FOR YOUR DOME TEST

2. https://www.youtube.com/watch?v=TqxarO-5igc

DESTRUCTIVE TESTING

https://www.youtube.com/watch?v=aoKwdShk8bg
https://www.youtube.com/watch?v=tlE3eK0g6vU

https://www.youtube.com/watch?v=TJMvQinRE2U

3. **INSPECT-** https://www.youtube.com/watch?v=_lhFHDZC0oA

https://www.youtube.com/watch?v=VlsWpsFGhlE

Design: https://www.youtube.com/watch?v=_G4lhyLcK3M

Earthquake house- https://edpuzzle.com/media/609e9a91607613415a8958c8

WORKSHEET - WRITE ANSWERS TO 4 QUESTIONS (DETAILED ANSWER EACH 6 LINES) AND TURN IT IN AFTER CLASS

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FULL NAME:_____-_____GRADE:_____DATE:_1O/8/24_ PERIOD__

QUESTION 1:

ANSWER 1: AT LEAST 6 LINES

QUESTION 2:

ANSWER 2: AT LEAST 6 LINES

QUESTION 3:

ANSWER 3: AT LEAST 6 LINES

QUESTION 4:
ANSWER 4: AT LEAST 6 LINES

B) WRITE DOWN YOUR 3- EXIT QUESTIONS YOU HAVE …..
1
2
3

C) GRADE 8- DRAW FULL DESIGN- DRAWING VIEWS OF TOOTHPICK GEODESIC DOME WITH APPROXIMATE DIMENSIONS AND SUBMIT TO TEACHER

LESSON PLAN DETAILS- GEODESIC DOME TESTING
https://app.diffit.me/packet/e39c0fbd-a5b7-4dd8-9e47-6db9b6b7d2f3

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Geodesic domes are strong and efficient structures that are often used for buildings because they can cover a large area without needing extra supports. They are made up of triangles that are connected together to form a dome shape. The triangles are strong and can hold a lot of weight.

One way to test the strength of a geodesic dome is to put weight on it and see how much it can hold before it collapses. This is called a load test. A load test can help engineers understand how much weight a dome can hold and where it might break.

To test a geodesic dome, engineers might use boxes of paper as weights. They would start by putting a

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small amount of weight on the dome and then gradually add more weight until the dome collapses. This helps them see how much weight the dome can hold before it breaks.

Engineers can also use computer programs to simulate a load test. These programs can show how much weight a dome can hold and where it might break. This is a good way to test a dome without actually building it.

By testing geodesic domes, engineers can make sure that they are strong enough to hold the weight of a building and the people who will be inside. They can also use this information to design stronger and more efficient domes.

EXPECTATIONS: Make sure you turn in your completed paper with your LAST NAME AND FIRST NAME___ , your Grade: 7th?, Today's date____.
On the back continue your persuasive writing about all steps, list or any descriptive ideas you developed.

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Answer the steps-questions--then write on lined paper using complete sentences, correct grammar, spelling, punctuation, and capitalization.

Please write legibly.If it can't be read, there isn't any purpose in writing it.Will not be reviewed or graded (0)

Engineering Technology and Research Daily News:

READ, READ, UNDERSTAND, SHARE-EXPLAIN-WRITE IDEAS

https://scitechdaily.com/news/technology/
https://www.sciencedaily.com/news/matter_energy/technology/
https://theconversation.com/us/topics/technology-3440
https://techxplore.com/

