प्रदेश लोक सेवा आयोग
बागमती प्रदेश
स्वास्थ्य सेवा, जनस्वास्थ्य समूह, पाँचौ तह, स्टाफ नर्स पदको
खुला प्रतिस्पर्धात्मक लिखित परीक्षा
परीक्षा मिति: २०८२/०२/२४

पत्र: द्वितीय **पूर्णाङ्क: १००**
विषय: सेवा सम्बन्धित कार्य-ज्ञान समय: **२ घण्टा १५ मिनेट**

निम्न प्रश्नहरुको उत्तर Section अनुसार छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नुहोस्, बनाएका उत्तरपुस्तिका रह बुझाउनुहोस्।

Section - A

1. Describe the pre-procedure preparation of the patient for a diagnostic investigation of an intravenous pyelogram (IVP) and post-procedure nursing management. [2.5+2.5]

Answer:

An Intravenous Pyelogram (IVP) is an X-ray exam that uses a special dye to see your kidneys and urinary tract. As nurses, our role is crucial in preparing the patient and caring for them afterward.

Pre-procedure Preparation:

- **Informed Consent:** First, we must ensure the doctor has explained the procedure to the patient and that a signed consent form is in their chart.
- **Allergy Check:** It's very important to ask the patient if they have any allergies, especially to iodine or shellfish, as the contrast dye used is iodine-based.
- **Kidney Function Test:** We check the patient's blood for recent kidney function tests (like creatinine levels) to make sure their kidneys can handle the dye.
- **Fasting:** Patients are usually told not to eat or drink for about 8-12 hours before the procedure. This helps get a clearer X-ray image.
- **Bowel Preparation:** The doctor may order a laxative for the evening before the IVP to clear the bowels, which can otherwise obstruct the view of the urinary system.
- **Patient Education:** We explain what will happen during the test. For instance, they might feel a warm sensation or a metallic taste when the dye is injected. This helps reduce their anxiety.

Post-procedure Nursing Management:

- **Hydration:** We encourage the patient to drink plenty of fluids. This helps to flush the contrast dye out of their body.
- **Monitoring Urine Output:** We keep an eye on how much urine the patient is passing to ensure their kidneys are working well after the procedure.
- **Observing for Allergic Reactions:** Although rare, some patients can have a delayed reaction to the dye. We watch for signs like rashes, hives, or difficulty breathing and report them immediately.
- **Diet:** The patient can usually go back to their normal diet once the procedure is over and they are feeling well.
- **Rest:** We advise the patient to rest for the remainder of the day.

2. Draw a labeled diagram of the human digestive system, including its accessory organs.

Answer:

Here is the main parts of the digestive system in order, from where food enters to where waste leaves, including the accessory organs that help with digestion.

- **Mouth (Oral Cavity):** This is where digestion begins. Teeth chew the food, and saliva starts breaking it down.
- **Pharynx (Throat):** The passageway for food from the mouth to the esophagus.
- **Esophagus:** A muscular tube that connects the throat to the stomach. It pushes food down through a process called peristalsis.
- **Stomach:** A J-shaped organ that churns food and mixes it with strong acids and enzymes to break it down further.
- **Small Intestine:** A long, coiled tube where most of the nutrients from food are absorbed into the blood. It has three parts: the duodenum, jejunum, and ileum.
- **Large Intestine (Colon):** This is where water is absorbed from the remaining indigestible food matter, and then the waste material is stored.
- **Rectum:** The final section of the large intestine, which stores feces before they are eliminated.
- **Anus:** The opening at the end of the digestive tract through which feces leave the body.

