



MPHS CTE

Week 5/11-5/15

Ag Science Packet

Week of May 11th through May 15th

Directions: If you are taking any class instructed by Mr. Rice, Mrs. Coberley, Ms. Hearron and Mr. Hunnicutt please do the following assignment. There is an article called “Water Quality”. Please read the article then answer the questions. The internet is not required for this assignment, please answer the three questions to the best of your abilities after reading the article. If you have any questions pertaining to the assignment or need to turn in an assignment do it via email. The instructors email is listed below.

trice@mpisd.net , shearron@mpisd.net , mcoberley@mpisd.net or shunnicutt@mpisd.net

Source

Centers for Disease Control and Prevention. (2015, January 20). Drinking Water. Retrieved from https://www.cdc.gov/healthywater/drinking/public/water_treatment.html.

United States Environmental Protection Agency. (2017, May 02). What Is Nonpoint Source? Retrieved from <https://www.epa.gov/nps/what-nonpoint-source>.

US Department of Commerce National Oceanic and Atmospheric Administration. (2004, December 19). NOAA's National Ocean Service Education: Nonpoint Source Pollution. Retrieved from <https://oceanservice.noaa.gov/education/kits/pollution/04nonpointsource.html>.

Utah State University Extension. (2017). Water Quality. Retrieved from <https://extension.usu.edu/waterquality/learnaboutsurfacewater/propertiesofwater>.



Background: Water Quality

Two-thirds of the Earth's surface is covered by water. The human body is 75 percent water. Water is one of the most vital resources for life on Earth. We use water for many uses, from sanitation to recreation and farming to urban landscaping.

Sources of water pollution can be grouped into two major categories: point-source pollution and nonpoint-source pollution. Point-source pollution is any single identifiable source of pollution from which pollutants are discharged, such as a pipe, ditch or factory smokestack. Factories and sewage treatment plants are two common types of point sources. Most nonpoint-source pollution is a result of runoff. When rain and melted snow move over the ground, they pick up and carry away pollutants, depositing them into our waterways. There are many different causes of nonpoint-source pollution, including agriculture, urban areas, roadways and construction sites.

Water quality tests attempt to determine the presence of heavy metals, nutrients, pesticides, industrial chemicals and various toxins. Water quality can be evaluated using many different indicators. Here are a few important ones:

pH: This is a measurement of how acidic or how basic the water is. pH can be influenced by human factors, such as acid rain, increased carbon dioxide and point-source pollution.

Bacteria: Fecal Coliform bacteria indicate the presence of sewage contamination of a waterway and the possible presence of disease producing pathogens.

Nutrients: Too much nitrogen and phosphorus can cause algae to grow faster than ecosystems can handle. The presence of algae blooms increases bacterial growth that can make people sick and decreases oxygen that aquatic animals need to survive.

Filtration is the use of a physical barrier, chemical and/or biological process to remove impurities from the water. Many consumers filter their drinking water at home. Municipal water treatment plants use filters to remove dissolved particles, such as dust, parasites, bacteria, viruses and chemicals. Farmers use filters to remove pathogens that cause viruses and sediment that could damage irrigation systems.

Fresh water is so abundant in the United States that people sometimes take its availability for granted. Monitoring water quality and investing in water treatment systems, such as filtration, are essential practices to preserving the quality of our water supply.

Questions for discussion:

1. Make a list of all the ways you use water daily.
2. Give a specific example of both point-source and nonpoint-source pollution. Where does the pollution come from, how does it move and where does it go?
3. Why do farmers care about water quality?

Arts/AV Classes

Week 7 – May 11-15

Classes include Principles of Arts/AV and Communications, Newspaper, Photography, Yearbook, Audio/Video Production, TNT

The questions and assignment are also on Edmodo in Mr. Whitten's & Mrs. Porter's classes

Lighting in Video and Photography

Lighting is very important and should always be considered.

Start with this reading.

<https://www.pixpa.com/blog/photography-lighting>

Now watch this video.

https://www.youtube.com/watch?v=j_Sov3xmgwg

Questions

1. What are soft light and hard light?
2. What is three-point lighting?
3. What is the most important aspect of Hair-Lighting?
4. What is Color Temperature and how is it adjusted?
5. What are High Key and Low Key lighting and how are they used?

Reflection

With what you have learned could one use non-professional light sources and if so what might be used.

If you are in yearbook and can work on yearbook pages, please contact Mr. Whitten either at 903-563-4252 or email at jwhitten2@mpisd.net. I can send you the login information.

If you have any questions, email your teacher. We miss you all!

jwhitten2@mpisd.net, tporter@mpisd.net, dmccarley@mpisd.net

Automotive

Automotive Tech 1

Heating Ventilation and Air Conditioning

Website: www.cdlearning.com

Course access code: E2E643

Assignment: Students should log into CDX and complete Chapter 60. After completion of Chapter 60, students should review all the material in Chapters 58-60 in preparation for the final.

Instructor Contact Info:

Zachary Strawbridge

zstrawbridge@ntcc.edu

Automotive Tech 2

Engine Repair and Diagnosis

Website: www.cdlearning.com

Course Access Code: B822B7

Assignment: Students should go back through the chapters we have covered and review the material in preparation for the final.

