

# THINGS THAT GO WITH FOUR

- 1: Quadrilaterals
- 2: Four Leaf Clovers
- 3: The Beatles
- 4: Layers of the Rainforest

Each lesson takes ~ 30 min to teach Good for all ages!



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These lessons are designed to be used in RPM (Rapid Prompting Method) lessons. RPM is a teaching method developed by Soma Mukhopadhyay. For more information on RPM go to <a href="https://www.halo-soma.org/">https://www.halo-soma.org/</a>

#### <u>Legend For The Lesson</u>

Each lesson contains teaching points followed by a related sensory activity and/or question.

As you read the teaching point the **BOLD** words are the key words for the teaching point and should be written down on your paper as you teach.

Following the teaching point you will find:

S=Sensory activity (could include drawing, spelling, reading, looking at pictures, etc)

Q=Questions to go with teaching point (choices will be given in brackets after the question for students who need them, but not every student needs to use them)

Lessons should feel conversational so comment on each answer chosen and each response given.

Instructions and advice are displayed in italics, there's no need to read them aloud.

We recommend reading over the lesson before teaching it and modifying questions as needed depending on what goals you are working on with your child.

For more information on teaching lessons using RPM we recommend the following books written by Soma Mukhopadhyay:

- Understanding Autism through Rapid Prompting Method (Red)
- Curriculum Guide for Autism Using RPM (Orange)
- Developing Communication for Autism Using RPM (Green)

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#### **Lesson 1: Quadrilaterals**

Let's talk about **polygons** today! Maybe you haven't heard of the word polygon, or maybe you have, but you have definitely seen polygons before!

S - Let's practice spelling POLYGON

A polygon is a 2-dimensional (or **2D**) figure that contains **line segments** that meet at their **endpoints** and form a **closed figure**.

- Q Quick question, did I describe a polygon as being an OPEN or CLOSED figure? Yes it's completely closed!
- S Let's draw a line segment (help student as necessary to draw a straight line).
- S Now point to one of the endpoints of this line segment (if student is unsure you can give a choice by putting a piece of tape on the middle of the line then at one of the ends of the line and asking where the endpoint is)

The dimensions of a 2D figure are **length** and **width**, they are **flat** like a piece of paper, they have **no** third dimension of **height**.

Q - What would be an example of something 2 dimensional, something like a DRAWING or a BALL?

Yes a drawing has no height, it is 2 dimensional.

The line segments are called **sides** and each endpoint they meet at is called a **vertex**. A polygon is named based on the **number** of sides it has.

Q - So to figure out what kind of polygon we are dealing with, what do we need to do? Do we need to ANGLE the sides or COUNT the sides?

If there are 3 sides in the polygon, we have a triangle. In fact a triangle is the only 3-sided polygon. But if we increase the numbers of sides in a polygon to **4**, we form a **quadrilateral** and there are many different kinds of quadrilaterals! In fact, the word "quadrilateral" comes from the Latin words "**quadri**," which means **four**, and "**latus**", which means **side**.

- Q So translating the latin, you can say that quadrilateral literally means (FOUR SIDES / APPLE TREE)
- Q And does it sound like there are MANY kinds or ONE kind of quadrilaterals?

To understand which quadrilaterals are which, we need to talk about **angles**. An angle is the **space** between two adjacent sides, it's measured in **degrees**.

- S Practice spelling DEGREES
- Q Can you think of something completely different that we also measure in degrees? Do you think it's something like SHOE SIZE or TEMPERATURE?

Yes, but temperature uses different kinds of degrees!

Let's take a look at one of the more famous quadrilaterals, the rectangle.

Q - For clarification, would you say a rectangle is the shape of a DOOR or a BOWL?

All four angles in a rectangle are **90 degrees** which has a special name, they are called **right angles**.

- S (Fold a paper in half and position it in a right angle) Let's trace the right angle with our fingers, it's the space between the 2 sides of the paper.
- Q Do you think you find right angles in real life in CORNERS or in APPLES? Yes, most corners in a room will be at a right angle.