LAUNCH DESIGN PROCESS AND STEPS

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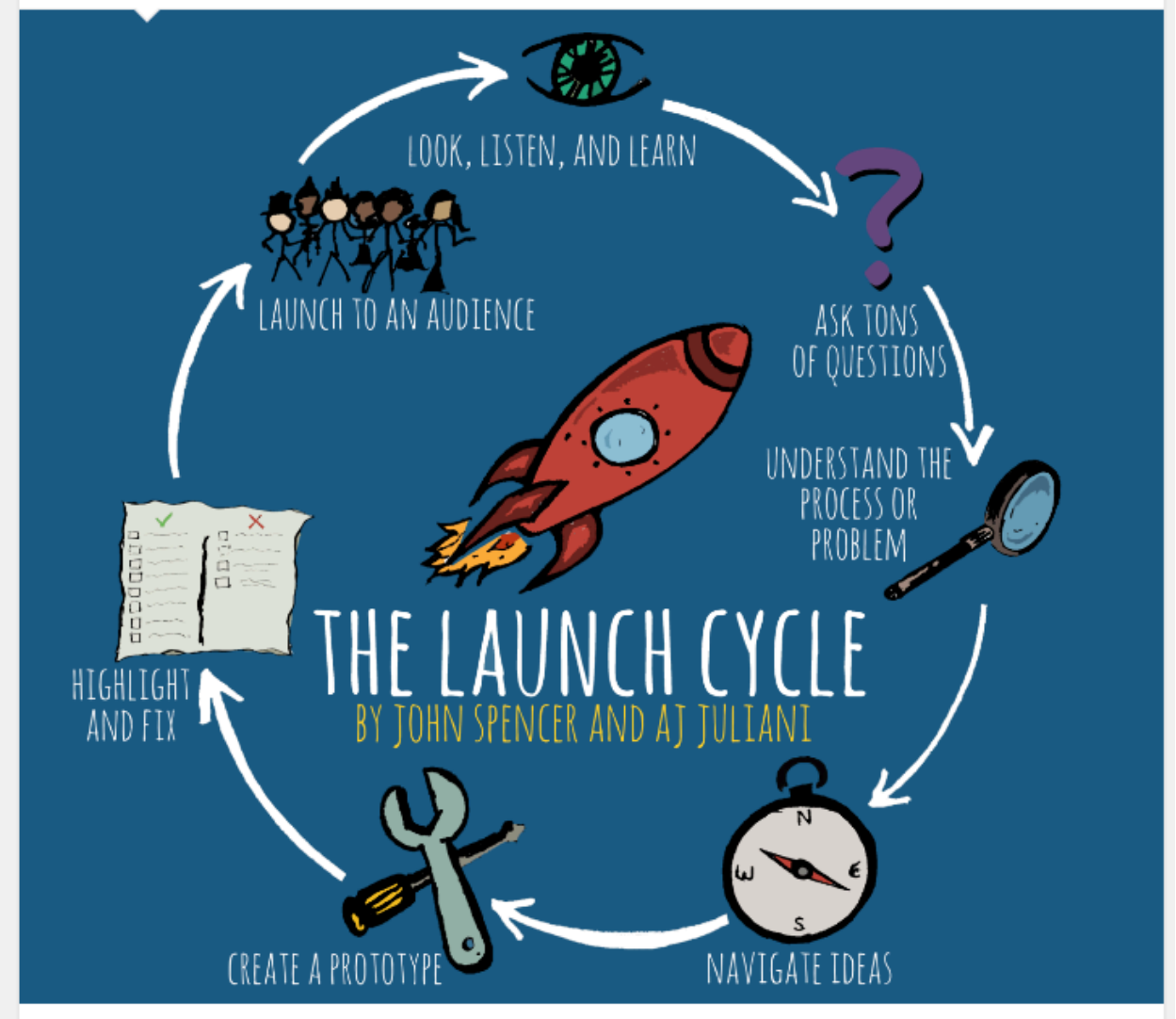

ENGINEERING DESIGN PROCESS- STEPS AIPCITS - MANUFACTURING

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CONSTRUCTION ENGINEERING AND CAREER IN CONSTRUCTION :

A Day in the Life of a Construction Engineer

What is a Construction Engineer?

A construction engineer is someone who plans, designs, and oversees the building of structures like houses, bridges, skyscrapers, and machines . They use their knowledge of math, science, and engineering to make sure that buildings are safe, strong, and meet the needs of the people who will use them.

A Typical Day

1. **Planning and Design:** Construction engineers often start their day by reviewing blueprints and plans for a project. They work with architects and other professionals to make sure that the design is both practical and safe.
2. **Site Visits:** Many construction engineers spend time visiting construction sites to monitor progress and solve any problems that may arise. They make sure that the work is being done according to the plans and that safety regulations are being followed.
3. **Calculations and Analysis:** Construction engineers use math and science to calculate things like the weight of a building, the strength of materials, and the impact of weather conditions. This information helps them to design structures that can withstand the test of time.
4. **Problem-Solving:** Construction projects can be full of challenges. Construction engineers must be able to think critically and creatively to find solutions to problems.
5. **Collaboration:** Construction engineers often work with a team of people, including architects, contractors, and other engineers. They need to be able to communicate effectively and work together to achieve a common goal.

Why Become a Construction Engineer?

