

PURSUIT *for kids!*

SPRING 2021

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**WHEN DID YOU
KNOW YOU
WANTED TO BE
A SCIENTIST?
WITH:**

**MICHELLE LOLLIE
PHYSICIST**

**PETER CLIFT
GEOLOGIST**

**FATIMA RIVAS
CHEMIST**

AND MORE!

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SOLVING CRIME *with* POLLEN

DO YOU HAVE ALLERGIES? It's probably because of something called *pollen*.

During the spring, summer and fall seasons, pollen—the powdery bits made by certain plants—is released into the air and picked up by the wind, which brings it to other

plants to fertilize them. And inside of these pollen grains are proteins that commonly cause allergic reactions (such as sneezing, runny nose, and itchy eyes) when we breath them in.

Like minature, silent witnesses, pollen and spores (spores are the

single cells that grow into pollen grains) are too small to be seen by the naked eye, and criminals don't often realize that they have collected them from a crime scene.

They can attach to almost any surface, like clothing, and become

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Science @ Home

with Dr. Christine Lattin

Bugs WITH BIG FEET

Have you ever seen bugs like water striders that walk on top of the water? They are able to do this because water has a lot of surface tension, which means that the surface of the water is very strong and elastic. In this experiment you will make your own “water strider” that will be able to glide on top of the water.

WHAT YOU'LL NEED:

Index cards or sturdy pieces of cardstock

(NOTE: this won't work with normal paper!)

Scissors

Crayons

Scotch tape

A basin, sink, or tub full of water



The Experiment:

STEP ONE: Fold your card or cardstock in half and draw a shape on it. Make sure your bug has big feet, like a real water strider!

STEP TWO: Carefully cut out your bug with the scissors. Fold the feet out. Decorate it if you'd like with the crayons!

STEP THREE: Go to your basin or tub full of water. Carefully place your water strider on the surface of the water. It should be “walking” on the water just like a real water strider! You might even see little dimples in the water where the weight of your bug pushes against the water's surface.

STEP FOUR BONUS: Many water striders have feet with special hairs that repel the water. If you want to make your water strider have “water repelling” feet, you can coat them with a layer of butter. Water and oils like butter repel each other!

The Follow-up:

You've made a basic water strider with big feet, and part of the reason it stays on top of the water is because the weight of the bug is distributed over a large area of water underneath the bug's big foot. This is the same reason you can walk on top of snow using large snowshoes, or big feet like a snowshoe hare! What happens if you make another bug with small feet? Because the weight of the bug is pushing down over a smaller area, a smaller bug is more likely to sink. Another way to make a bug more likely to sink is by making it heavier, by taping pennies to it. If the weight of the bug is too heavy, the surface tension of the water isn't strong enough to support it and it will sink.

Get to know!

Dr. Christine Lattin is an assistant professor of biological sciences at LSU! Dr. Lattin studies hormones, the brain, and behavior in wild songbirds to understand how to help animals successfully choose mates, raise their young, escape from predators, and survive harsh winters and other challenging conditions.

AN EGG... with no shell!

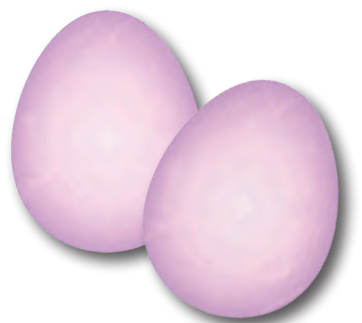
Have you ever seen an egg without a shell? You can make one using the three simple ingredients listed above. This is because eggshells are mostly made of a substance called calcium carbonate, which is also found in coral reefs, seashells, and even pearls! Strong acids like white vinegar can easily dissolve calcium carbonate, as you will see.

WHAT YOU'LL NEED:

A raw egg

A clear cup or jar

White vinegar (at least 16 ounces)



The Experiment:

STEP ONE: Carefully place the egg in the cup or jar.

STEP TWO: Pour the vinegar into the glass or jar. Make sure the egg is covered with liquid!

STEP THREE: Observe! Check your egg after an hour or so. Do you see little bubbles on the outside of the egg? Those are carbon dioxide bubbles, a byproduct of the reaction between the vinegar and eggshell. Science is happening!

STEP FOUR: After a day or so, check your egg again. Try removing it from the jar by (very carefully!) pouring off the vinegar and (very carefully!) catching the egg in your hand. Is the shell gone yet? You might be able to rub off the last of it as a white powder with your fingers. If your eggshell still feels pretty strong, put it back in your cup or jar, pour in some fresh vinegar, and check it again in a day.

STEP FIVE: Enjoy your “naked” egg!

The Follow-up:

You might notice a few things about your egg. First of all, it's still in an egg shape! That's because bird eggs have strong, stretchy membranes on the inside of the shell that help to hold everything in place. These membranes are “semipermeable,” which means some very tiny things (like water molecules) can pass through them. If you put your naked egg into a glass of pure water colored with food coloring, the egg will swell up with water and turn the color of the food coloring! Another fun thing to do with your naked egg is to bounce it in the sink from higher and higher heights until it breaks!