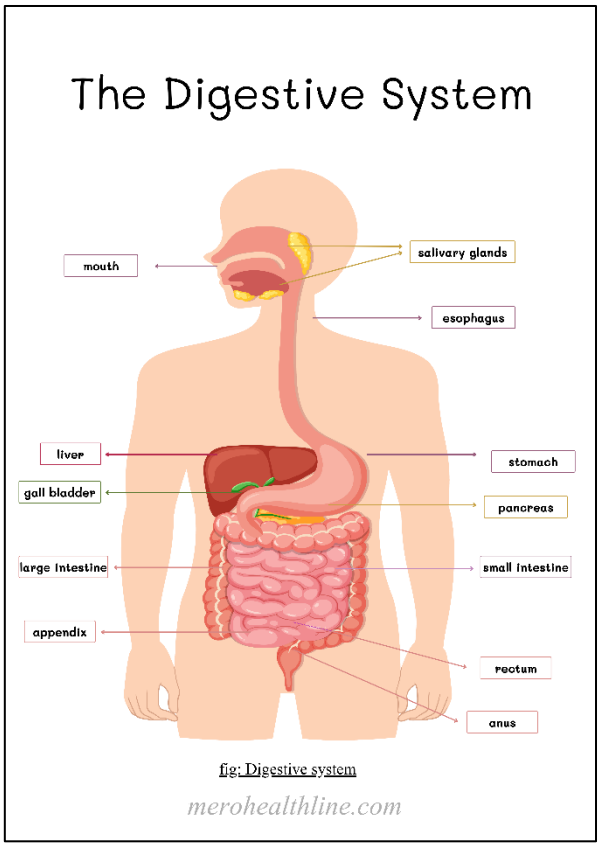


fig: Digestive system

Accessory Organs: These organs produce or store chemicals that help with digestion.

- **Liver:** Produces bile, which helps digest fat.
- **Gallbladder:** Stores and concentrates bile from the liver.
- **Pancreas:** Produces important enzymes and hormones, like insulin, that help break down food.

3. Define fluid and electrolyte. Describe the importance of body fluid and electrolyte balance in relation to health.

Answer:

Definition:

- **Fluid:** In the body, "fluid" refers to the water content, which is found inside our cells (intracellular fluid) and outside our cells (extracellular fluid, such as in our blood).
- **Electrolytes:** These are essential minerals in our body that have an electric charge when dissolved in fluid. Key electrolytes include sodium, potassium, calcium, chloride, magnesium, and phosphate.

Importance of Body Fluid and Electrolyte Balance:

Maintaining the right balance of fluids and electrolytes is critical for our health. This balance, known as homeostasis, ensures our body functions correctly.

Here's why it's so important:

- **Nerve and Muscle Function:** Electrolytes are essential for conducting nerve impulses and allowing muscles to contract and relax properly. For example, sodium helps generate nerve signals, and calcium is vital for muscle contraction.
- **Hydration:** Proper fluid balance, controlled by electrolytes like sodium, keeps our bodies hydrated. It ensures water is in the right amounts both inside and outside our cells.
- **Heart Function:** Electrolytes like potassium are crucial for keeping our heart rate and rhythm steady. An imbalance can lead to dangerous heart rhythm problems.
- **Regulating pH Level:** Electrolytes, especially bicarbonate, help maintain the body's acid-base (pH) balance, keeping it from becoming too acidic or too alkaline.
- **Moving Nutrients and Waste:** Fluids and electrolytes help move nutrients into our cells and remove waste products.

If this balance is disturbed by things like vomiting, diarrhea, or certain kidney problems, it can lead to serious health issues.

4. Enlist the nursing care for clients who are going for a bronchoscopy.

Answer:

A bronchoscopy is a procedure where a doctor looks into your lungs' airways using a thin tube called a bronchoscope. As nurses, we have key responsibilities before, during, and after the procedure.

Before the Procedure:

- **Informed Consent:** We must confirm that the patient understands the procedure and has signed a consent form.
- **NPO Status:** We ensure the patient has not had anything to eat or drink for 6-12 hours beforehand to prevent aspiration (food or liquid going into the lungs).
- **Patient Education:** We explain the procedure to the patient to reduce their anxiety. This includes telling them their throat will be numbed with a spray and they might receive a sedative to help them relax.
- **Baseline Vitals:** We record the patient's baseline vital signs (blood pressure, heart rate, breathing rate, oxygen saturation) to compare with readings during and after the procedure.
- **Remove Dentures:** We ask the patient to remove any dentures.

During the Procedure:

- **Monitoring:** We continuously monitor the patient's vital signs, especially their respiratory status and oxygen levels.
- **Positioning:** We help position the patient correctly, usually sitting up or lying on their back.
- **Assisting:** We assist the doctor with collecting any tissue samples (biopsies) and make sure they are labeled correctly and sent to the lab promptly.

After the Procedure:

- **Vital Signs Monitoring:** We continue to closely monitor vital signs and respiratory status for any signs of complications like bleeding or difficulty breathing.
- **Gag Reflex:** The numbing spray in the throat will suppress the patient's gag reflex. We must keep the patient NPO (nothing by mouth) until their gag reflex has returned, which usually takes about 1-2 hours. This is the most critical post-procedure check to prevent aspiration.
- **Patient Positioning:** The patient is often placed in a semi-Fowler's position to ease breathing and prevent aspiration.