- **Creativity:** Construction engineers get to use their imagination to design and build amazing structures.

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- **Problem-Solving:** This job is full of challenges that require creative thinking and problem-solving skills.
- **Impact:** Construction engineers have the opportunity to make a real difference in the world by building structures that people use every day.
- **Variety:** No two days are the same for a construction engineer. There is always something new to learn and do.

Is Construction Engineering Right for You?

If you enjoy math, science, and problem-solving, and you're interested in building things, then construction engineering might be a great career for you.

Q: VIDEO OF CONSTRUCTION ENGINEER'S LIFE

Geodesic Domes: A Strong and Beautiful Structure from construction engineers

What is a geodesic dome?

A geodesic dome is a type of structure that is shaped like a half-sphere. It's made up of many triangles that are connected together to form a strong and stable framework. The word "geodesic" means "dividing the earth into parts," and this is a good way to think about a geodesic dome. It's like dividing a sphere into many small triangles.

Why are geodesic domes so strong?

Geodesic domes are very strong because of the way they are built. The triangles that make up the dome are connected together in a way that distributes the weight of the dome evenly. This means that the dome can withstand strong winds, earthquakes, and other natural disasters.

What are some examples of geodesic domes?

There are many examples of geodesic domes around the world. Some famous ones include:

- **The Montreal Biosphere:** This is a large geodesic dome that was built for the 1967 World's Fair in Montreal, Canada. It is now a museum dedicated to the environment.
- **The Eden Project:** This is a large-scale geodesic dome complex in Cornwall, England. It houses a rainforest biome and a Mediterranean biome.
- **The US Pavilion at the 1964 New York World's Fair:** This was a large geodesic dome that was used to showcase American technology and culture.

How can you build your own geodesic dome?

If you're interested in building your own geodesic dome, there are many resources available online and in libraries. You'll need to gather materials, such as PVC pipe, connectors, and a plan for the size and shape of your dome. Once you have your materials, you can follow a set of instructions to assemble your dome.

Conclusion

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Geodesic domes are amazing structures that are both strong and beautiful. They are a great example of how engineering and design can be used to create innovative and sustainable buildings.

COMPLETE THIS QUIZ ON CONSTRUCTION ENGINEER:

COMPLETE THIS PROJECT ON GEODESIC DOME PILOT- PROTOTYPE ON SMALL SCALE:

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PICK ANY ITEM YOU USE DAILY OR SPORTS GEAR -
FOLLOW ***LAUNCH AND APICITS DESIGN STEPS*** FOR IMPROVEMENTS AND FINALLY,

1) DEVELOP IMPROVEMENT IDEAS AND SKETCHES OF IMPROVEMENT
2) DEVELOP CURRENT AND IMPROVED DESIGN - 2D 2 DIMENSIONAL DRAWINGS - ORTHOGRAPHIC VIEWS WITH DIMENSIONS - MEASUREMENTS IN INCHES AND SHOW YOUR SCALE e.g. ***1 INCH= 4 BOXES ON GRAPH PAPER*** = XX INCHES

Six principal views of orthographic views -projection are:

- **Top**
- **Bottom**
- **Front**
- **Rear**
- **Left side**
- **Right side:**

VIEWS REF: https://www.shutterstock.com/search/orthographic-drawing

3) DEVELOP ISOMETRIC VIEW (3D) 3 DIMENSIONAL DRAWING
4) PROVIDE MEASUREMENT DIMENSIONS FOR EACH SIDES IN INCHES
5) DEVELOP MATERIAL SELECTION LIST
6) DEVELOP PART LIST FOR ITEM WITH QUANTITY
7) DEVELOP HOW TO MANUFACTURE- METHOD STEPS AND LIST
8) DEVELOP ASSEMBLY LINE DRAWING
9) DEVELOP MANPOWER RESOURCE NEEDS FOR ASSEMBLY LINE
10) DEVELOP MACHINE RESOURCE FOR ASSEMBLY LINE
11) DEVELOP WORK STATION MEASUREMENTS STATION LAYOUT- QUALITY CHECK
12) DEVELOP PACKAGING AND SHIPPING BOX DESIGN AND IDEAS
13) LIST AND EXPLAIN WHAT ARE YOUR DESIGN IMPROVEMENTS
14) WHAT KIND OF ENGINEERS AND ENGINEERING IS INVOLVED IN EACH STEPS
15) DEVELOP COST ESTIMATES AS PER YOUR ASSUMPTIONS
16) TURN IN YOUR COMPLETED PAPER WITH YOUR NAME__, DATE____, GRADE___

