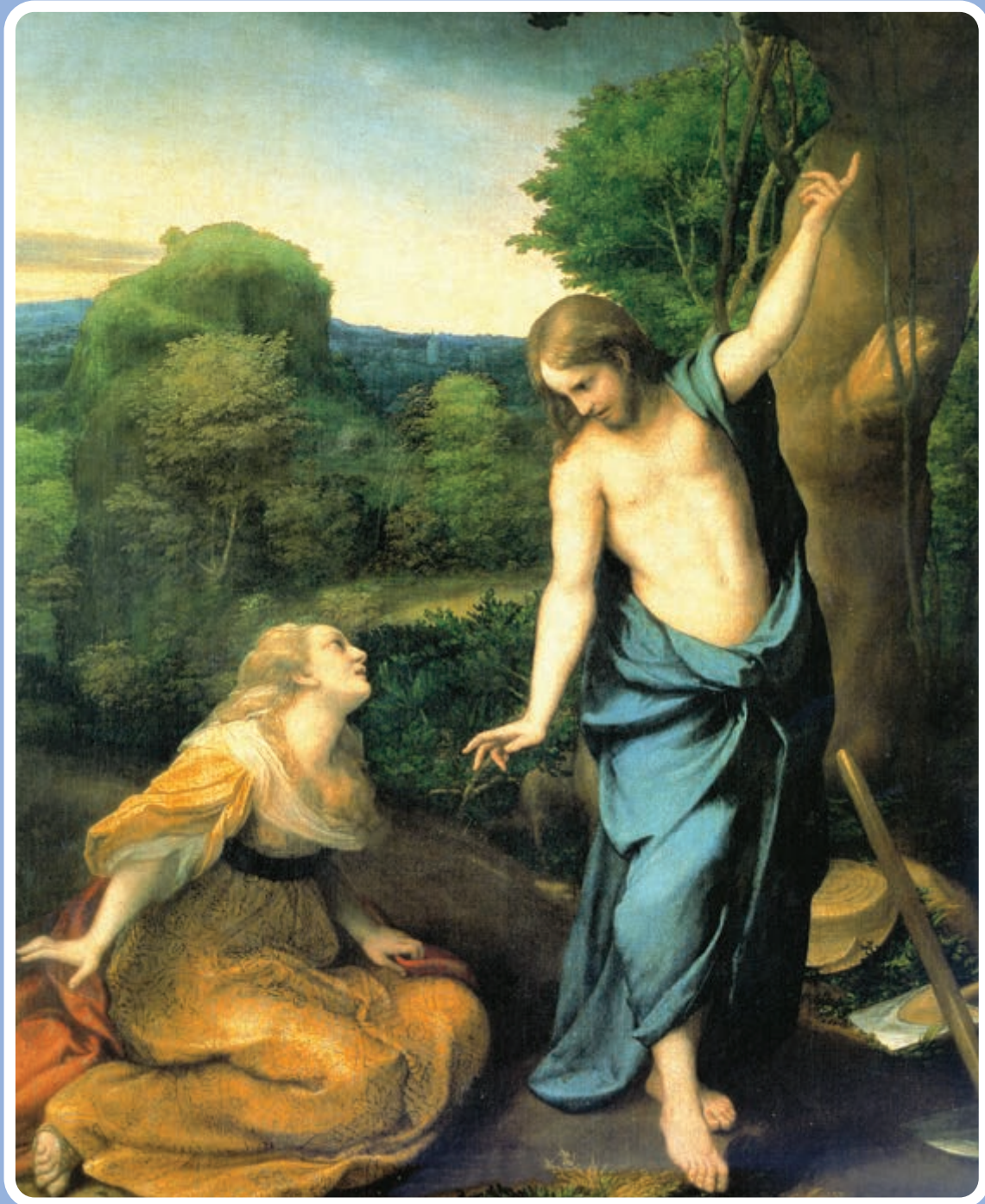


SETON PRESS

Kindergarten Science

for Young Catholics



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Introduction

Who made me?

Why is the sky blue?

Why do things fall to the ground?

How do seeds grow?