- S Help me flatten the paper so it's back to its original shape and let's trace our finger along this flat angle.
- Q The angle of a straight line is 90 degrees + 90 degrees, so what will that be? Do you think it's (180 or 320) degrees?



- S Now help me roll this paper into a cone, now the angle goes all the way around like a circle.
- Q The angle of a circle is 180 degrees + 180 degrees which is? (if hints are needed -> 18+18 =36 so 180 + 180 must be \_\_\_\_ (500 or 360) degrees?)



No matter the shape of the quadrilateral, its 4 angles will always add up to 360 degrees.

Q - Let's practice some adding, tell me an addition problem and I will see if I can solve it. (Using the number board, ask student to choose "any number + any number = " then talk through solving it for them.)

Any quadrilateral with 4 right angles is a rectangle. And if all the sides are the **same length** it is called a **square**.

Q - (*Draw choices like shown in this image*) Choose the one that looks most like a square to you.



Now let's play a game called "Find that quadrilateral!"

Q - What do you think, does that sound like a FUN or BORING game? Let's play and find out!

I'm going to give you some **clues** and you see if you can pick out the quadrilateral that I'm describing.

- Q What's a word that goes with clue? (Is it a CARD or a HINT about something)?
- Q Yes it will be a hint that will help you identify the shape, so will the clue be something TRUE or something FALSE about the shape?

A **kite** quadrilateral has 2 pairs of adjacent sides that are the same length - they actually look like a kite you can fly in the sky!

- Q Have you ever flown a kite? YES/NO
- S Which shape below looks like a kite? (Hold up options below #3 is correct)

The biggest name in quadrilaterals is a **parallelogram**. Lines are parallel when they are going in the same direction, like in an **equal sign (=)**.

Q - Find the shape below with 2 sets of parallel sides and you'll have the parallelogram! (Hold up options below - #1 is correct)

The only shape that is left to choose has exactly one set of parallel lines. It's called a **trapezoid**. It's name comes from a Greek word meaning "a little table".

- S Point to one of the parallel sides.
- Q What do you think, do you AGREE or DISAGREE that it looks like a little table? These aren't even all the different kinds of quadrilaterals that exist!
- S Let's finish off by practice drawing some of these shapes. Point to the one you would like to learn to draw. (Can draw them step by step together, prompting as necessary.)







Sources:

https://www.splashlearn.com/math-vocabulary/geometry/quadrilateral https://www.mathnasium.com/math-centers/hinsdale/news/all-about-quadrilaterals

#### **Lesson 2: Four Leaf Clovers**

Let's talk about **luck**. The idea that some people are lucky so more **good** things happen to them than **bad**.

- S Let's warm up and spell LUCK
- Q Do you think of yourself as a lucky person? LUCKY / NOT SURE

There's a lot of **superstitions** around what causes good or bad luck. A superstition is a belief that one event **causes** another, even though there is no physical process that links the two events, it's more like **magical thinking**.

- Q What do you think would be an example of a superstition:
  - A) Breaking a mirror causes 7 years of bad luck
  - B) The sun setting causes the sky to change color.
- Q Do you enjoy thinking MAGICALLY or do you prefer more REALISTIC thinking?

Like the example above, there are superstitions about things that people fear **bring bad luck**. Some say it's unlucky if a **black cat** crosses your path.

- Q What's a word that goes with cat? (OVAL / MEOW)
- Q What do you think about this, do you AGREE / DISAGREE that black cats are unlucky?

There are also superstitions about things that bring **good luck**. Like a finding a **penny** on the ground - find a penny, pick it up, and all the day you'll have good luck.

- Q You can't buy anything with a penny these days, but what do you think, are pennies lucky?
- Q What's another example of a coin you might find? (LION / QUARTER)
- Q Do you think a higher value coin is MORE lucky or NOT lucky at all?