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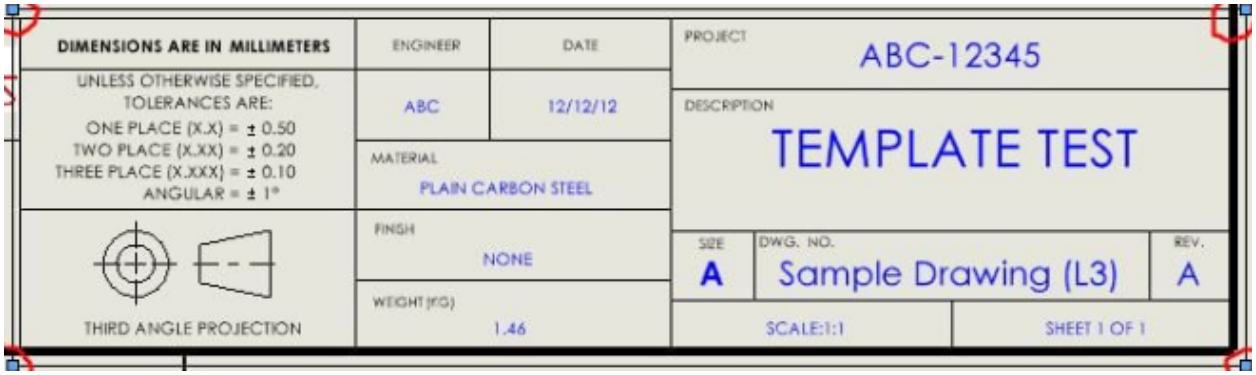
DEVELOP TITLE BLOCK FOR YOUR DRAWING ONE EXAMPLE IS AS BELOW



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QUICK 1/2 HR EXERCISE: CURRENT TODAY'S GLOBAL PROBLEM AND ITS SOLUTION THROUGH ENGINEERING ANALYSIS AND IMPROVEMENT EXERCISE:

UNDERSTAND PROBLEM- FOLLOW LAUNCH- APICITS DESIGN STEPS

1) ***WHAT ARE THE CURRENT PROBLEMS AND ISSUES HERE -PLEASE WRITE DOWN***
2) ***HOW CAN YOUR DESIGN WILL ELIMINATE PROBLEMS AND IMPROVE IT - BE CREATIVE***
3) ***LIST AND DESCRIBE YOUR IMPROVEMENT SOLUTIONS***
4) ***DRAW YOUR IMPROVEMENT SOLUTIONS AND EXPLAIN MORE ON DRAWING***
5) ***WHAT THESE COMPANIES SHOULD DO IN FUTURE TO HAVE THE BEST IMPROVEMENT IDEAS***
6) ***HOW IMPROVEMENTS CAN BE USED FOR OTHER THINGS IN FUTURE?***
7) ***WHAT ARE OTHER IMPACTS? COST? ENVIRONMENT? HEALTH? SAFETY?***
8) ***DISCUSS, WRITE AND HAVE ONE PERSON SHARE FROM EACH TABLE-TEAM***

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ZA : https://bit.ly/3TstV5s

Ortho Drawing process : https://www.youtube.com/watch?v=m9n3f2peZJc
https://www.youtube.com/watch?v=iVy0qGqmKFU
https://www.youtube.com/watch?v=7hkXwC10vFg
https://www.youtube.com/watch?v=5eoC-lDdFes

TinkerCad to 3D proto- https://www.youtube.com/watch?v=zIwrW4kcHTU&list=WL&index=149&t=165

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3rd angle https://www.youtube.com/watch?v=P4BFzWvp8j0

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Air Plane house- https://www.youtube.com/watch?v=RYnuZzf7-_I
https://www.youtube.com/watch?v=zCX5TINO5Nc&t=170s

Solar Infinite power- https://www.youtube.com/watch?v=h0it7F9VBWg

INDIA- Landing on south Pole Completed Chandrayan-3 : https://www.youtube.com/watch?v=Y5BZO_Ow7Mo

ORCAM for Blind- https://www.youtube.com/watch?v=Hm053azsMtg

RAYBAN Meta Glasses- https://www.youtube.com/watch?v=kigJ3DKCwK8
https://www.youtube.com/watch?v=pgiWqkvIclk