What makes sound and music?

Young children ask their parents hundreds of questions like these. In search of answers, we use our senses. By studying science, we obtain answers that both enlighten and delight.

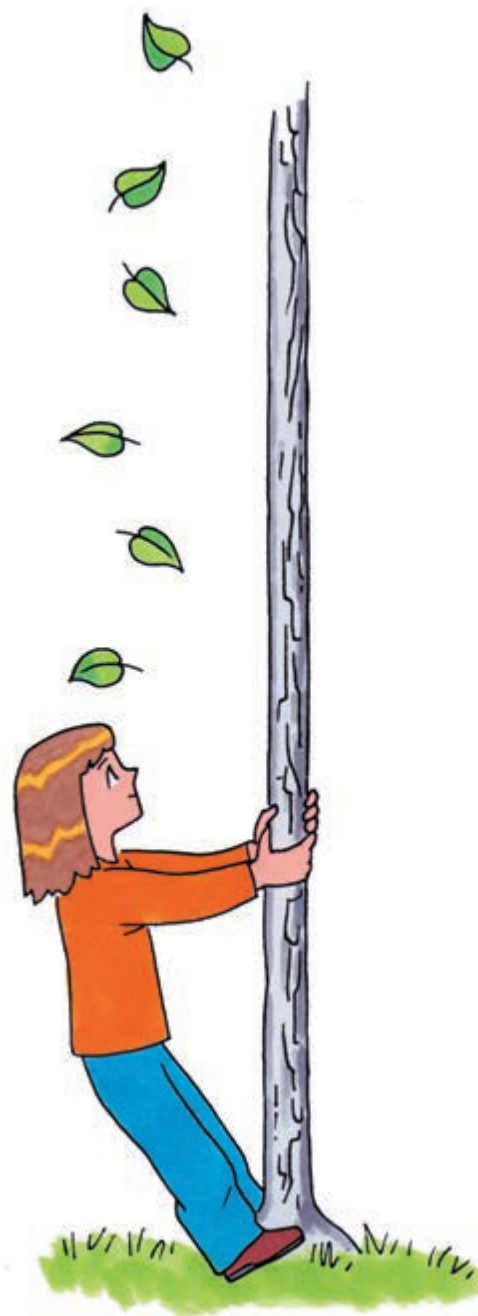
As Catholic parents, we teach our children about our Faith and about God, Who made us. Simply examining nature with its constancy tells us that God exists. We know He cares for us by providing the sun for heat and the rain to make plants grow for food. The sun rises each morning and sets each evening. Spring follows winter, and summer follows spring. Cats always give birth to kittens, and dogs bark and never meow. The order and design of the universe show us that a loving Supreme Being is in control.

Children today are expected to know more about science and technology than most of us learned when we were children. Even children who don't want to be scientists, engineers, or computer technicians will need science to cope with the rapidly changing world.

Kindergarten Science for Young Catholics suggests ways you can interest your kindergartner in science. It includes

- some basic information about science;
- a sampling of activities for children to do (although most of these activities can be done independently by an older child, a kindergartner-age child will require adult supervision) – in both the home and on field trips, such as to the park, zoo, museum, aquarium, planetarium, and local farms; and
- an appendix with practical tips on how to encourage you to develop good science programs, as well as a brief description of eight scientific concepts.

Many of the activities cost little or nothing and require no special equipment.



Bubbles

Who doesn't enjoy blowing bubbles? You can make bubbles at home, and they can be beautiful shapes and colors! Learning can be fun!

What you'll need

8 tablespoons dishwashing liquid
1 quart water
1 drinking straw
A shallow tray



What you'll do

1. Mix the dishwashing liquid with the water. Fill the shallow tray.
2. Blow through your straw as you move it slowly across the surface of the solution. How big are the bubbles you get?
3. Try making a very big bubble that covers the surface of the tray:

Dip one end of the straw into the sudsy solution, then hold the straw slightly above the surface of the solution. Blow into it very gently. You may have to try several times to make a really big bubble.

When you have made a bubble, touch it gently with a wet finger. What happens?