- **Observation:** We watch for any complications such as significant bleeding (a small amount of blood-tinged sputum can be normal), chest tightness, or difficulty breathing and report them immediately.

5. State the signs and symptoms of myocardial infarction and explain the therapeutic as well as nursing management of a patient with acute myocardial infarction who visits the emergency department.

Answer:

A myocardial infarction (MI), or heart attack, is a life-threatening emergency that happens when blood flow to the heart muscle is blocked, causing tissue death.

Signs and Symptoms:

The classic symptom is chest pain, but there are others to watch for:

- **Chest Pain:** This is the main symptom. It's often described as a persistent and crushing pain in the center of the chest (substernal). The pain might radiate to the left arm, jaw, neck, or shoulder blades.
- **Shortness of Breath:** The patient may have difficulty breathing due to the heart's inability to pump effectively.
- **Diaphoresis (Sweating):** The patient may suddenly break out in a cold sweat.
- **Dizziness or Lightheadedness:** A feeling of being faint or dizzy.
- **Atypical Symptoms:** Some people, especially women and the elderly, may have atypical symptoms like nausea, indigestion, weakness, or unusual fatigue.
- **Levine's Sign:** The patient might clutch their chest with their hand.

Therapeutic and Nursing Management in the Emergency Department:

Our goal is to act quickly to restore blood flow and save heart muscle.

- **Immediate Assessment:** As soon as the patient arrives, we quickly assess their symptoms and check their vital signs.
- **Administer Oxygen:** We provide oxygen to the patient to improve oxygenation of the heart muscle, especially if their oxygen saturation is below 94%.
- **Obtain an ECG:** We perform a 12-lead ECG immediately. This test can show changes that indicate an MI.
- **Establish IV Access:** We insert two large-bore IV lines for giving emergency medications and fluids.
- **Administer Medications:** Under doctor's orders, we give medications like Aspirin, Nitroglycerin, and Morphine.
- **Blood Tests:** We draw blood to check for cardiac biomarkers (like troponin), which are released when the heart muscle is damaged.
- **Continuous Monitoring:** We place the patient on a cardiac monitor to watch for any life-threatening arrhythmias and continuously monitor their vital signs and pain level.
- **Prepare for Further Treatment:** We prepare the patient for possible urgent procedures like cardiac catheterization to open the blocked artery.
- **Provide Reassurance:** A heart attack is a very frightening event. We provide emotional support to the patient and their family to help reduce anxiety.

6. What is primary health care and how does it differ from secondary and tertiary care? [1+4]

Answer:

What is Primary Health Care?

Primary health care (PHC) is the first point of contact a person has with the health system. It's the essential,

everyday healthcare that is accessible to everyone in a community. Think of it as your healthcare home base. It includes things like visiting a general practitioner or a local health post for common illnesses, routine check-ups, health education, and managing long-term conditions. The main goal of primary care is to improve health for all, focusing on prevention and treatment at the earliest stage.

How it Differs from Secondary and Tertiary Care:

- **Primary Care:** This is your first stop for common health issues. It's provided by general practitioners and nurses in local clinics and health posts. The focus is on general health, prevention, and treating common illnesses.
- **Secondary Care:** This is more specialized care. You are referred to this level by your primary care provider for conditions that need a specialist's attention, like a cardiologist for a heart problem. It is usually provided in a hospital.
- **Tertiary Care:** This is highly specialized, advanced medical care for severe conditions requiring complex procedures like major surgery or advanced cancer treatment. This care is provided in specialized hospitals or medical centers.

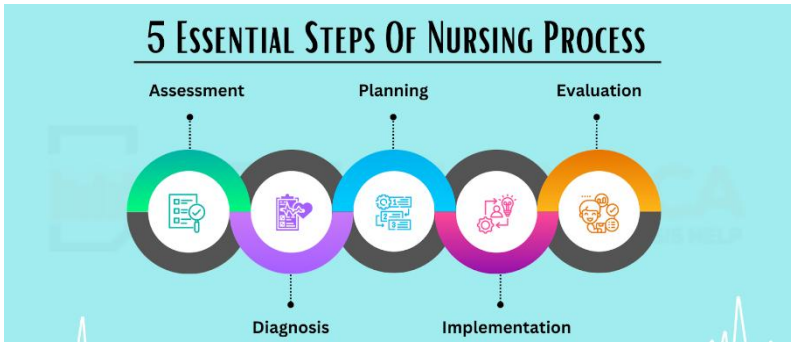
In short, as you move from primary to tertiary care, the complexity of the health problem and the level of specialization increases.