Future Chandrayan 4- https://www.youtube.com/watch?v=KCIs8zK-2fU

OceanGate Titan Sub: https://www.youtube.com/watch?v=kxud6ZQKmMw
https://www.youtube.com/watch?v=yNqp2_70hwg

StormRoom: https://www.youtube.com/@ZakDuGla
AERO CONESTOGA: https://www.aeroindustries.com/tarp-systems/aero-conestoga/
https://www.youtube.com/watch?v=dH7L-lgNacc&list=PLC7F2650659F5C975
https://www.youtube.com/watch?v=7cZpTMKplks
https://www.youtube.com/watch?v=WcQPheXf4nA

Gujarat Gas: https://sundayguardianlive.com/news/7916-gujarat-gas-limited-lighting-million-lives
https://www.facebook.com/meilteam.in/videos/577084699823534/

Sinai Dessert turn in to Green by Dutch- https://www.youtube.com/watch?v=RQPbM3488cQ
2 HR video- https://www.youtube.com/watch?v=qtdIz7jW42U
CNN article- https://www.cnn.com/2024/09/08/climate/regreen-desert-sinai-egypt/index.html

https://www.teacherspayteachers.com/browse/free?search=engineering%20design

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Ask RAP song- https://www.youtube.com/watch?v=6dR3iKaWUoU
NASA - https://www.youtube.com/watch?v=IbbxjA5e2hw
https://www.youtube.com/watch?v=fuwGvZ-eOrc
For Teacher - https://www.youtube.com/watch?v=ES1al1nFtGw

:

LAUNCH CYCLE LESSONS:

https://www.youtube.com/watch?v=LhQWrHQwYTk

https://spencerauthor.com/the-launch-cycle/

https://www.youtube.com/playlist?list=PLLgqb_fZQYK3YhiNiMmTNHRA6uCFgAIW4

Summer of STEM Ms. Collins: https://discovere.org/engineering-activities/summer-of-stem-2024/

JCPS ENGG: https://sites.google.com/jefferson.kyschools.us/128-engineering

Make Things from Cardboard MS- https://www.messylittlemonster.com/2020/07/cardboard-box-crafts.html
https://leftbraincraftbrain.com/cardboard-crafts-and-cardboard-projects-for-kids/

L: Look, Listen, and Learn

In the first phase, students look, listen, and learn.The goal here is awareness. It might be a sense of wonder at a process or an awareness of a problem or a sense of empathy toward an audience.

A: Ask Tons of Questions

Sparked by curiosity, students move to the second phase, where they ask tons of questions.

U: Understanding the Process or Problem

This leads to understanding the process or problem through an authentic research experience. They might conduct interviews or needs assessments, research articles, watch videos, or analyze data.

N: Navigate Ideas

Students apply that newly acquired knowledge to potential solutions. In this phase, they navigate ideas. Here they not only brainstorm, but they also analyze ideas, combine ideas, and generate a concept for what they will create.

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C: Create a Prototype

In this next phase, they create a prototype. It might be a digital work or a tangible product, a work of art or something they engineer. It might even be an action or an event or a system.

H: Highlight and Fix

Next, they begin to highlight what's working and fix what's failing. The goal here is to view this revision process as an experiment full of iterations, where every mistake takes them closer to success.

Launch to an Audience

Then, when it's done, it's ready to launch. In the launch phase, they send it to an authentic audience. They share their work with the world!

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ItEEa course- Manufacturing engineering by Mark Harrell director/Roger taylor

https://www.iteea.org/events/ky-manu-eng

REF: https://www.iteea.org/events/ky-eng

Dive into the world of manufacturing with our comprehensive workshop designed for high school teachers. This course focuses on key areas such as manufacturing processes, CAD, fabrication, advanced robotics, and automation, providing you with the tools and knowledge to bring these concepts to your classroom. This BRAND-NEW Kentucky course is meant for high school juniors. This training is part of the Kentucky Department of Education's Office of Career and Technical Education's initiative, in partnership with AdvanceKentucky, to support STEM education.

What You'll Learn:

- Manufacturing Processes: Understand the fundamentals of manufacturing and how various processes are applied in industry.
- CAD (Computer-Aided Design): Gain proficiency in CAD software to design and model engineering projects.
- Fabrication Techniques: Explore different fabrication methods and how to implement them in a classroom setting.

