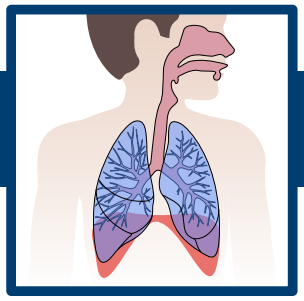
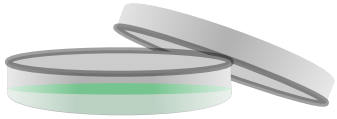
LESSON 3: RESPIRATORY EXPLORATORY



Exploratory Laboratory 3B: *Branching Out*

In this lab, you will consider the question: how and why do the lungs "branch out" on the inside? Students will use cauliflower as a model of branching airways.

Materials:



- 1 dissection kit (or fine blade paring knife)
- 1 stereoscope (or magnifying glass)
- 1 floret of cauliflower (white cauliflower works best)
- Red food dye (if not in dropper bottle, will need to use a disposable pipette)
- Running water (experiment needs to be by a sink)
- Petri dish
- Colored pencil (optional)
- Processing Out (to record observations)

Safety:

Always be careful when handling sharp instruments, such as those in a dissection kit or a paring knife. Wearing an apron is highly recommended to avoid accidental staining of clothing.

Procedure:

1. Use the scalpel (or paring knife) to slice a thin cutting across the length and width of a cauliflower floret.
2. Place the sliced floret into the Petri dish and observe under the stereoscope or magnifying glass.
3. Record your observations on the Processing Out. Drawing what you see is also an observation.
4. With the floret in the petri dish, dot the ends of the floret with four drops of dye.
5. Let stand for 2 minutes.
6. Hold the floret by the stem and lightly rinse under running water.
7. Dry with a paper towel.
8. Place the sliced floret into the Petri dish and observe under the stereoscope or magnifying glass.
9. Record your observations on the Processing Out. Drawing what you see is also an observation.