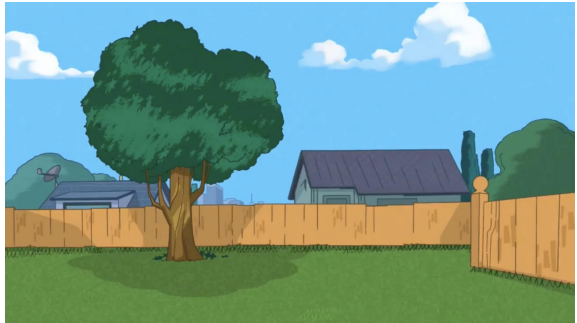

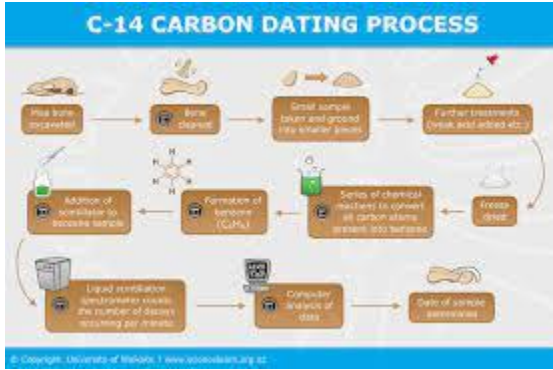
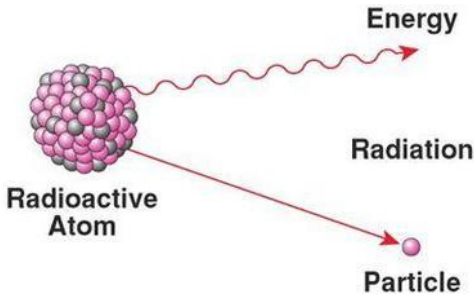

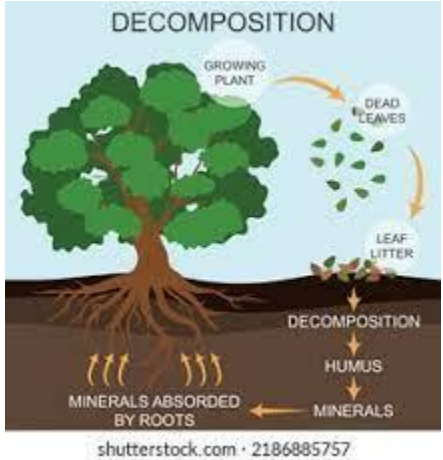


	Audio	Visual
1		What's that Mista Pat Intro
2	"Go get the stick, Cory!"	<p>Mista Pat stands in a sunny backyard. A fence and a tree are behind him. He throws a stick and Cory runs off screen to fetch it.</p> 
3	"Oh! Hey family! I'm just out here playing fetch with Cory. It sure is taking him a while to bring that stick back though."	Mista Pat faces the audience.
4	<p>Cory BARKS.</p> <p>"What do you have there, Cory?"</p>	<p>Cory comes running back to Mista Pat. He is dirty from digging in the ground. He has a huge bone in his mouth.</p> 
5	<p>Cory BARKS.</p> <p>"It's a bone! Now where did you get this?"</p>	Cory drops the bone into Mista Pat's hand.
6	<p>Cory BARKS.</p> <p>"You dug it up?! I wonder how long this has been buried back here for."</p>	Mista Pat scratches his head and curiously looks at the bone.

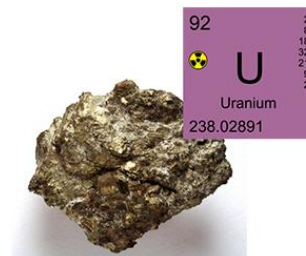
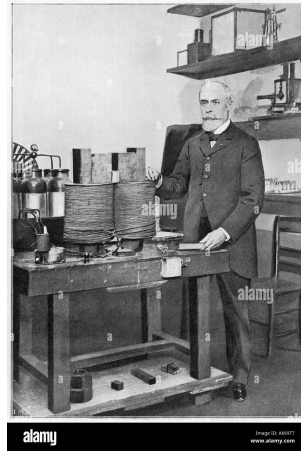
7	<p>Cory BARKS</p> <p>“You’re right, Cory! We know exactly how to find out how old this bone is by using radioactivity in a process called carbon 14-dating.”</p>	<p>Cory is excited.</p> <p>Mista Pat turns back to the audience.</p>
8	<p>“Carbon 14-dating is the process that scientists use to determine the age of materials that were once alive. This means that we can find out how old dinosaur fossils are! We can even find out how old a piece of paper is! Wow, talk about a glimpse into the past!”</p>	<p>Picture of carbon 14 dating process.</p> 
9	<p>“I bet you’re wondering how it works since paper isn’t alive. Well, it’s all about where it came from. Paper comes from trees and trees are living organisms!</p>	<p>Mista Pat points to the tree in the backyard.</p>
10	<p>“Now that’s crazy! Let’s go to the lab to find out how old this bone is.”</p> <p>Cory BARKS.</p>	<p>Mista Pat pulls out a leash and hooks it to Cory’s collar.</p> <p>Cory is excited for walks.</p>
11	<p>“So, carbon 14-dating is possible through radioactivity. But what is radioactivity?”</p>	<p>Mista Pat and Cory walk out of the backyard and onto a sidewalk.</p>
12	<p>“Radioactivity occurs in organic matter, like you and I. All matter contains atoms, but sometimes those atoms can become unstable and turn radioactive. This means that those atoms change every time they release energy. And the more energy that is released, the more these atoms become stable and stop changing!”</p>	<p>Radioactivity diagram.</p> 
13	<p>“It’s sort of like how your face gets when you run. When it’s stable your face holds its normal color. But as soon as you begin to run...”</p>	<p>Mista Pat and Cory are walking.</p>