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- Advanced Robotics: Learn about the latest advancements in robotics and how to integrate them into your curriculum.
- Automation: Discover the principles of automation and how to teach students about automated systems

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[Verse 1]
Sketching lines, technical design
Orthographic views, everything's aligned
Multiple perspectives, I'm breaking through
Isometric angles, that's how we do

[Chorus]
Engineering drawing (Yeah, yeah)
CAD model, no delaying (No delaying)
Prototype testing, we're displaying (We're displaying)
Manufacturing, that's my daily (That's my daily)

[Verse 2]
Got my technical drawing skills so tight
Drafting lines with precision, everything's right
Mechanical views from every single side
CAM manufacturing, taking technical pride

[Bridge]
From 2D to 3D, watch me transform
Technical drawings breaking every norm
Measuring, designing with mathematical form
Engineering vision, beyond the standard norm

[Chorus]
Engineering drawing (Yeah, yeah)
CAD model, no delaying (No delaying)
Prototype testing, we're displaying (We're displaying)
Manufacturing, that's my daily (That's my daily)

[Outro]
Technical drawing, that's the plan
Engineering skills in my hand

:

Drafting dreams, making them expand
This is how we design, understand!

Ms. Azza Female Rap song for safety engineering OR SUNO.com
https://lyricsintosong.com/play_music/fabcbdde2f281a8bda1d523ee584313f

Male
https://lyricsintosong.com/play_music/f4ec4eb0a40db2a6b66725121bda04bc

Learning Target: Unmanned Aerial System (UAS)

I will research and explain the role and future of Autonomous/Unmanned Aircraft

Driving Questions:

What are drones?

What are they used for now? in the future?

What high school(s) offers Aeronautical Engineering?

L: Look, Listen, Learn

A: Ask tons of questions--while watching the video, write questions you have on paper (min of 3)

🛩️What will be the role of commercial drones?

https://www.youtube.com/watch?v=XEQE_PAGRJM&authuser=0 3 minutes

🛩️The Future of Drones

https://www.youtube.com/watch?v=5qzKsUkr7sg&authuser=0 9 minutes

🛩️Beyond Imagination: The Incredible Future of Drones!

https://www.youtube.com/watch?v=cu9RgVvfvFA&authuser=0 7 minutes

:

🛩️Discover the Future of Technology: How Drones are Changing the Game

https://www.youtube.com/watch?v=H_BT1tjpgKQ&authuser=0 11 minutes

🛩️Drones, UAVs and Future of Unmanned Aerial Systems

https://www.youtube.com/watch?v=B9R3pbaG2Pw&authuser=0 7 minutes

🛩️Understanding Unmanned Aerial Vehicles (UAVs), Application of UAVs, Classification of UAVs

https://www.youtube.com/watch?v=BitFG9mnTwY&authuser=0 11 minutes

🛩️UAV in Engineering Applications

https://www.youtube.com/watch?v=D33tANuyMYY&authuser=0 4 minutes

🛩️Drones are now being used to battle wild fires

https://www.youtube.com/watch?v=aYW7gVlYHAo&authuser=0 3 minutes

🛩️Uses of Drones in Healthcare

https://www.youtube.com/watch?v=U8mXq7VRJCI&authuser=0 3 minutes

🛩️Top 5 Benefits of Drones in Agriculture

https://www.youtube.com/watch?v=ubANrz13Ysg&authuser=0 5 minutes

🛩️Why Construction Companies are Using Drones: Expert Drone Pilot Explains

https://www.youtube.com/watch?v=-d6x5gbNGbQ&authuser=0 7 minutes

🛩️Drones and the future of farming

https://www.youtube.com/watch?v=v3YcZtlVrls&authuser=0 3 minutes

🛩️Unmanned Aerial Systems (UAS) Equipment and Applications

https://www.youtube.com/watch?v=l1BRjHCFzSQ&authuser=0 1 minute

🛩️Drone Use in Public Safety

https://www.youtube.com/watch?v=ftFtsiiMJf4&authuser=0 15 min

:

🛩️**Understanding Unmanned Aerial Vehicles (UAVs)**

https://www.youtube.com/watch?v=BitFG9mnTwY&authuser=0 **11 minutes**

⁉️ **Hand the questions to the teacher: Choose randomly and answer as a class.**

U: Understanding--After watching the videos what is a drone? (exit slip)

N: Navigate--Watch the video for ideas on making your own DYI drone. Combine or change ideas as needed.