I'm going to tell you about something that is considered lucky only because it's **so rare** to find one.

- Q So why is this thing lucky, because it's so \_\_\_\_ (RARE / LOOSE)
- Q And if something is rare, do you think that means they are EASY to find or HARD to find?

There is a plant that grows in grasses called clovers. Most clovers have 3 leaves.

- Q If you want to find clovers, where do you look? In \_\_\_\_ (GRASSES / HOUSES)
- Q Have you ever found clovers outside in the grass? YES/NO

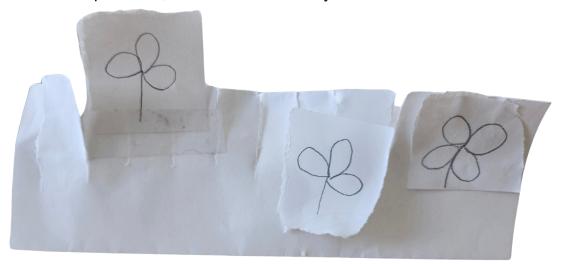
- S Since clovers grow in grasses let's create some grass to model this idea together. (Fold a piece of paper and with your student, rip the edge a few times to represent grass see below).
- S How many clovers should we add to the grass? (Student can select from the number board then draw them together on pieces of ripped paper and have student help decide where they should go in the grass and tape them there.)





But for every 1 clover in every 10,000 clovers that grow you'll find a 4 leaf clover.

- Q Do you AGREE or DISAGREE that having only 1 four leaf clover for every 10,000 clovers that grow is rare?
- Q And would you feel lucky if you found one? LUCKY / NOT REALLY
- S Let's draw a 4 leaf clover and add it to our grassy area. (Draw a 4 leaf clover together and have student select where to add it to the paper model.)
- S In the example below, which one is the "lucky" clover?



In **Ireland** they say that the three leaves of a clover represent **faith**, **hope and love**. Then if you find a four leaf clover, that extra leaf represents **luck**!

- S Let's practice spelling IRELAND
- Q Which of these things do you think is most important to have in your life? FAITH / HOPE / LOVE / LUCK

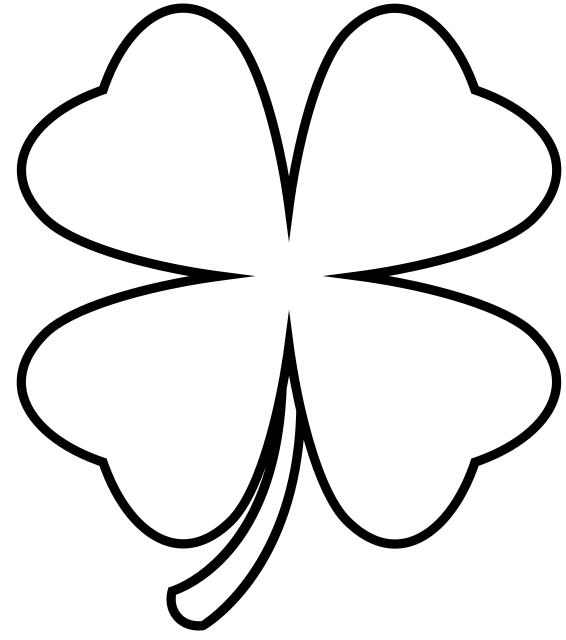
Optional Q - Why did you pick that one?

Sometimes clovers are called **shamrocks** which comes from an Irish word meaning "**little clover**". Interesting thing about shamrocks is that they can never grow a fourth leaf, they are stuck at 3!

Q - So we could say all shamrocks are clovers but all clovers are not \_\_\_\_ (SHAMROCKS / PLANTS)

#### **Creative Writing:**

Q - Using the outline below, come up with 4 words that are meaningful to you in your life just like the Irish did! (Help student with choices as needed and they can choose which leaf to write the word into by pointing to the image, help write the word as needed.)