Instructor Contact Info:

Zachary Strawbridge

zstrawbridge@ntcc.edu

BUSINESS
Packet # 7
MPHS – CTE

Assignment for:

Accounting – BIM I and II

CAP

Marketing

Career Prep I and II

Principles of Business

Mrs. Scoggins - jscoggins@mpisd.net

Mrs. Davis - davisd@mpisd.net

Ms. McDowell - jmcowell@mpisd.net

During the Covid 19 pandemic, the public has had to search for items in more than one store or wait until the store is restocked. These are some of the staple items that have been difficult to find.

Toilet tissue

Paper towels

Sanitizer - Lysol, disinfectant wipes, etc.

Canned food items

Cereal

Bread

Instructions:

Write a paper (150 words) on why and what reasoning is there for these specific items to be in high demand and therefore hard to find.

You may type and return by email or drop off at the school

Or you may hand write, drop at the school or take a picture and email

Carpentry Lesson

Construction Tech. I & II

Go to <https://www.instructables.com>

Scroll down to lesson 3: All about glue.

Complete lesson.

Practicum of Construction

Work on OSHA 30 hour course

Jimmy Alston

Comments

There are 3 ways your student can return his/her work.

1. (Most preferred method) Students can email their work directly to the teacher(s). They can scan and email it, or even take a photo of completed pages and email those.

FOR OPTIONS 2 AND 3, BE SURE THE WORK IS LABELED WITH CHILD'S NAME, GRADE, AND CAMPUS!

2. Work can be dropped off at the campus on Monday from 11-1 during lunch pick up. New work will be available and completed work can be dropped off.

3. Work can be dropped off on Monday during after hours pick up.

CHANGE FOR WEEK TWO: After hours pick up and drop off will be at the individual campuses from 5:00-6:00 p.m. There will be no after hours at the Administration building on April 6th.

4. If none of those options will work for you, call your child's campus and they will make arrangements with you.

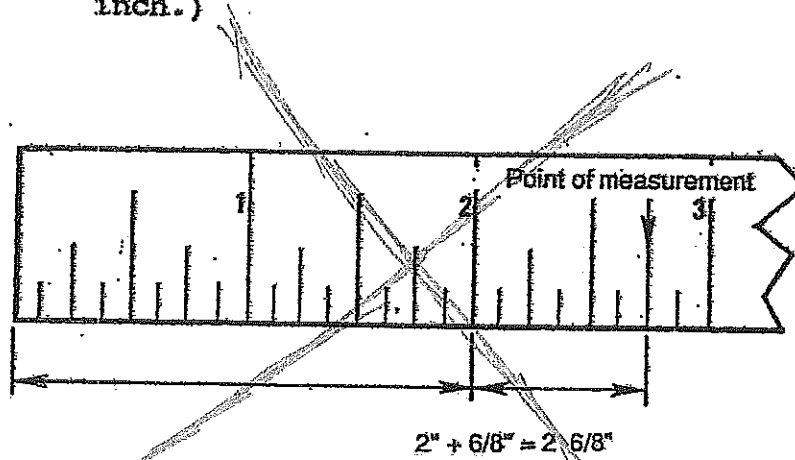
Thank you to all of our AMAZING families. We are sorry for everything you are having to endure right now. We hope to see all of our Tigers very soon ☺

Sent from my Verizon, Samsung Galaxy smartphone

Alston 5/4/20

3. Add this fraction to the whole number of inches behind the point of measurement.

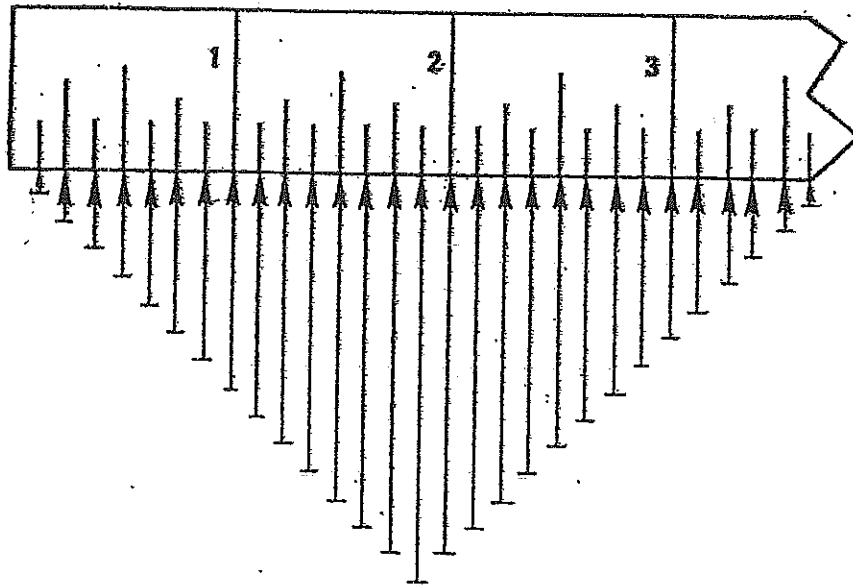
(Note: If there are no whole numbers behind the point of measurement, the total will be the fraction of an inch.)



4. Reduce if possible:

$2 \frac{6}{8} = 2 \frac{3}{4}$

$\frac{6}{8} \div 2 = \frac{3}{4}$



Satisfactory completion of this assignment sheet partially fulfills competency A-7 of Building Maintenance.

