

#1 Confluence: CHIMPANZEE (6 million years ago) **

Hi humans!

I am your **closest living relative**.

Guess who I am?

[Wait until they guess "Chimpanzee".]

Yes! I am **Chimpanzee!**

My home is in **Africa**.

There are **two species** within my group.

One species is **chimpanzee**.

The other species is called a **bonobo [bo-NO-bo]**.

I am chimpanzee! And I am very, very happy to be your cousin.



Bonobo

#2 Confluence: GORILLA (7 million years ago) *

Hello humans and chimpanzees!

I am your **next closest relative**.

Guess who I am?

[Wait for someone to guess "Gorilla".]

Yes! I am **Gorilla**!

Just like chimpanzees, we gorillas live in **Africa**.

I am **Gorilla**!



#3 Confluence: ORANGUTAN (14 million years ago) **

Hello cousins!

I am another kind of **ape**. I am your next closest relative, after gorillas.

I have **orange hair**. Who am I?

[Wait for them to say "Orangutan.".]

Yes! I am **Orangutan!**

We live only in the **tropics of Asia**.

I am **Orangutan!** And I am very, very **happy** to be your cousin.

Are you happy to my cousin, too?



#4 Confluence: **GIBBON** (18 million years ago)**

Hello cousins!

This is Confluence Number 4 in the River of Life journey, so our group is your **fourth closest relative**.

There are **12 species** in my branch of life. We are the last of the **apes** that you will meet on this journey. Who am I?

[Wait for 10 seconds, and then continue reading.]

Here is a **clue**: My name **rhymes** with "ribbon."

[Wait for someone to guess "Gibbon".]

Yes! I am **Gibbon**!



#5 Confluence: MONKEYS of AFRICA and ASIA *****
(25 million years ago)

Hello all you apes! I am not an ape, but I am still a **primate**. Guess who I am?

[Wait for somebody to say "Monkey".]

Yes! I am **Monkey**!

My group includes the **100 kinds** of monkeys who live in **Africa or Asia**. Among us are the baboons, mandrills, langur monkeys, and me: **Colobus [COL-o-bus] Monkey**.

My group has asked me to speak to you because I have the **prettiest tail** of all! It is pure **white**, and oh so **fluffy**!

But what about all of you apes?

Let me have a look at you:
Please stand up and turn the other way.

[Wait for them to turn.]

Oh! I feel so **sorry** for you!

Why did **evolution** take away your tails? The only thing you have left is a useless little "**tail bone**" that breaks really easily when you fall on your butt. How ridiculous!

I love my tail! I am **Colobus Monkey**!



#6 Confluence: MONKEYS of SOUTH AMERICA ***
(40 million years ago)

Hello cousins! I am a **monkey**, too.
There are **nearly 100 kinds** of monkeys in my group.
None of us live in Africa or Asia.

Guess what **continent** we live on?

[Wait for someone to say "South America".]

Yes! We live in **South America**.

I have been chosen to represent all the monkeys of South America
because I am a great **acrobat**. Guess who I am?

Here is a **clue**: I am named after something small that has 8 legs.

[Wait for someone to say "Spider Monkey".]

Yes! I am **Spider Monkey**!

My **tail** is not pretty. But I can make it do something that no African
or Asian monkey can do. I can make it **curl around a branch** and
hold on!

I am **Spider Monkey**!



#7 Confluence: TARSIER [TAR-see-er]
(58 million years ago)

Hello cousins!

You will never guess who I am. So I will just tell you:

I am **Tarsier** [TAR-see-er]!

I am **really upset** that you chose this time of day to play this game!
Can any of you guess why?

[Wait for someone to say "nocturnal".]

Yes! I am **nocturnal**! I sleep during the day and am awake at night.

I have huge eyes so that I can see in the dark.

I am **Tarsier**!



#8 Confluence: LEMURS, LORISES, BUSHBABIES ***
(63 million years ago)

Hi cousins! Guess who I am?

Here is a clue: My name rhymes with the **thickest bone** in your leg.

[Wait for someone to say "femur" for the bone, and "lemur" to rhyme with it.]

Yes! I am **Lemur**! My group also includes **Bushbabies** and the **Slow Loris**.

Do any of you know the name of the only place where lemurs are found in the wild?

[Wait for someone to guess "Madagascar", or think of a clue to help them guess.]

Yes! **Madagascar**. Madagascar is the big island next to Africa.

I am **Lemur**! And I am **proud** to be **related** to all of you.

Are you proud to be related to me?