Make another big bubble. Touch this one with a dry finger. What happens?

4. Try making bubbles with a tin can open at both ends. (Don't cut yourself!) Dip the can into the soapy solution so that you get a soap "window" across one end when you pull it out. Blow gently on the other end to form a bubble. You can use wider tubes such as coffee cans to make still bigger bubbles.
5. Look closely at the bubbles you make. How many colors can you see? Do the colors change?
6. If you have a wand at home that is left over from a bottle of bubbles you bought at the store, you can use it with this bubble solution.

What you'll learn

Bubbles are bits of air or gas trapped inside a liquid ball. The surface of a bubble is very thin. Bubbles are particularly fragile when a dry object touches them. That's because soap film tends to stick to the object, which puts a strain on the bubble. So, if you want your bubbles to last longer, keep everything wet, even the sides of the drinking straw.

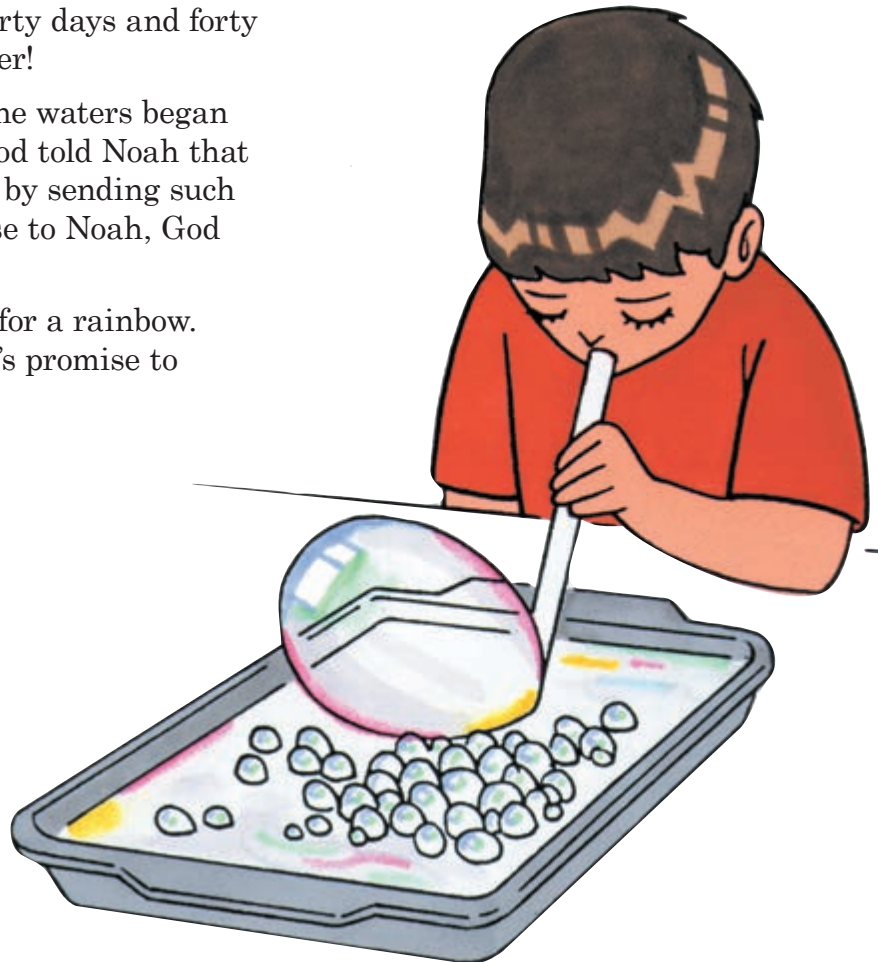


What God can do

The colors on the bubbles remind us of the colors of the rainbow. Long ago, God punished the wicked people of the world by sending a great Flood. All of the Earth's people and animals perished in that great Flood, except for one man and his family. The man's name was Noah. God told Noah to build a very large boat, called an ark. He then commanded Noah to fill the ark with two animals of every kind. When the ark was filled, Noah and his family entered the ark and closed its door. It began to rain. The rain continued for forty days and forty nights. The entire world was under water!