7. What is nursing process? Explain the different steps of the nursing process. [2+8]

Answer:

What is the Nursing Process?

The nursing process is a systematic, step-by-step method that nurses use to provide organized and patient-focused care. It's a problem-solving approach that ensures our care is logical and tailored to each patient's individual needs.



The Different Steps of the Nursing Process (ADPIE):

The process has five steps, remembered by the acronym **ADPIE**:

1. **A - Assessment:** This is the first step where we gather information about the patient. This includes what the patient tells us (subjective data) and what we can observe and measure (objective data).
2. **D - Diagnosis:** In this step, we analyze the information to identify the patient's health problems. This is a *nursing diagnosis*, which focuses on the patient's response to their illness (e.g., "Acute pain").
3. **P - Planning:** We create a care plan. This involves setting specific, measurable goals with the patient and deciding on the nursing actions (interventions) we will take to help the patient achieve those goals.
4. **I - Implementation:** This is the "action" phase. We carry out the nursing interventions that we planned, such as giving medications or educating the patient.
5. **E - Evaluation:** This is the final step. We check if the patient has met the goals we set. If the goals were not met, we need to reassess and change the care plan. The nursing process is a continuous cycle.

8. Discuss the impact of communicable diseases on public health. In your response, explain the role of nurses in the prevention, control and management of these diseases. Include strategies for educating the public, promoting vaccination and controlling outbreaks. [3+4+3]

Answer:

Impact of Communicable Diseases on Public Health:

Communicable (infectious) diseases have a huge impact on public health. They cause widespread illness and death (morbidity and mortality), put a heavy financial strain on countries (economic burden), and can overwhelm healthcare systems during outbreaks. They also cause social disruption and fear.

The Role of Nurses in Prevention, Control, and Management:

As nurses, we are on the front lines and play a crucial role in fighting communicable diseases.

- **Public Education and Prevention:** We are key educators. We teach communities about how to prevent diseases through good hygiene (like hand-washing), sanitation, and healthy lifestyles.
- **Promoting Vaccination:** Nurses are often the main providers of immunizations. We educate people about the importance and safety of vaccines to encourage uptake and achieve community immunity.
- **Controlling Outbreaks:**
    - **Early Detection:** We are often the first to spot signs of an outbreak and are responsible for reporting diseases to public health authorities.
    - **Infection Control:** In hospitals, we implement strict infection control measures, like using Personal Protective Equipment (PPE) and isolating infected patients, to stop the disease from spreading.
    - **Case Management and Contact Tracing:** We provide direct care to sick patients and help trace their contacts to stop the chain of transmission.

Section – B

9. What are the nursing interventions for a high-risk mother with diabetes during pregnancy?

Answer:

When a mother has diabetes during pregnancy, she is considered high-risk. Our nursing care focuses on keeping both mother and baby safe.

Here are the key nursing interventions:

- **Blood Glucose Monitoring:** We teach the mother how to check her blood sugar levels several times a day and keep a log. The goal is to keep blood sugar within a target range.
- **Patient Education on Diet and Exercise:** We educate her on eating a balanced diet with controlled carbohydrates and encourage moderate exercise (as approved by her doctor) to help control blood sugar.
- **Insulin Administration and Education:** If needed, we teach the mother how to safely inject insulin.
- **Fetal Monitoring:** We regularly monitor the baby's heart rate and assist with ultrasounds to check the baby's growth, as they can sometimes grow too large (macrosomia).
- **Monitoring for Complications:** We regularly check the mother's blood pressure and urine for signs of pre-eclampsia and educate her on the symptoms of high and low blood sugar.

