

Lab 6: Spirometry

1. Measuring Respiratory Volumes

Subject	TV	IRV	ERV	VC	TV+IRV+ERV

2. Estimating Vital Capacity

Subject	VC estimate method 1	VC estimate method 2	VC measured

3. Why do the values not match precisely?

4. Lung Ventilation

Subject	Breathing Rate [breath / min]	TV [L/breath]	RMV [L/min]	PV [L/min]

5. How much air does a person approximately expire per hour? per day? per week? per year?

6. Absorption and excretion of gases:

You are locked in an airtight room that is 8 ft by 8 ft by 8 ft, i.e. has a volume of about 14'500 liter. Wow much oxygen is it this room?

7. How long would it take you to consume all the oxygen in the room?

8. Given an average life expectancy of 78 years , how many tons of carbon dioxide do you exhale over your life time?