COSMETOLOGY

DISTANCE EDUCATION OVERVIEW

Distance Education: A formal instructional process in which the student and teacher are separated by physical distance and a variety of communication technologies are used to deliver instruction in theory to the student. Courses taught by distance education do not satisfy the requirements of the practical portion of the course curriculum.

Note: Distance Education hours are the only form of hours which can be completed without the presence of an instructor. If a student accrues hours by clock or credit, only the time system being used to account for distance education hours should be used to eliminate the possibility of duplicate credit for students.

INSTRUCTIONS

Students will need to contact Ms. Aleshia Rivera-Palomino at arivera@mpisd.net and provide a workable email. Once the email has been verified the student will be enrolled in the Distance Education Course and contacted through the email provided for further instructions.

Students will access their distance learning course either on a computer or a smart device. The first time they access or accept enrollment for the course needs to be on a computer.

Culinary

ALL 4 LEVELS OF CULINARY ARTS

WEEK 7: May 11th 2020

Chef Anker: kanker@mpisd.net

Mrs. Bradley: mbradley@mpisd.net

*****Intro-- Mrs. Bradley's classes only*****

1. Students are to get onto Edmodo to complete their tasks. Join the Remind account if you have not already done so.

Edmodo	Remind (81010)
fvuwks	@66da7fa

*****Chef Anker:

All Chef Anker's classes do the following assignment: Ok, for this week I want some feedback from you all about how Covid-19 has effected the restaurant industry. Talk to any restaurant and find out if and how much it hurt them. You can also share your own opinion- like have you changed your mind on your future career. As always sending me a picture of something you cooked is an alternative. Any questions you can remind message, email, or the MP Culinary page on FB. Miss you all! Stay well and keep cooking 😊 -Chef

Culinary Arts – Chef Anker 2nd/3rd period only

Remind: [81010](https://www.remind.com) text message: @hf3k6d

Advanced Culinary Arts -- Chef Anker 7th/8th period only

Remind: [81010](https://www.remind.com) text message: @823e42

Practicum in Culinary Arts – Chef Anker 4th/5th/6th period only

Remind: [81010](https://www.remind.com) text message: @39ggghd



Mrs. Sweeden's Education and Training

Another week out for distance learning and I still miss you guys! I would love to see each of you in a group discussion at your scheduled times on ZOOM. If you cannot log on and participate, please email me and we will chat in google hangouts.

Practicum: Seniors Online classes as usual. Remember to complete your observation reflections and turn them in. Do Not forget the Lesson plan video! ZOOM meeting at 10 am on Monday...



Instructional Practices: Portfolio, Portfolio, PORTFOLIO!!!. Some of you have not visited your site in quite a while. This is an end of year project that is a summative assessment. I will be available online for questions and assistance in updating your portfolios including the list of online resources for distance learning on a google doc. We will be presenting our portfolios to our peers and critiquing them with a rubric provided in this link: These will be added to your website as well. Make sure they are reliable, trusted websites (IE. ending in .gov, .edu, and occasionally .com) Give a brief synopsis of each sight. All grade levels are considered.



Human Growth and Development: Choose one LIFE SKILL and video yourself completing the task. Examples include: changing a tire on a car, pumping gas in a car, cooking a meal, setting the dinner table, or cleaning your closet for donations. Submit/Share your video on google drive with tsweeden@mpisd.net If you opt out of the assignment, you must document your daily events and meals/snacks throughout the day beginning once you wake until you sleep at night. Be sure to include naps and ventures outdoors.



Principles of Education: Choose one LIFE SKILL and video yourself completing the task. Examples include: changing a tire on a car, pumping gas in a car, cooking a meal, setting the dinner table, or cleaning your closet for donations. Submit/Share your video on google drive with tsweeden@mpisd.net If you opt out of the assignment, you must document your daily events and meals/snacks throughout the day beginning once you wake until you sleep at night. Be sure to include naps and ventures outdoors.

If you have any questions, you can email me. Love you all!

The Sweed

Mount Pleasant High School - CTE

Electrical Technology Packet #7

Date: May 4, 2020

Instructor: Tim Davis

Email: tdavis@mpisd.net

tdavis@ntcc.edu

Office number: 903-434-8385 - 903-575-2081

Please email me if you should have any questions and/or help.

Electrical Tech I (first year students)

- Students will need to use their textbook for this assignment. All electrical I students checked out a textbook at the beginning of the school year. If your child doesn't have a textbook please let me know.
- Students are to read and answer chapter 9 review questions starting on page 217, and ending on page 218. Student shall complete "Wiring with Conduit" questions 1 – 25 only.
- Students can submit answers via email to tdavis@mpisd.net.

Electrical Tech I (second year students)

- **Electrical Tech II Dual Credit**
- Continue to use "Mike Holt" online format
- www.capacitor.mikeholt.com
- All assignments are now due
- **Check your NTCC email often**
- **Study your review questions from Units 1 – 15.**
- **May 11, 2020 Final Exam** will be sent via email to all Fund. Of Electricity I dual credit students.
- **May 11, 2020 by no later than 6:00 PM** - Students are to answer Final Exam questions and submit to tdavis@mpisd.net by 6:00 PM.