10. Discuss the five specific therapeutic intervention in a case of uterine prolapse.

Answer:
Uterine prolapse is when the uterus slips down into the vagina. Treatment depends on the severity.
Here are five specific therapeutic interventions:

1. **Pelvic Floor Muscle Exercises (Kegel Exercises):** This is the first-line treatment for mild cases. We teach the patient how to strengthen their pelvic muscles to provide better support for the uterus.
2. **Vaginal Pessary:** This is a removable device placed into the vagina to support the uterus. It's a great non-surgical option, and we teach the patient how to care for it.
3. **Lifestyle Changes:** We advise patients on weight management, preventing constipation (with a high-fiber diet), and avoiding heavy lifting to reduce strain on the pelvic floor.
4. **Estrogen Therapy:** For postmenopausal women, the doctor may prescribe topical estrogen cream or tablets to help strengthen the weakened vaginal tissues.
5. **Surgical Repair:** For severe cases, surgery is an option. This can involve a **uterine suspension** (putting the uterus back in place) or a **hysterectomy** (removing the uterus), often combined with repairs to the vaginal walls.

11. Write about the causes of infertility in males and females. [3+2]

Answer:
Infertility is the inability to get pregnant after one year of trying.
Causes of Infertility in Males:

- **Abnormal Sperm:** This is the most common cause. It includes low sperm count, poor sperm movement, or abnormally shaped sperm. This can be due to genetic issues, infections, or enlarged veins in the testes (varicocele).
- **Sperm Delivery Problems:** Blockages in the reproductive tract caused by past infections, surgeries, or sexual problems can prevent sperm from getting out.
- **Lifestyle Factors:** Excessive alcohol use, smoking, overheating the testicles, and exposure to toxins can all impact male fertility.

Causes of Infertility in Females:

- **Ovulation Disorders:** This is the most common cause in women. Conditions like Polycystic Ovary Syndrome (PCOS) or hormonal imbalances can prevent the regular release of an egg.
- **Damage to Fallopian Tubes:** Blocked fallopian tubes prevent the egg and sperm from meeting. This is often caused by Pelvic Inflammatory Disease (PID) from untreated STIs or endometriosis.
- **Uterine or Cervical Issues:** Problems like uterine fibroids or abnormalities in the shape of the uterus can interfere with the implantation of a fertilized egg.
- **Age:** Female fertility naturally declines with age, especially after 35.

12. What is the role of a nurse in preventing pressure ulcers in critically ill children?

Answer:
Critically ill children are at high risk for developing pressure ulcers (bedsores). Our role in prevention is vital.
Here is the nurse's role:

- **Frequent Risk Assessment:** We use a special tool (like the Braden Q Scale) to regularly assess which children are at risk, looking at factors like immobility and nutrition.
- **Regular Repositioning:** This is the most important intervention. We must turn and reposition the child every 2-4 hours to relieve pressure on bony areas like the back of the head and heels.

- **Skin Care:** We keep the child's skin clean and dry. We inspect the skin daily, use gentle cleansers and moisturizers, and apply barrier creams to protect against moisture from incontinence.
- **Use of Pressure-Relieving Devices:** We use special mattresses or pads made of foam, gel, or air to reduce pressure. We also ensure medical devices like oxygen masks don't press on the skin.
- **Nutritional Support:** We work with the healthcare team to ensure the child receives enough calories, protein, and fluids to keep their skin healthy.

13. Write the characteristics of a mentally ill patient.

Answer:

Mental illness affects a person's mood, thinking, and behavior. As nurses, we provide care with compassion, recognizing that these characteristics are symptoms of an illness.

Common characteristics can include:

- **Disturbances in Thought:** Confused thinking, difficulty concentrating, or a detachment from reality, which can include delusions (false beliefs) or hallucinations (seeing or hearing things that aren't there).
- **Extreme Mood Changes:** Prolonged sadness and hopelessness (depression), uncontrollable "highs" (mania), or intense irritability and anger.
- **Behavioral Changes:** Withdrawing from friends and social activities, a noticeable decline in personal hygiene, or significant changes in sleeping or eating habits.
- **Excessive Fear or Worry:** Experiencing severe anxiety, panic attacks, or intense, irrational fears (phobias).
- **Ineffective Coping:** An inability to handle daily problems and stress.