Sources:

https://www.irelandbeforeyoudie.com/10-facts-about-the-shamrock-that-you-probably-never-knew/

#### **Lesson 3: The Beatles**

Let's talk a little bit about the musical band often referred to as the **Fab 4** - you may know them better as **The Beatles**!

S - Let's warm up and spell the word BEATLES - it's spelled a bit different than we would normally spell it so it's always good to practice!

Q - We learned that The Beatles were also known as the Fab \_\_\_\_\_ (4/6)

Fab 4 was the nickname of the band because there were **4 band members** and they were widely considered to be the most **fabulous** band at the time.

Q - What did we say Fab was short for in the band's nickname? Did we say it was FABULOUS or FABRIC?

Here is an interesting fact - when a nickname like Fab 4 or a sentence like Peter Piper picked a pack of pickle peppers all start with the **same sound or letter** - it is known as **alliteration**.

- Q So the nickname Fab 4 has the alliteration sound of Mmm or Fff?
- Q Let's finish this sentence together using some alliteration: Slippery snakes slide slowly \_\_\_\_\_ (SIDEWAYS/UNDERGROUND)

Okay, back to the Beatles - they were a band that was formed in Liverpool England in **1957** by Paul McCartney and John Lennon. John and Paul went to **school** together and loved to **write** and **perform** music together.

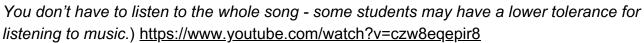
Q - Do you think you would prefer to WRITE the music or SING the songs after they are written?

Before long they were joined by George Harrison and a **drummer** named Ringo Starr and the band was **complete**! The Beatles would go on to become one of the most **popular** bands of all time!

- S Let's spell POPULAR
- Q What would be another word for popular? (If something is popular do you think it is well LIKED or GROSS?)
- Q So the Beatles formed they had 4 members 3 played guitar and handled singing and one was the drummer. If you were going to be in a band would you rather play: GUITAR or DRUMS?

The Beatles played shows all around England and Germany and then in **1963** they released their first single in England called "**Please Please Me**". The next year the Beatles became a hit across the ocean in **America**.

- Q So the Beatles released their first single in what year? 1783/1963
- Q Yes, and it was called Please Please \_\_\_\_\_ (SHOES/ME)
- S Let's take a quick listen to a clip of the song. (You can scan the QR code here with your device to hear the song or click the link below.



Q - What did you think? Did you like the song? SURE DID/NOT REALLY

Soon the Beatles had millions of **fans** all around the world! The fans became known as **Beatlemania**. Everywhere they went, thousands of people were waiting for them. Young fans would **scream** their names and wait for hours just to catch a **glimpse** of them.

- Q What do you think? Does it sound like the Beatles had a lot of fans? YES/NO
- Q What do you think it would be like to have thousands of people screaming your name and following you around? (Would it be SCARY/FUN?)

So just **how big** were the Beatles? They achieved many goals that **no other** musical band has ever **achieved**. In 1964 the top **5 songs** on the Billboard Charts were all Beatles songs. They released **20 #1 songs** and **19 records** that also were #1.

- Q If the Beatles achieved goals that no other musical band has ever achieved does that make the Beatles UNIQUE or COMMON?
- S That's right they are unique. They achieved a level of success that had been unheard of in music. Let's write a sentence with the word unique in it (It was unique for the Beatles music to be so \_\_\_\_\_\_ (POPULAR/EXCITING)).

By the end of the 1960's **tensions** were starting to rise within the band. They had spent a lot of time together and began to have some **disagreements**.

- S Let's spell the word TENSIONS if there are tensions it just means that everyone is not really getting along
- Q Why do you think there were rising tensions in the band? (Does it sound like maybe they had spent too much time TOGETHER or SLEEPING?)

Eventually the band began to **splinter** and each member began working on their own solo music. By **1970** the Beatles had **broken up**.