When the rain finally ended, and the waters began to dry, God made a promise to Noah. God told Noah that never again would He punish the world by sending such a great Flood. As a sign of God's promise to Noah, God put a rainbow in the sky.

After a heavy rain, we should look for a rainbow. If we see one, we should remember God's promise to Noah—and to each one of us!



Bugs!

Some bugs help us, some annoy us, and some are downright dangerous. Yet, we can learn so much from God's humblest creatures.

What you'll need

An insect guide and a spider guide from the bookstore or library—with pictures
Your magnifying glass

What you'll do

1. Search your home and neighborhood for bugs.

Parent Alert!

Look: Around your front door
In cracks in the sidewalk
On lamps
On lights hanging from the center of the room
On plants
In crevices in drawers
In corners of rooms
Around windows

2. Identify types of bugs using the guides. Did you find:

Ants?	Moths?
Spiders?	Flies?
Fleas?	Ladybugs?
Silverfish?	

3. Ants can teach us how some insects work together as a group. The Bible tells us to consider the ant and imitate his industrious ways.

Watch as ants scurry in and out of their ant hills, or they find some spilled food on the sidewalk.

Do they eat their food on the spot, or carry it back to their ant hill?

When an ant finds food, it runs back to the hill to “tell” the others. As it runs, it leaves a trail that other ants in the hill can smell. The ants find the food by smelling their way along the trail.

4. Find out what the difference is between an insect and a spider.

Why do spiders spin webs?
What are webs made of?

5. Draw pictures of what you see.



What you'll learn

Bugs do what they do to survive. They are constantly looking for food. Some bugs are both good and bad. Termites, for example, have a nasty reputation because they destroy people's houses by eating the wood. However, they also break down old trees, keeping the forest floor from becoming too cluttered with dead trees.

What God can do

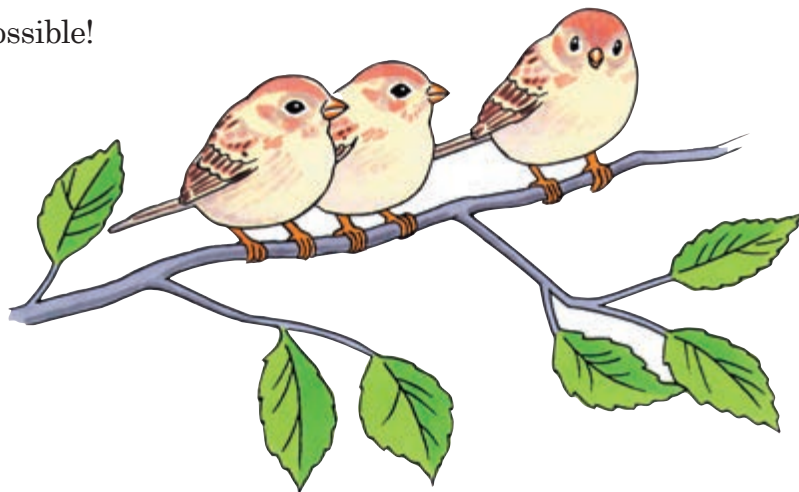
God often shows His great power through His saints. Saint Francis was a saint whom God had given power to control nature. There are many events recorded in the life of this very holy man when animals like wolves, birds, and fish listened to him! Saint Francis loved all the animals and plants because they are all part of God's creation.

The animals obeyed Saint Francis. Once, a wolf was terrorizing a town. Francis was visiting the town and saw all the frightened people running away from the fierce wolf. Francis walked up to the wolf over the protests of the people, "No, Brother Francis! You'll be killed!" But the wolf did not harm Francis; he didn't even growl. Saint Francis spoke to the wolf, "Brother Wolf, you are not being nice to the people of this town. Now be kind, and go back to your home, and do not bother these people again." The wolf became gentle and tame. The animal hung its head as if it were ashamed. Then the wolf turned away and left the town. The townspeople were never bothered by the wolf again!