Prac in Electrical Tech – (three year students)

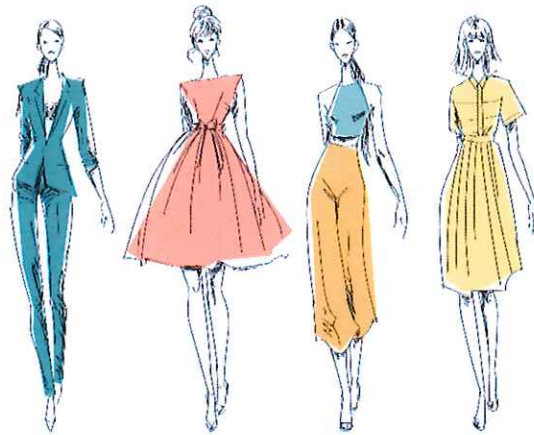
- **Check your NTCC email often.** Please contact me if you're having trouble logging into your NTCC email account. It's extremely important students communicate with their instructor during this time.
- Continue to use the online black board format. You must submit Chapters and Test 1 – 7. All students should have already submitted Chapters and Test 1 – 7. If you haven't please submit ASAP.
- All assignments are now due.
- May 4, 2020 Final review will be sent to all Commercial wiring dual credit students.
- May 11, 2020 The Final Exam will be sent to all dual credit students.
- May 11, 2020 by no later than 6:00 PM - Students will submit their Final Exam answers to tdavis@mpisd.net and/or tdavis@ntcc.edu. **Again, if you have trouble - please email me.**

Fashion Design 1&2

Week 5-11/5-15

All classes need to check Edmodo and iCEV.

Margaret Bradley
Family and Consumer Sciences
Mt. Pleasant High School, MPISD
mbradley@mpisd.net



Principles of Human Services

Week 5-11/5-15

All students need to check Edmodo on a regular basis.

Margaret Bradley
Family and Consumer Sciences
Mt. Pleasant High School, MPISD
mbradley@mpisd.net



FRESHMAN SKILLS ASSIGNMENT WEEK 13/14

Mrs. Lockett (dlockett@mpisd.net) Mr. Keeney (jkeeney@mpisd.net)

Mrs. Fry. (sfry@mpisd.net) Mr. Conley (dconley@mpisd.net)

With the summer approaching, many of you will be looking to work summer jobs. This money/budget exercise will help you in understanding your paycheck, how to spend (budget) your income (money). It will help you in deciding on how you will cash your paycheck and how you will save your money. Have fun completing the puzzle on budgeting.

Thank you to those who have been submitting your work. Please continue to send it in to us by emailing or sending pictures on your phone. We miss you all and look forward to your emails!