	<p>BARK.</p> <p>“Energy releases and it changes! You start to sweat and your face gets all red. Once your energy is gone and you stop running...”</p> <p>you become stable again, and your face isn't firetruck red anymore.”</p>	<p>When Cory barks, he begins to run, pulling Mista Pat (holding the bone) behind him.</p>  <p>As Mista Pat runs, his face gets red.</p> <p>Cory stops running and Mista Pat's face turns back to normal.</p>
14	<p>This process of radioactivity is how different organic matter decays over time. And it can occur instantly or take millions of years!</p>	<p>Decomposition diagram.</p>  <p>shutterstock.com · 2186885757</p>
15	<p>Woah! Now, I'm exhausted!</p>	<p>Mista Pat wipes sweat from his forehead.</p>

16

Radioactivity has always existed, but we didn't know about it until 1895 when Conrad Roentgen, a physicist discovered x-rays. Another physicist named Henri Becquerel decided to further study the properties of x-rays and discovered that uranium could create radioactivity.

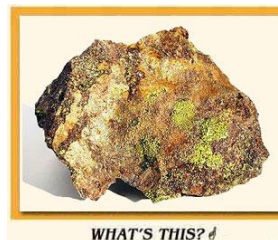
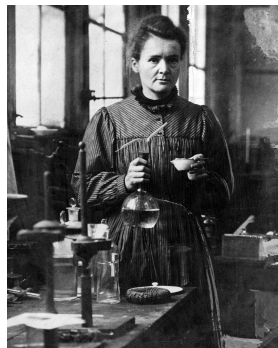
Picture of Henri Becquerel and uranium.


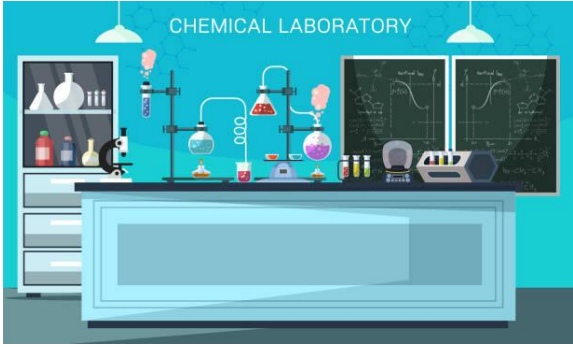


17

The term radioactivity was coined by chemist Marie Curie in 1898 when her husband, Pierre, and her discovered the elements radium and polonium. These elements helped scientists to find new ways to beat cancer!

Picture of Marie Curie and radium and polonium.



18	<p>There's some really cool jobs that use radioactivity all the time! Doctors use radioactivity in x-ray machines to see broken bones. Radiologists use it to find and treat different illnesses. And carbon 14-dating is used by archeologists to find out how old different artifacts are!</p>	<p>Pictures of doctor, radiologists, and archeologist.</p> 
19	<p>Speaking of carbon 14-dating, I think it's time we find out how old this bone is!</p>	<p>Mista Pat and Cory are at the lab. Mista Pat places the bone on the table and scans it.</p> <p>The table has a computer on it.</p> <p>Cory sits on a stool.</p> 
20	<p>No way! This bone is 135 million years old! This isn't just a bone; it's a fossil! Imagine what kind of dinosaur this came from! Maybe it came from a dinosaur like</p>	<p>Mista Pat spins the computer monitor around to face the audience.</p>

	our pal, Gertie.	
21	BARK! BARK!	Cory grabs the bone and takes off.
22	<p>Oh no, Cory! Don't eat that!</p> <p>Well that's going to have to be all for now, kids! See you soon! Peace!</p> <p>Cory, come back!</p>	<p>Mista Pat faces the audience for send off and then runs after Cory.</p>