Another time Saint Francis preached a sermon to the sparrows. The birds miraculously listened to the great saint. This is what Saint Francis said to them:

"My little sisters, the birds, you are bound to God, your Creator, and always in every place should you praise Him, because He has given you freedom to fly about everywhere. He has also given you double and triple beauty in your feathered clothing. He preserved you in Noah's ark, that you might not perish from the world. Still more do you owe Him because of the sky which God has given you for your home. Besides all this, you do not plant seeds or grow crops, but God feeds you. He has given you the streams and fountains for your drink; the mountains and valleys for your safety, and the high trees whereon to make your nests. Because you do not know how to spin or sow, God has clothed you, both you and your children. We can see that God your Creator loves you very much, when we see all the gifts He has given you. Therefore, my little sisters, beware of the sin of ingratitude, and always give praise and thanks to God."

With God, all things are possible!



It Floats!



We don't usually stop to wonder why a big cruise ship can float as well as a feather. This activity helps to explain.

What you'll need

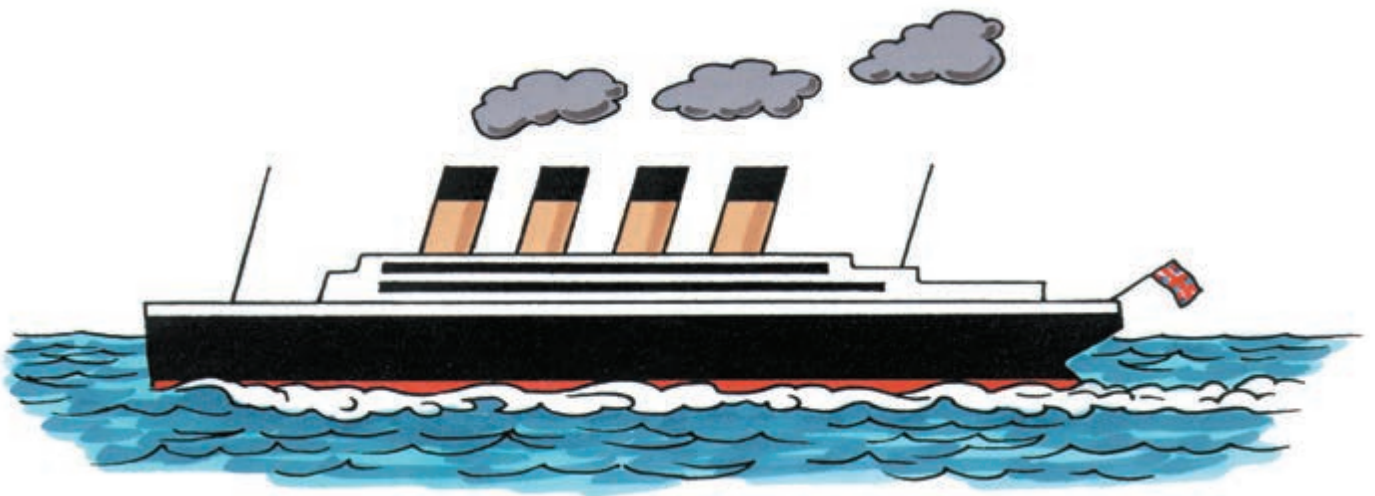
- 1 solid wood building block
- 1 plastic cap from a bottle
- 2 pieces of heavy-duty aluminum foil
- 1 chunk of clay