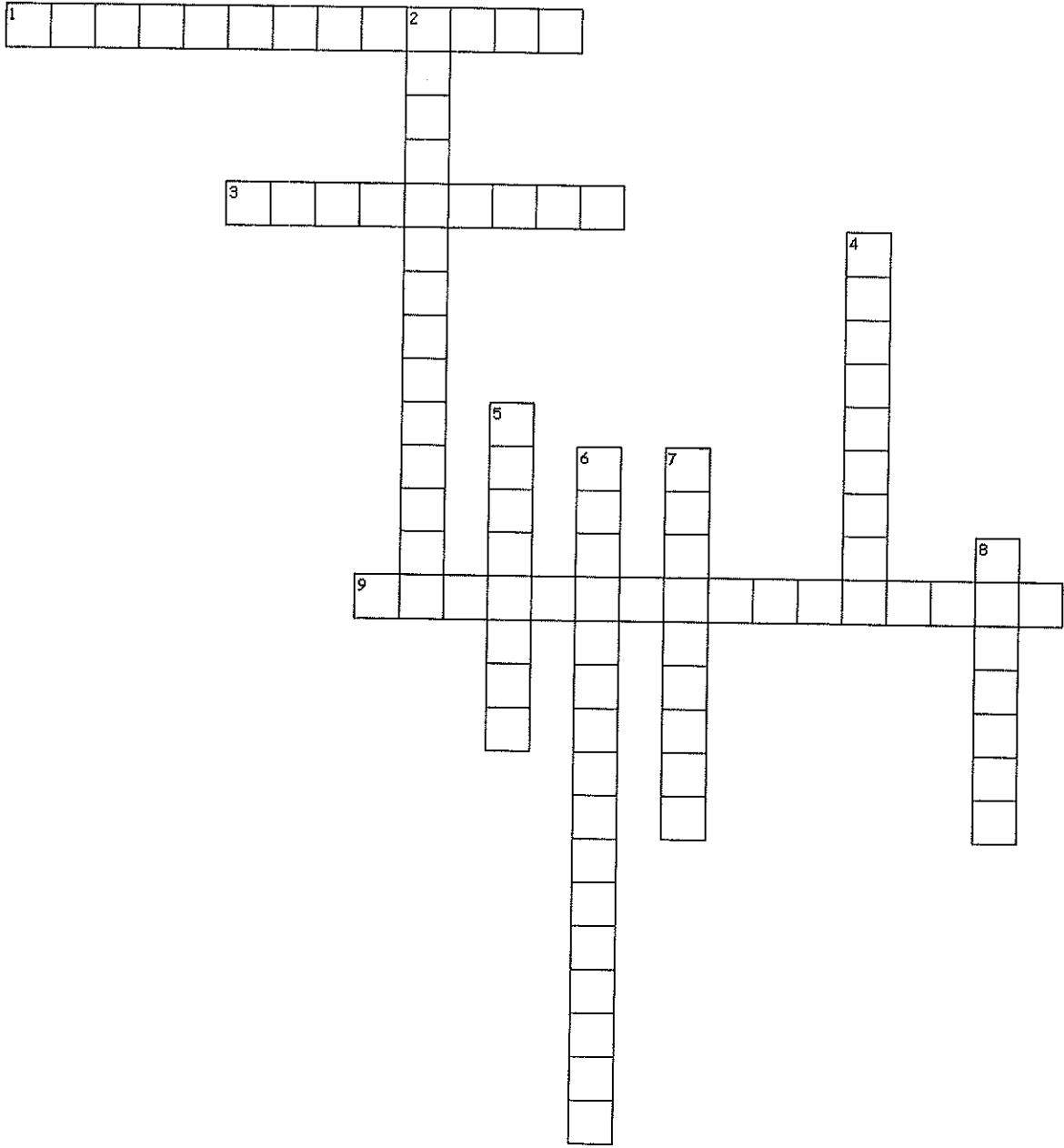
MONEY MAKER PUZZLE

Across

1. Monthly items that never change
3. The cost of items you want/need
9. Pay from working

Down

2. Paycheck after deductions
4. To take money out of an account
5. To add money to your account
6. Items that change monthly
7. Money you earn from working
8. A spending plan



LAW ENFORCEMENT

Principles of Law - Law Enforcement 1- Law Enforcement 2 - Forensic Science

WEEK 7

Principles of Law/Chamness:

DIRECTIONS:

Log onto iCEV Online – www.icveonline.com

Please review all previous assignments and complete accordingly. Utilize this week as a ‘catch up/review’ week for previous instruction.

Law Enforcement 1/Chamness:

DIRECTIONS:

Log onto iCEV Online – www.icveonline.com

Please review all previous assignments and complete accordingly. Utilize this week as a ‘catch up/review’ week for previous instruction.

Law Enforcement 2/Bailey:

DIRECTIONS:

Log into your MyEagle Portal on NTCC website - <https://ntcc.onelogin.com/>

Work through/complete → Final Exam.

View videos, complete assignments, and respond to the discussion post. If you need to, take a picture of any completed assignments and email them to me at ebailey@mpisd.net

Please email me if you have any questions or need your log in information.

Forensic Science/Parker:

DIRECTIONS:

You have assignment folders for 3/30/2020 through 5/11/20 on Schoology.com. The date on the folder designates the Monday the assignment starts. The assignment should be completed that week. There may be a quiz assigned to that week on Schoology. **READ THE INSTRUCTIONS IN THE FOLDER.** If there is a quiz, it will close on Friday night at 11:59 p.m. Please look at ALL the folders in your assignments. Many of you are looking at the first folder and missing additional assignments. If you have not started your assignments, please do so (you obviously are behind). I have sent a list of students actively working on assignments (and the assignments you failed to complete) to our counselors. When returning work, it is best to download or send your assignment in digital form (making sure that I can read your answers) instead of returning in the packets. Remember take CLOSE UP pictures of your completed assignments and send them to me on Schoology or send them in file form. When you send me and email on Schoology, the options will be listed below the text box. Sending a photo of the last couple of questions on a page (on top of a stack of pages) will not get you credit...I need to see **ALL** of your work. If you have questions, email me on Schoology Monday-Friday 9-3 (Weekend email may not be answered as quickly). If you have difficulty with your login, email me at sparker@mpisd.net. Stay safe, stay strong, stay well.

INSTRUCTOR CONTACTS:

Elizabeth Bailey: ebailey@mpisd.net - Law Enforcement 2

Ricky Chamness: rhamness@mpisd.net - (903) 285-1956 - Principles of Law, Law Enforcement 1

Sadonna Parker: sparker@mpisd.net - Forensic Science

Health Science Home Assignment Week 7

Ayers Practicum 2-Medical Assisting – Check your email/Remind for your assignment. You can message me on Remind or email me at aayers@mpisd.net if needed. Be sure to complete your CCMA practice exam B #5.

PHS w/ MRS AYERS & MRS BUMPUS -Week 7 Ch. 11 & 12 Summary Read the following information & make a quizlet or flashcards. (Ayers class finish OSHA certification & make vocab quizlets or flashcards (see Remind) @phsmphs)

1. During a physical exam, a provider moves from head to foot performing *inspection, palpation, percussion, & auscultation*.
2. A *minimum data set* (MDS) assessment is part of a government requirement for the clinical assessment of all long-term care facility residents.
3. Be aware of cultural differences including eye contact, body language, sense of time, speech/communication, modesty, & religion.
4. Sit next to (not facing), a person who appears uncomfortable w/ eye contact.
5. Acculturation occurs when immigrants learn the beliefs/customs of the dominant culture & adopt some of them.
6. Health Information Technology for Economic & Clinical Health (HITECH) Act improves healthcare through the increase use of health information technology (HIT).
7. Protected Health Information (PHI) includes info that could be used to identify a person.
8. Types of PHI: name, address, numbers, email, pic.
9. Providers must notify the Department of Health & Human Services (HHS) of any breach of privacy/security regarding pt info.
10. Affordable Care Act (ACA) requires all citizens/legal immigrants to obtain healthcare insurance.
11. Electronic Health Records (EHR) is improving the coordination of care.
12. Centers for Disease Control & Prevention (CDC) conducts research to track & promote public health, respond to health problems, & promote the creation & maintenance of safe & healthy workplaces.
13. Employers must have a written Exposure Control Plan, train employees about BBP exposure, offer HBV vaccine, provide PPE, & sharps containers.
14. Clinical Laboratory Improvement Act (CLIA) regulates how a lab test is performed & how the test results are interpreted & reported.
15. Infections are caused by microorganisms.
16. Surgical asepsis is achieved through sterile technique.
17. Sharps are needles or scalpels.
18. Contact precautions are used to prevent germs that are spread by direct or indirect contact.
19. Droplet precautions are used to prevent transmission of pathogens spread through respiratory secretions.
20. Airborne precautions are needed for infections that spread over great distance.

