

Introduction to Systems Thinking

Lesson 1.2: The Case of the Obstructed Respiratory System

Overview

Quick Introduction: Foxes and Rabbits

Foxes and Rabbits Loopy Video (23 seconds)



Normal Respiratory Function

Human Respiratory System Loopy Video (23 seconds)

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With each breath, oxygen is inhaled and transported to the lungs. Blood moving through the lungs carries oxygen to the heart. From there, the oxygen-rich blood is pumped throughout the body, depositing oxygen in all the cells and picking up carbon dioxide, a waste gas. The oxygen-poor, carbon dioxide-rich blood then flows back to the heart and is pumped to the lungs, where the blood releases carbon dioxide and picks up oxygen, and the process continues.

Willem's Heart

The respiratory system is indeed an impressive thing when it works correctly, but it does not always do that.

For example, Willem's doctor has just told him that his heart is not operating quite as it should. Because of years of cigarette smoking and a subpar diet, Willem is suffering from atherosclerosis, a narrowing of the arteries (vessels carrying blood from the heart to the body) caused by plaque buildup on the artery walls. Willem has been experiencing some chest and leg pain, shortness of breath, and fatigue, and his doctor believes that Willem has an arterial blockage which is making his heart work harder than it should and slowing the movement of blood around his body.

Can you envision a revised Loopy animation that represents Willem's heart? Take a moment to think.

Now see if your ideas resemble this version:

Human Respiratory System with Blockage Loopy Video (21 seconds)

Human Respiratory System with Blockage Loopy



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