How to make a paper drone:

https://youtu.be/pOfaYtFcDNc?si=ehM1lLkZ4fjfuYsR

https://youtu.be/cp4RC9dTeYk?si=A7GCd-6cbChVrkfX

https://youtu.be/wBZen5fGvNM?si=fJ90lYw10Ic9g8uu

C: Create with your elbow partner

H: Highlight--improve your drone as needed.

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ITEEA MARK HARRELL COURSE
https://www.iteea.org/events/rec-train-2#overview

- **Fundamentals of Engineering:** Basics of engineering, history, career connections, and STEM.
- **Unit 1: Engineering for Success into Robotics:** Engineering design process, tool safety, CAD design, simple machines, mechanical systems, and gear train projects.
- **Unit 2: Engineering Design Process:** Chemical and electrical engineering, linear motor, and computer science with Sphero and Vex VR.
- **Unit 3: Building Blocks of Technology:** Aerospace and civil engineering, rover projects.

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PLTW and Virginia Va CTE resources-
https://www.cteresource.org/career-clusters/science-technology-engineering-mathematics/app-creators-ptlw/

https://www.tn.gov/content/dam/tn/stateboardofeducation/documents/2014_sbe_meetings/july_25_2014_sbe_meeting/7-25-14%20III%20F%20Science%20Technology%20Engineering%20%26%20Math%20Course%20Standards%20Attachment%20Clean%20Copy.pdf

PLTW course- Mr. **Mr. Saephanh** https://sayfunscience.weebly.com/pltw-automation--robotics.html

AUTO ROBOTICS- VEX-
https://bpstem.bpusd.net/apps/pages/index.jsp?uREC_ID=1078404&type=d&pREC_ID=1368607

https://docs.google.com/document/d/1zuOnswAiq3OLZ_sh4hgj6ynDdbDY4d5DgtMbZob03UE/edit?tab=t.0

Design and Modelling- PLTW source YT-
https://docs.google.com/document/d/1VZxLfopieVyQj9q6nib5y3lLSj1SvViKNLkTwGzl7s8/edit?tab=t.0

Casimir middle school - https://sites.google.com/etusd.org/technologyeducation/help?authuser=0

Maquoketa Middle school explore program- https://sites.google.com/site/indtechdept

Gears- https://www.youtube.com/results?search_query=casimirstem

Ruler game measurement rule inch cm - https://www.rulergame.net/

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Design and Modeling
Automation and Robotics
App Creators
Computer Science for Innovators and Makers
Energy and the Environment
Flight and Space
Science of Technology
Magic of Electrons
Green Architecture

PLTW Course Green Architecture: https://www.quia.com/pages/knetter25/ga

More slides at - https://moodle.tcu2905.us/course/view.php?id=435

https://www.pltw.org/curriculum/pltw-gateway

Crossword puzzle making- https://crosswordlabs.com/view/engineers-157

https://www.pinterest.com/allisonmcmath/pltw-green-architecture/

TPT CTE - https://www.teacherspayteachers.com/store/the-differentiated-instruction-guy

TPT- Green architecture

Next gen standard NGSS - lesson plan

https://www.nextgenscience.org/resources/examples-quality-ngss-design?field_exemplar_tags_target_id%5B371%5D=371&field_exemplar_tags_target_id_1%5B381%5D=381&field_exemplar_tags_target_id_1%5B386%5D=386&term_node_tid_depth%5B341%5D=341

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Straw large-
https://www.amazon.com/Smoothie-Straws-Colorful-Disposable-Wide-mouthed/dp/B07VWGR2R1?crid=MVHI7AYTFYSP&dib=eyJ2IjoiMSJ9.SAeSRUBzd_45HSh7GBLoLXa9DHhfYitbkkO52dp3ihTxxHJPunStRtYl4IcyIUSxWcRU1zzboikjNrTJiOZFVn8_Id967uiHvwDdZ9aowmMfQW0_APr1CLVcR7wGlfTv1FOuxFKOnFtCZCsR2Q9k4X8zgoFVpSEvMzWDXpTb4RCcK3l7CRqfPDxqoQWEHXYJ_oPv_eKZVBLJ_FD5lHDZxy451DFaBwwJ4A8dhVgLys6Et8BUA2FUTmxSpMon8PTvdvS9zsqFZ_IW_ungDjcjWV5rkf7TNt8VxEXkxwqlKzQ.ifI9FRRRcS4hHmEm1xOkHz3nnTxUsuw9ctDs0jiF1IM&dib_tag=se&keywords=straw+large&qid=1748560977&s=home-garden&sprefix=straw+large%2Cgarden%2C146&sr=1-6