Mrs. Bumpus Health Science Theory Classes Week 7

Last week, you read about the importance of positioning which helps maintain adequate circulation and function of areas of the body. One reason that maintaining circulation is important is to prevent decubitus ulcers (bed sores). Decubitus ulcers are staged based on the degree of severity. There are 4 stages of decubitus ulcers that range from mild to more severe. **Stage 1:** skin is not open but is discolored with a red discoloration in light complexioned people or blue or purple in people with darker complexions, and when pressed these areas will not turn white (called blanching) but stay discolored. **Stage 2:** still superficial or shallow, but the skin is now open or has a blister or abrasion area or sore with surrounding tissue appearing irritated and red. **Stage 3:** ulcer is now much deeper than

stage 2 and may have started to affect underlying connective tissue and appears more like a crater that may ooze, bleed, or contain pus. **Stage 4:** ulcer damage is deep and may show exposed muscle, tendons, ligaments, joints, and bone. At this stage, the ulcer will bleed and the skin and tissues become necrotic (dead tissue) and appear blackened. For this week, use google if available to find an example of each ulcer stage. Email me at sbumpus@mpisd.net with a picture you found for one of the decubitus ulcer stages. You may take a picture with your phone of the computer screen and email me the picture. Make sure that there is no identifying information about the patient in order to maintain confidentiality. Remember HIPAA!!! ☺

Anatomy and Physiology: You will find the Power Point to finish the section on Digestive System in Edmodo. Submit your answers to Mrs. Houchin (khouchin@mpisd.net) or Mrs. McCall (wmccall@mpisd.net). (1) The esophagus connects _____ to _____. (2) What is the function of the Lower Esophageal Sphincter? (3) Define peristalsis. (4) Describe the four parts of the stomach. (5) What is the primary function of the stomach? (6) Define rugae. (7) What is the purpose of hydrochloric acid in the stomach? (8) How do mucous cells protect your stomach? (9) Intrinsic factor helps absorb which vitamin? (10) What is chyme? (11) How much chyme is allowed to enter the duodenum at a time? (12) What is the body's largest organ and its function? (13) Describe the function and location of the Gallbladder. (14) What is the function of the Pancreas along with the enzymes secreted to breakdown certain food groups? (15) Describe each part of the small intestine along with its function. (16) Where does the absorption of nutrients occur along the intestinal tract? (17) What enzymes are used in the digestion of carbs, proteins, and fats? (18) What process occurs in the large intestine? (19) Name the parts of the large intestine along with their function.

Practicum 1:

- Study EKG material on nhanow.com and quizlet
- visit skillstat.com and go through the "learn" portion and play the "game" for EKG rhythm practice.
- Choose 5 EKG rhythms, describe the rhythm in your own words and the characteristics you look for to identify the rhythm. You must specify if the rate is regular or irregular. Remember to use P wave abnormalities, rate, "wide or narrow", and T wave abnormalities to describe your rhythm. Email this assignment to wmccall@mpisd.net.

I'm sorry if any of you have tried to contact me via remind. I lost all of my classes and had to create a new one. To join the new remind use the app or text 81010 @mrsmccallm. Stay safe! I miss you all!

- Mrs. McCall

Practicum II: C.N.A.- What resources have you found to help you study for the C.N.A. certification test? Once you obtain your C.N.A. certification, how is this going to help you further your career in medicine? Research where a C.N.A may work and the different salaries that are available in that area (i.e. Nursing Home, Hospital, etc....). Email your answers to khouchin@mpisd.net.

Lisa Trimm: Scientific Research and Design

ltrimm@mpisd.net (903)826-0104

What you need:

- 8 1/2 x 11 piece of paper
- Scissors
- Pen (not absolutely necessary)

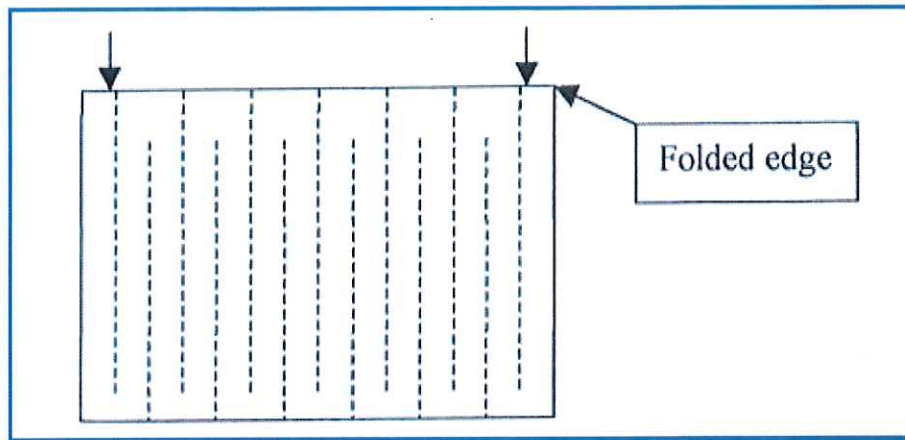
What to do:

Challenge: Using one piece of paper and a pair of scissors, can you make a hole in the paper that is large enough to walk through? Try to figure it out before reading the solution.