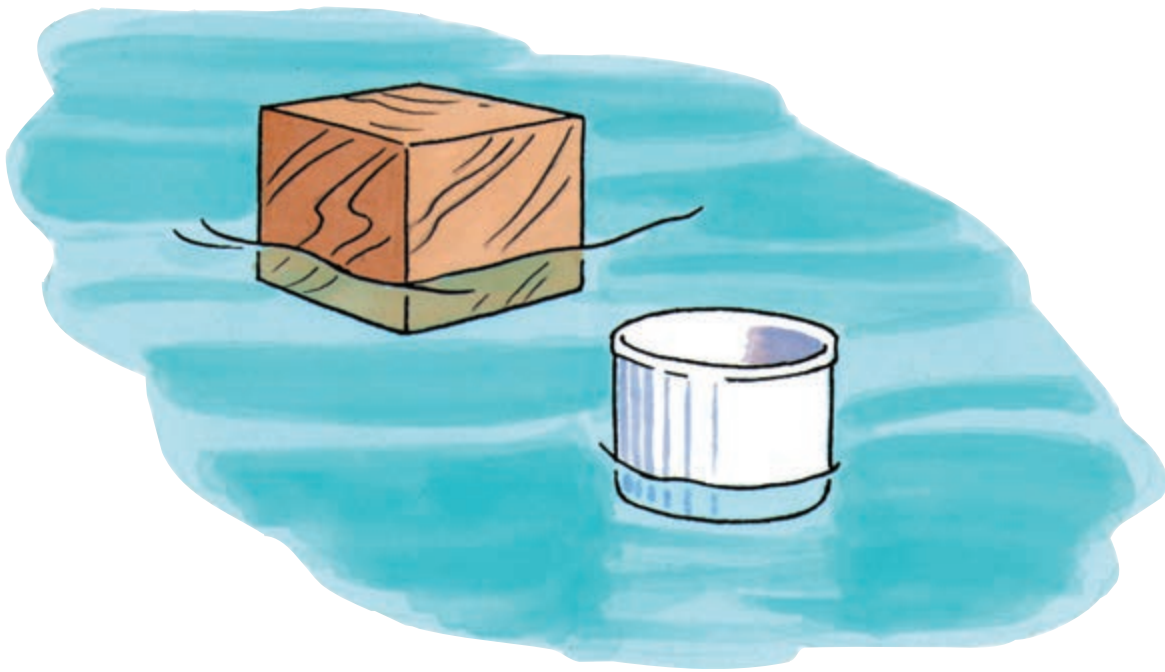
Parent Alert!

- 1 pair of pliers
- 1 bathtub (or sink) filled with water

What you'll do

1. Hold the wood block in one hand and the plastic cap in the other hand.
Which one feels heavier?
Do you think the wooden block will float, or will it sink?
Will the plastic cap float, or will it sink?
2. Put both of them *on* the water to test your predictions. What happens? Put both of them *under* the water. What happens now?
3. Take a piece of aluminum foil and squeeze it into a solid ball with the pliers. Drop it in the water. Does it float or sink?
4. Get another piece of aluminum foil the same size, and shape it into a little boat. Place it on top of the water. Does it float now?
5. Try the same experiment with clay. Make a ball and drop it in the water. What happens?
6. Shape the clay into a boat and put it *on* the water. Does it float now?





What you'll learn

The clay and foil balls sink because they are squeezed into small shapes, and only a small amount of water is trying to hold up the weight. When you spread out the clay or foil, it floats because the weight is supported by a lot more water.

What God can do

Jesus had been preaching to the crowds all day. He cured many who were sick. Then Jesus and His Apostles went into a boat, and Jesus fell asleep. While He was sleeping, a terrible storm came. The wind was howling, and the waves began to fill the boat with water. The Apostles thought they were going to drown. They woke Jesus and said, "Save us, Lord, for we perish!" Jesus scolded His Apostles for not having enough faith. Then He commanded the winds and the waves to be still, and suddenly everything was calm!

The Apostles were amazed. They wondered what sort of man Jesus was, that the winds and the waves should obey Him. They knew then that Jesus was no ordinary man—He is God!

Jesus shows us that He is never really asleep. He is always there to help us. He is always ready to keep us safe. We must always call on Jesus to help us in the troubling storms of life. He will always be there to protect us.





High Cathedral of St. Peter
Cologne, Germany

Kindergarten Science for Young Catholics Helps Children

- Improve logical thinking through science projects
- Develop an interest in learning science concepts
- Become aware of the order in the natural world

Each Book in Seton's Science for Young Catholics Series

- Improves students' understanding of science concepts
- Includes simple science projects
- Instills an appreciation of God as Creator

ISBN 978-1-60704-145-0



9 781607 041450



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1350 Progress Drive
Front Royal, VA 22630
(540) 636-9990



P-SC00-21