

EXPERIMENT NO.: 12

DATE:

AIM: TO RECORDING FORCE OF AIR EXPELLED USING PEAK FLOW METER

REQUIREMENT: Peak flow meter, graph paper

THEORY:

Peak flow is a simple measurement of how quickly you can blow air out of your lungs. It's often used to help diagnose and monitor asthma. A peak flow test involves blowing as hard as you can into a small handheld device called a peak flow meter.

Principle Peak flow meter

- ✓ The peak expiratory flow (PEF), also called peak expiratory flow rate (PEFR), is a person's maximum speed of expiration, as measured with a peak flow meter, a small, hand-held device used to monitor a person's ability to breathe out air.
- ✓ It measures the airflow through the bronchi and thus the degree of obstruction in the airways.
- ✓ Peak expiratory flow is typically measured in units of liters per minute (L/min).



Peak Flow Meter

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Procedure:

- Move the marker to the bottom of the numbered scale.
- Stand up straight.
- Take a deep breath. Fill your lungs all the way.
- Hold your breath while you place the mouthpiece in your mouth, between your teeth. Close your lips around it. Do not put your tongue against or inside the hole.
- Blow out as hard and fast as you can in a single blow. Your first burst of air is the most important. So blowing for a longer time will not affect your result.
- Write down the number you get.
- Move the marker back to the bottom and repeat all these steps 2 more times.
- The highest of the 3 numbers is your peak flow number.
- Write it down in your log chart.

Observation table:

Trial	Peak Expiratory Flow Rate (L/Min)
1	
2	
3	
Mean Value	

Result:

My peak expiratory flow rate is _____ L/Min.

Interpretation of result:

An important part of peak flow measurement is noting peak flow zones. Peak flow zones are areas of measurement on a peak flow meter. The goal of the peak flow zones is to show early symptoms of uncontrolled asthma. Peak flow zones are set differently for each person. Your healthcare provider will help determine your peak flow zones. The 3 peak flow zones are noted by color and include:

- **Green:** This means “go.” The green zone is 80% to 100% of your highest peak flow reading, or personal best. This is the zone you should be in every day. When your

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measurements are in this zone, air is moving well through the large airways in your lungs. It means that you can do your usual activities and go to sleep without trouble.

- **Yellow:** This means “caution” or “slow down.” The yellow zone is 50% to 80% of your personal best. Measurements in this zone are a sign that your large airways are starting to narrow. You may start to have mild symptoms, such as coughing, feeling tired, feeling short of breath, or feeling like your chest is tightening. These symptoms may keep you from your usual activities or from sleeping well.
- **Red:** This means “stop.” The red zone is less than 50% of your personal best. Readings in this zone mean you have severe narrowing of your large airways. This is a medical emergency. You should get help right away. You may be coughing, very short of breath, wheezing while breathing in and out, or having retractions (the muscles between the ribs are working hard to help you breathe). You may also have trouble walking and talking.

SIGNATURE OF TEACHER