Before you read the solution here, apply the Scientific Method to this problem.

Solution: There may be other ways to complete this challenge, here is one solution:

1. Fold paper in half (width-wise is easiest).
2. Cut a slit in the paper, starting from the folded edge until you almost reach the other end.
3. Alternate along your paper, cutting from the folded edge and then cutting from the unfolded edge.
4. Make sure the end cut also starts from the folded edge.
5. Cut along the fold, in between where the two arrows in the above image are.
6. Open it up. It should be one big circle!



What's happening?

By making all of these cuts, essentially you're making one rectangular piece of paper into a long narrow strip that is still connected at its two ends. Even though the area of your piece of paper has not changed, you've now increased the perimeter of the shape that you're trying to step through. This gives a person plenty of room to pass through.

Why does it matter?

Understanding the relationship between perimeter and area is important for many tasks. For instance, if you were putting trim in a room, a rectangular room might need a lot less trim than an irregularly shaped room of the same area.

Document how you applied the scientific method to this task.

1. Purpose: What are you trying to find out?
2. **RESEARCH**
3. Hypothesis: If.....then....
4. Experiment: What does your experiment look like?
5. Analysis (GRAPH)
6. Conclusion: Was your hypothesis correct?

STEM

Principles of Engineering | Engineering Design I & II | Practicum in Engineering | Manufacturing Engineering | Practicum in Manufacturing | Programming I

Week of May 11th | Assignments are listed by class | Emails: dmccarley@mpisd.net | jjones@mpisd.net

*******Principles of Engineering*******

Please be familiar with the following:

Origin - In many instances, you start the sketch at the origin, which provides an anchor for the sketch. The centerline is often sketched through the origin and is used to create a revolve boss. Although a centerline is not always needed in a sketch, a centerline helps to establish symmetry. You can also use a centerline to apply a mirror relation and to establish equal and symmetrical relations between sketch entities. Symmetry is an important tool to help create your axis-symmetric models quicker.

Planes - You can create planes in part or assembly documents. You can sketch on planes with sketch tools such as the *Line* or *Rectangle* tool and create a section view of a model. On some models, the plane you sketch on affects only the way the model appears in a standard isometric view (3D). It does not affect the design intent. With other models, selecting the correct initial plane on which to sketch helps you create a more efficient model. Choose a plane on which to sketch. The standard planes are front, top, and right orientations. You can also add and position planes as needed.

Dimensions - You can specify dimensions between entities such as lengths and radii. When you change dimensions, the size and shape of the part changes. Depending on how you dimension the part, you can preserve the design intent. The software uses two types of dimensions: driving dimensions and driven dimensions.

Driving Dimensions - You create driving dimensions with the *Dimension* tool. Driving dimensions change the size of the model when you change their values. For example, in the faucet handle, you can change the height of the faucet handle from 40mm to 55mm. Note how the shape of the revolved part changes because the spline is *not* dimensioned. To maintain a uniform shape generated by the spline, you need to dimension the spline.

Driven Dimensions - Some dimensions associated with the model are driven. You can create driven, or reference dimensions, for informational purposes using the *Dimension* tool. The value of driven dimensions changes when you modify driving dimensions or relations in the model. You cannot modify the values of driven dimensions directly unless you convert them to driving dimensions.

*******Engineering Design I & II & Practicum in Engineering*******

ASSIGNMENT

Sketch out (with words and a picture if applicable) one or more of these ideas below for adjusting school to what may become our new normal. Send it to me jjones@mpisd.net

1. Eat all over campus so can spread apart / redesign lunchroom for more individual seating
2. More lunch periods to have smaller crowds / add another cafeteria (like using old gym)
3. Deliver food to classrooms and students eat at their desks / students can leave campus for lunch (Ha!)
4. Room dividers/ seat dividers/ cubicles for students/ window shields like gas stations have
5. Shorter day so no eating at school – students go to morning or evening classes
6. Improve/increase cleaning procedures/ have better ventilation
7. There is a bit of a delay on the work you all are submitting so feel free to use your own ideas if you do not like the ones from your classmates above.

Social distancing means remaining out of congregate settings, avoiding mass gatherings, and maintaining distance (approximately 6 feet or 2 meters) from others when possible. (cdc.gov)

*******Manufacturing Engineering & Practicum in Manufacturing*******

Log on to www.learnamatrol.com and continue your lessons and tests. I will be watching and will reset your tests when needed. Send me an email if you have any questions. jjones@mpisd.net

*******Programming I*******

Log on to www.code.org and continue your lessons. Send me an email if you have any questions. jjones@mpisd.net

Chapter 11 (cont.)

