

Bronchial Biscuits



Healthy

healthy
airways



Smoker

nasty
black dirt



COPD

yucky
green
sputum

DECORATE lung shaped biscuits with branching bronchioli patterns!

Bronchial Biscuits Recipe

INGREDIENTS: 250g butter, 250g caster sugar, 2 eggs, 500g plain flour, 1tsp baking powder, ½ tsp vanilla extract, 1 lung shaped cookie cutter

METHOD: Beat together the butter and sugar then the eggs and vanilla extract. Sift together the flour and baking powder then stir into the butter mixture and work into a dough. Knead into a ball then wrap in clingfilm and leave to chill in the fridge for one hour.

Roll dough out to 0.5cm thick, cut lung shapes out, place onto baking tray lined with greaseproof paper.

Bake for 12-15 minutes at 170C.

Decorate once cool.

The air that you breathe goes down your windpipe into airways in your lungs. The airways spread out like tree branches into lots of smaller, thinner tubes called bronchioles. These tubes end in bunches of tiny round air sacs called alveoli. Lungs need to have lots of branches so that they can take in lots of air.

Balloon Breathing

EXPERIMENT using your own lungs to blow up balloons through different sized straws!

Which size straw will be easiest to blow through?



Healthy lungs are very stretchy. They need to be stretchy to take in lots of air for your body. COPD lungs are much less stretchy. When people smoke, the chemicals in cigarettes cause the lung muscles to break down and there is a build up of slimy sputum in the airways. It's much harder for air to get in because of the increase in resistance. This means people with COPD can't take in as much oxygen so they usually run out of breath much faster than healthy people.



TRANSFORM your balloons into a pair of lungs using marker pens!

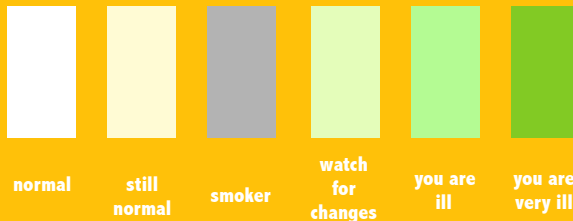
Snotty Sputum Smoothies

Make your own tasty smoothies at home using fruit, yoghurt and milk. Can you make the entire SNOT COLOUR CHART in smoothies?! Gross!



SNOT COLOUR CHART

Sputum is the slimy, slippery, snotty substance in your airways which traps dirt and germs that get into your lungs. Healthy white blood cells in your sputum eat germs to stop infections and small hairs called cilia push the sputum out of your lungs to be coughed up. Smoking stops the hairs and cells from working leaving dirt and germs in the lungs.



MAKE your own snotty sputum!

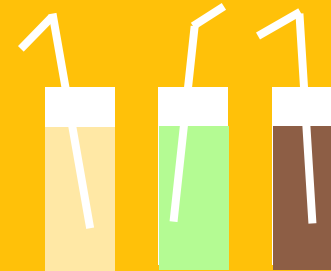
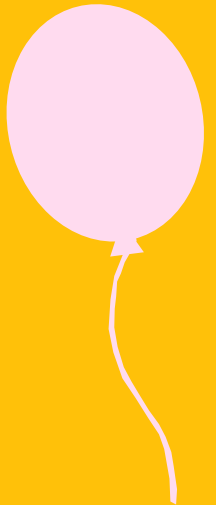
COPD Sputum Recipe
INGREDIENTS: a lump of lime jelly, a splash of milk, a smattering of chocolate sprinkles
METHOD: squish together in a sealed plastic bag until you have a disgusting mess. Yuck!

www.imperial.ac.uk/nhli/public_engagement

Bronchial Biscuits, Balloon Breathing



& Snotty Sputum Smoothies!



Your lungs are one of your largest organs. They allow you to breathe, taking in oxygen that is transported all around your body. It is very important to keep your lungs healthy. Chronic obstructive pulmonary disease (COPD for short) is a disease affecting the lungs that causes breathlessness, coughing and infections. The main cause of COPD is smoking. The lungs become full of chemicals from cigarettes which cause damage to the airways. At the National Heart & Lung Institute, researchers are working to understand more about the lungs and COPD.