14. State the process of communication in your health institution.

Answer:

Effective communication is essential for safe patient care. It is a process that involves several key steps:

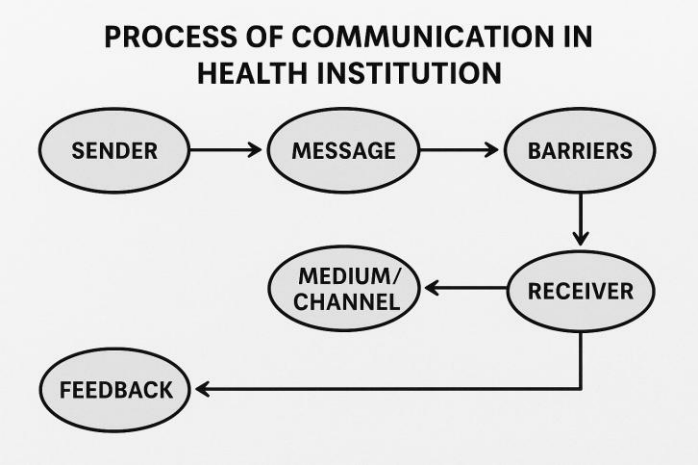
1. **The Sender:** The person who starts the communication (e.g., a nurse who needs to explain something to a patient).
2. **Encoding:** The sender turns their thought into a message using words (verbal) and body language (non-verbal).
3. **The Message:** The information being sent.
4. **The Channel:** The way the message is sent (e.g., face-to-face talk, written notes in a chart).
5. **The Receiver:** The person who gets the message.
6. **Decoding:** The receiver interprets the message.
7. **Feedback:** The receiver's response, which tells the sender if the message was understood correctly. This can be a verbal reply (like asking a) or a non-verbal cue (like a nod).

This process is a continuous loop. Good communication happens when the sender pays attention to the feedback to ensure the message was understood as intended.

15. Define pre-eclampsia. Discuss the management of pre-eclampsia in hospital setting.

Answer:

Definition of Pre-eclampsia:
Pre-eclampsia is a serious pregnancy complication characterized by the onset of **high blood pressure** and often **protein in the urine** after 20 weeks of gestation. It can damage organs and affect blood flow to the baby. If it gets worse, it can lead to seizures (eclampsia), which is a life-threatening emergency.



Management of Pre-eclampsia in a Hospital Setting:
The only cure is delivering the baby and placenta. Hospital management focuses on keeping the mother and baby safe until delivery.

- **Close Monitoring of the Mother:** We frequently check her blood pressure, urine, and blood tests to monitor her organ function. We also constantly assess for worsening symptoms like severe headaches or vision changes.
- **Fetal Monitoring:** We continuously monitor the baby's heart rate and use ultrasounds to check the baby's growth and well-being.
- **Medication Administration:** We give antihypertensive drugs (like labetalol) to lower dangerously high blood pressure. The key medication is **magnesium sulfate**, given intravenously to prevent seizures.
- **Seizure Precautions:** We make the patient's room safe by padding bed rails and keeping emergency equipment ready.
- **Fluid Management:** We carefully manage IV fluids to prevent fluid overload in the lungs.
- **Timing of Delivery:** The healthcare team decides the best time for delivery. If the mother or baby's condition worsens, delivery is necessary, regardless of how far along the pregnancy is.

16. What do you understand about the conflict? Explain the principle and process of conflict management that have to apply by the nurse manager during the ward management. [2+4+4]

Answer:

What is Conflict?
Conflict is a disagreement or struggle between two or more people over different ideas, goals, or values. It is a normal part of any workplace, including a hospital ward. If managed poorly, it can harm team morale and patient care, but if managed well, it can lead to positive changes.

Principles and Process of Conflict Management for a Nurse Manager:

Principles:

- **Address Conflict Early:** Don't let problems grow.
- **Be Respectful:** Create a safe space for people to talk.
- **Focus on the Issue, Not the Person:** Avoid blaming or personal attacks.
- **Encourage Open Communication:** Let everyone share their side.
- **Aim for a Win-Win Solution:** Find a solution that works for everyone involved.

Process of Conflict Management:
A nurse manager can follow these steps:

1. **Identify the Conflict:** Recognize that a conflict exists.
2. **Arrange a Private Meeting:** Bring the involved parties together in a neutral space.
3. **Set Ground Rules:** Establish rules for the conversation, like no interruptions.
4. **Let Each Party Speak:** Allow each person to explain their perspective without being interrupted.
5. **Identify the Core Problem:** Help the group agree on what the real issue is.
6. **Brainstorm Solutions:** Encourage the group to suggest ways to solve the problem together.
7. **Agree on a Solution:** Help the group choose the best solution and make a clear plan to implement it.
8. **Follow Up:** Check in later to make sure the solution is working and the conflict is resolved.