Wood dowel-
https://www.amazon.com/dp/B0CR7J7YBJ/?coliid=I334HGK8C4O05T&colid=6PIMIWIKMLCX&psc=1&ref_=list_c_wl_lv_ov_lig_dp_it

Craft Papers- walmart 200 sheets or-

Cardboard sheets-
https://www.amazon.com/Corrugated-Cardboard-Packaging-Separators-Shipping/dp/B0B5GB4HKP/146-1706562-2580426?pd_rd_w=b1E4w&content-id=amzn1.sym.751acc83-5c05-42d0-a15e-303622651e1e&pf_rd_p=751acc83-5c05-42d0-a15e-303622651e1e&pf_rd_r=PWX81GG1HS6JJ2E94JX4&pd_rd_wg=t5JTX&pd_rd_r=9ceef84e-ad07-45d6-9f0b-f31747f59046&pd_rd_i=B0B5GB4HKP&th=1

Ian Bischoff- TJ leader idea- Paper Roller Coaster and Marbles test- lesson plan-
https://paperrollercoasters.com/lessons2017.html

Gear and Gear Box introductions: Gear Box stem model classroom middle school:

Cartersville - GA syllabus:
https://www.cartersvilleschools.org/cms/lib/GA02202677/Centricity/Domain/398/6th%20Grade%20Syllabus%202022-23.pdf

https://www.madisoncity.k12.al.us/cms/lib/AL50000433/Centricity/Domain/2099/HEARRINGTON%20-%20FLIGHT%20AND%20SPACE%20SYLLABUS%20W-CTE%20TAPE%20REQMTS.pdf

Nano at Stanford session material-
https://docs.google.com/document/d/1M63s3we9NGF-wfyBOIPAeOAnQaEYDpYpEgkej0o7OgQ/edit?tab=t.0

:

https://psu.pb.unizin.org/microb201/chapter/1-3-types-of-microorganisms/

DIY: HANDS ON MODEL PROJECT PROTOTYPE - TEST-OPTIMIZE- AWARD PRIZE

6TH: MAKE YOUR PENCIL COVER, MAKE YOUR PENCIL POUCH, BOOK MARKER, PLANE, DRONE, SNOW SHOWEL, SMALL PAPER CUBE AND BALL ON ALL SIDES. PAPER CAR WITH WHEEL -AXLE- WEIGHT ON IT

7TH AS IT IS PROJECTS- GEODESIC DOME, TOWER, CHEMICAL MACHINE, OTHER

8TH: FLOODPROOF HOUSE, Roller coaster.com kit,

JCPS CTE GROUP

JCPS (only) CTE Teachers Institute

Nichelle Freer • Beau Johnston • Brandy Scott • James Moore • Shelley Westwood • Joe Simon

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XCEL of Explore Curriculum: List of units- modelling- https://docs.google.com/spreadsheets/d/1y79mUDZTVAZJ0ntGpvvxuzdmJ1MgF9wWQ082wnlFdDk/edit?gid=1253517354#gid=1253517354

KY Middle school standard: https://www.education.ky.gov/CTE/cter/Documents/MS_Engineering_Standards.pdf

KY MS STD #2: https://www.education.ky.gov/CTE/endofprog/Documents/EngiDesign-PathStnd.pdf

Middle school 20919 course list KY standard: https://www.education.ky.gov/CTE/cter/Documents/CTE-Approved_Courses-MS.pdf

CTE 187 page program: https://www.education.ky.gov/CTE/cter/Documents/26-27_CTE_POS.pdf

University UOL outreach summer program- https://engineering.louisville.edu/experiencespeedschool/outreachprograms/

FARNSLEY Home - https://sites.google.com/jefferson.kyschools.us/farnsley/home

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EXPLORE WEB HOME-
https://sites.google.com/jefferson.kyschools.us/explore-jcps/curriculum/engineering-and-design

EDITH MS Explore Lexington- KY- https://ejhayes.fcps.net/academics/academy-prep/engineering-and-technology