Q - If someone asked us what happened with The Beatles we could say that eventually the band began to splinter and they broke \_\_\_\_\_ (DOWN/UP)

Q- If we say the band began to splinter - what do you think that means? (Does it sound like the band is getting STRONGER or BREAKING apart?)

Q - How do you think all The Beatles fans who loved their music might have been feeling when the band finally broke up? (RELIEVED/SAD/HAPPY)

Was that the end for John, Paul, George and Ringo? No, of course not! All 4 guys **continued** to make music on their own. But sadly, they **never played** together **again** as a 4 man band.

Q- So if I said that was the end for John, Paul, George and Ringo in the music business - would you AGREE or DISAGREE?

Q- It definitely was not the end for them, we learned they all continued to make

\_\_\_\_\_\_ . (CLOTHES/MUSIC)



### <u>Creative Writing:</u>

Word Jumble - Let's see if we can unscramble these letters to make some words. Here is a hint - all the words will be from this lesson on The Beatles.

The letters can be written on ripped paper so they can be moved around while trying to solve the word. Letter tennis could also be used for this activity - so you would pick the first letter and have the student help with the next letter. Adjust the activity as needed for your student. Optional activity: You can work on printing out the unscrambled word

- 1. CMSUI (MUSIC)
- 2. UPPORAL (POPULAR)
- 3. DNAB (BAND)
- 4. AUITGR (GUITAR)
- 5. GNSEIR (SINGER)



#### Sources:

https://en.wikipedia.org/wiki/The\_Beatles

# **Lesson 4: Layers of the Rainforest**

Let's talk a little bit today about **rainforests**. Did you know that rainforests are dense **tropical** forests that receive a **high level of rain** each year.

S - Let's warm up and spell RAINFOREST Q - Now if they are described as being tropical forests - do you think that mean that
rainforests are typically HOT or COLD?  Q - Yes, they are known to be quite hot and humid - but we also know that they receive a high level of (RAIN/SNOW)
They are known to be one of the most <b>diverse</b> ecosystems on Earth! In the rainforest you will find a <b>large variety</b> of plants, animals and insects.
Q - So does it sound like we will find MANY or just a FEW different types of creatures living in the rainforest?
Q - If you had to pick one - what would you love to learn more about? The PLANTS, ANIMALS or INSECTS of the rainforest?
Now I don't know if you know this already or not - but here is a cool fact - typically a rainforest is divided into <b>4 main layers</b> . Each layer of the rainforest has its own <b>unique</b> characteristics.
Q - Now if someone asked us - we could tell them that the rainforest has 4 different (HOMES/LAYERS)
S - Each layer is described as being unique - let's practice spelling UNIQUE.  Q - What would be another word for unique? (Do you think SPECIAL or SMELLY would be a better word?)
S - Okay so we are going to take a little break from spelling and draw some lines. We are going to make a chart to show the 4 different layers found in the rainforest. Let's try drawing 4 horizontal lines across our page. (You can prompt as neccessary - make sure to leave some space between the lines so that we can fill in the names of the layers as we continue the lesson. An example drawing can be found on pg 15)
The first layer we are going to talk about is the <b>forest floor</b> . Like the name suggests - this layer covers the <b>ground</b> of the rainforest. This layer is covered in nutrient filled <b>soil</b> due to the high level of <b>decomposing</b> plant material.
Q - So the bottom layer of the rainforest is known as the forest (WINDOW/FLOOR)
S - Let's put this first layer on our drawing - can you point to the layer that would be the

forest floor. (You can work on any number of skills - for example the student can help you print the word floor or just spell it on the letterboard as you print it in the correct area.)

The forest floor is the **darkest layer** of the rainforest - with only about **2%** of **light** being able to make it down through the trees to the floor.

Q- So does it sound like the forest floor layer of the rainforest would be mostly in LIGHT or DARKNESS?

Q- It would be mostly dark - it might be hard to see and move around down there - how do you feel about trying to walk around when it's all dark? (Do you find it FRUSTRATING or EXCITING?)