Injuries to the Shoulder Region

Glenohumeral (GH) Joint Injuries

- GH joint consists of humeral head and the glenoid fossa of scapula.
 - Extremely mobile but inherently unstable joint.
- Major soft tissue structures include capsular ligament and the coracohumeral ligament.
- Typical mechanism of injury is having the arm abducted and externally rotated, stressing the anterior glenohumeral ligament.
 - Most common type of location is an anterior dislocation that may be a subluxation or complete dislocation.

Glenohumeral Joint Injuries

Signs and symptoms include:

- Shoulder joint deformity and down-sloping shoulder contour.
- Abnormally long arm on affected side.
- Humeral head palpable within axilla.
- Athlete supports arm on affected side & resists efforts to move GH joint.

In cases involving subluxation:

- GH joint may appear normal.
- Movement will be very painful.
- Joint may be point tender.

Glenohumeral Joint Injuries

First Aid

- Treat for shock.
- Application of ice and compression by placing rolled towel into the axilla.
- Apply sling & swathe bandage.
- Refer to a physician immediately.

• GH joint injuries tend to be chronic and recur (85-90% likely). Surgical treatment may be necessary.

SLAP Lesions

- Involve damage to the superior labrum, as well as damage to the attachment of the long head of the biceps brachii.
 - Type I involves degenerative changes to the superior labrum without any disruption to the biceps tendon; Type II involve degenerative changes and injury to the biceps; Type III involve a tear of the superior labrum with an intact biceps; Type IV involve labral tears and biceps tears.

SLAP Lesions

- **Signs and symptoms:**
 - Pain with certain movements (throwing), snapping or popping sensations, or symptoms of a rotator cuff tear.
- **Treatment:**
 - Apply ice and compression, put the arm in a sling, and refer for further medical evaluation.

Muscle Strains

- Any muscle of the shoulder can suffer a strain.
- Most common injury is rotator cuff strain.
 - Errors in the execution of a throw or swing can contribute to overuse injury.
- Rotator cuff muscles contribute to GH joint stability plus abduction & rotation.

FIGURE 11.13 The rotator cuff (inferior view).

FIGURE 11.14 The muscles of the rotator cuff (superior view).

Rotator Cuff Strains

Mechanisms

- Concentric force development followed by eccentric loading of RC muscles during deceleration and follow-through cause most injuries.

Signs and symptoms include

- Pain within the shoulder, especially during follow through phase of throwing motion.
- Difficulty bringing arm up and back during cocking phase of throw. Pain and stiffness in shoulder region 12 to 24 hours after throwing or swinging.
- Point tenderness around region of the humeral head that seems to be deep in deltoid muscle.

Rotator Cuff Strains

First Aid

- First aid is NOT practical due to chronic nature of condition.
- RICE.
- Rehabilitation exercises and flexibility improvements.
- Medical referral.

GH Joint-Related "Impingement" Syndrome

- Occurs when a bursa or tendon is squeezed between moving structures.
- In cases affecting the GH joint, the tendon of the supraspinatus muscle is commonly impinged.

FIGURE 11.14 The muscles of the rotator cuff (superior view).

Impingement Syndrome

- Any condition that decreases the size of the subacromial space or causes poor alignment of the humerus with the glenoid fossa may result in impingement syndrome.
 - May involve weak scapular muscles or rotator cuff group.
 - May be linked with overuse.
- Athletes in sports that emphasize overhead arm movements have a high risk of this injury.

Impingement Syndrome

<p>Signs and symptoms</p> <ul style="list-style-type: none"> Pain with abduction & external rotation. Strength loss. Pain when arm is abducted beyond 80° to 90°. Nocturnal pain. Pain felt deep within the shoulder. 	<p>First Aid</p> <ul style="list-style-type: none"> First aid is NOT practical due to chronic nature of condition Rest, anti-inflammatory drugs. Progressive strength training. In extreme cases, surgery.
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Biceps Tendon Injuries

- Long head of the tendon can be compressed within the subacromial space (impingement syndrome).
- Long head of the tendon may develop tendonitis.
 - When the tendon enlarges as a result of inflammation, it becomes less stable in the groove.
- Violent force may subluxate the long head of the tendon from the bicipital groove – often called a SLAP lesion.

Biceps Tendon Injuries

Signs and symptoms

- Painful abduction of the shoulder joint.
- Painful abduction and external rotation of shoulder.
- Pain in shoulder joint when the athlete supinates the forearm against resistance.
- Resisted flexion and supination yields a snapping and/or popping sensation.

Biceps Tendon Injuries

First Aid

- This is an "overuse" type of injury; there are no first aid procedures for the chronic condition.
- Traumatic tendon subluxations should be treated with immediate application of ice and compression.
- Long-term care includes rest, anti-inflammatories, and gradually progressive rehabilitation exercises.
- If symptoms persist, surgery may be necessary.

Review Questions (cont.)

8. True or False: The most common type of GH joint dislocation is posterior.
9. Describe the common signs and symptoms of a GH joint dislocation.
10. Explain the appropriate first aid treatment of an athlete with a suspected GH joint dislocation.
11. Explain the appropriate first aid treatment of an athlete with a suspected SC joint injury.
12. List several of the signs and symptoms of rotator cuff strain as described in the lecture.
13. List four signs and/or symptoms of impingement syndrome of the GH joint.