The next layer of the rainforest is called the **understory**. This is a layer of small trees, bushes and plants that have **adapted** to life with very little light!

S- Okay, let's label the next layer on our diagram - can you help me spell UNDERSTORY

Many of the plants in this layer have **large leaves** - these large leaves allow the plant to **capture** as much sunlight as possible since this layer of the rainforest only get about **5%** of **light** throughout the day.



S - Let's try drawing a leaf together! (*Prompt as necessary - use the example on this page.*)

Q - Why do the plants in this layer of the rainforest need these large leaves? Did we say it was because they need to capture as much RAIN or SUN as possible?

Many of the **ground animals** that live in the rainforest **inhabit** the first two layers - these animals include tapirs, leopards, jaguars, snakes and many different insects.

Q - If these first 2 layers of the rainforest are fairly dark - we can probably assume that animals like leopards and jaguars must have pretty good EYE SIGHT or SPEED?

The third layer is where most of the **tree dwelling** wildlife in the rainforest live - this area is called the **canopy**. In the canopy we will find monkeys, birds, frogs and more insects.

Q - So the next layer of the rainforest is known as the \_\_\_\_\_ (CANOPY/WALL)

Q - The canopy is where most of the wildlife lives - can you tell me a creature we might find living in the canopy? (Did we say we would find RHINOS or MONKEYS?)

S - Let's find that layer on our picture so we can label it - can you point to the 3rd layer of the rainforest?

The canopy layer of the rainforest is near the **tops** of all the taller trees. It is an area full of **branches and leaves**. This layer **absorbs** all the sunlight and rain and keeps the lower layers of the rainforest shaded and humid.

- Q So what will we find more of in the canopy layer of the rainforest? Will we find more BRANCHES or ROOTS?
- S This is the layer that absorbs most of the sunlight and rain let's spell ABSORB
- Q If something is being absorbed do you think that means that it's being TAKEN in or PUSHED away?

(Extra activity:	Let's write a sentence together using the word absorb. A large sponge ca
absorb a lot of	(WATER/DIRT)).

This canopy is very important for the **survival** of many of the species that call the rainforest home as it provides most of the **food and shelter** that they need to survive.

- Q The canopy is a very important part of the rainforest would you AGREE or DISAGREE?
- Q What did we say it provides to the species that call the rainforest home? We learned it provides food and \_\_\_\_\_ (SHELTER/TELEVISION)

The last and highest level of the rainforest is known as the **emergent layer**. The trees found in this layer are nearly **200 feet tall**!

- S Okay, let's practice some pointing one more time let's point to the top layer of the rainforest on our diagram.
- Q And this top layer is known as the EMERGENT or the DISAPPEARING layer?

Due to the **height** of the trees - this is the layer that has the most **winged creatures**. Many birds like eagles and parrots as well as insects and bats call the emergent layer home.

- Q Why do so many winged creatures live in this layer? Did we say it was because the trees are so TALL or COLORFUL?
- Q Parrots are pretty amazing birds tell me something that you know about parrots. (Would you describe parrots as being very LOUD or COLORFUL birds?)



## **Creative Writing:**

Let's write a quick story to go with our picture!

The words in brackets are choices for students who may need them. The words in CAPITALS are words that the student can help spell as you write out the story. Feel free to add to or adjust the story as needed.

On a (SUNNY/CL	OUDY) day there were three PARROTS flying high in the
(SKY/RAINFOREST). T	hey were on the HUNT for some
(FOOD/FRIENDS).	
Parrots love to eat	(NUTS/BERRIES) but today they were having a DIFFICULT
time finding food. They found a $\ceil{time}$	ΓALL tree to finally (SWING/LAND) on. To
their surprise the tree was full of	(PECANS/WALNUTS). They had a FEAST!
After eating all the nuts the three	e (BLUE/GREEN) parrots decided to take a
quick (NAP/SWIM). <sup>·</sup>	They had an AMAZING day!



Source: https://en.wikipedia.org/wiki/Rainforest