Slow Loris



Lemur



Bushbaby

#9 Confluence: TREE SHREW
(70 million years ago)

Hello cousins!

You will never guess who I am. So I will tell you:

I am **Tree Shrew!** That is a silly name because I am not actually a shrew. I look more like a little **squirrel.** But I am not a squirrel.

Since I am your cousin, that means you humans are related to me.

Who is **happy** to learn that I am actually your cousin?

[Look up and see.]

Who is **thrilled** that I am your cousin?

[Look up and see.]

I am **Tree Shrew!**

And I am **thrilled** to be related to all of you!



tree shrew

#10 Confluence: RODENTS and RABBITS ***
(75 million years ago)

Hello cousins! I am a tiny mammal.

My name rhymes with the kind of building that humans live in.

[Wait for somebody to guess "House", then "Mouse".]

Yes! I am **Mouse**!

I represent all the **Rodents** and **Rabbits** of the world.

There are more than **2000 species** of us alive today!

There are **mice** and **rats** and **lemmings**.

There are **chipmunks** and **squirrels**.

There are **marmots** and **ground hogs**.

There are **beavers** and **porcupines**.

There are **hamsters** and **guinea pigs** and **bunny rabbits**.

Are you humans **proud** to related to all of us?

I am **Mouse**!



#11 Confluence: LAURASIATHERES *****
[lor-ASIA-theers] (85 million years ago)

Hello, cousins! Guess who I am?

[Howl like a Wolf, until somebody says "Wolf."]

Yes! I am **Wolf!** I was chosen to represent **2,000 species** of mammals.

My group includes all the **horses** and **cows** and **sheep** . . .
all the **camels** and **goats** and **deer** . . .
all the **hippos** and **rhinos** and **giraffes** . . .
and many, many more.

My group also includes all the **bears** and **hyenas** and **big cats**, like **lions** and **cheetahs** and **jaguars**.

All the **dogs and cats** who live with you in your home are also part of my group, too. So your **pets** are your cousins, too!

My group also includes mammals who **fly through the air** . . .

[Wait for somebody to say "bat".]

And we also include the **biggest animal who ever lived**. Who is that?

[Wait for somebody to say "Whale" or "Blue Whale"]

Yes! My group includes the **whales** and **dolphins**, and also the **seals** and **walruses**.

I am **Wolf!**

[Howl like a Wolf as you return to your seat.]

#12 Confluence: XENARTHANS (zee-NAR-thrans) **
(95 million years ago)

Hello cousins!

Here is a **clue** to help you guess who I am:

When I get scared, I curl up into a ball.

[Wait for somebody to guess "Armadillo."]

Yes! I am **Armadillo!**

In addition to **armadillos**, my group also includes **tree sloths** and **ant-eaters**.

We are in the same group because we all evolved in **South America**.

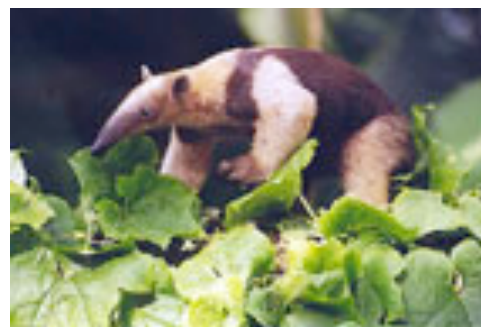
I am **Armadillo** and I **love being part of a family** that includes all of you!



Tree sloth



armadillo



anteater

#13 Confluence: AFROTHERES *****
[AF-ro-theers] (105 million years ago)

Hello, cousins! Guess who I am?

[Bend over with your head down. Swing your arm next to your head like a trunk. Wait for someone to guess "Elephant".]

Yes! I am **ELEPHANT!** Guess what **continent** we evolved on?

[Wait for somebody to guess "Africa"]

Yes! **Africa!**

There are 70 species in my group, including the very first animal listed in the dictionary. Guess who that is?

[Wait for somebody to guess "Aardvark"]

Yes! **Aardvark!**

My group also includes **Hyrax**, which looks like a rodent, but isn't a rodent. It also includes the **Golden Mole**, which isn't actually a mole. Remember: hyraxes and golden moles are more closely related to me than they are to rodents.

My group also includes a **sea mammal** who is more closely related to me than to a whale or seal. Guess who that is?

[Wait for somebody to guess manatee or dugong.]

Yes! **Manatees** and **Dugongs!** I am **Elephant!**



aardvark



hyrax



golden mole

#14 Confluence: MARSUPIAL MAMMALS! ****
(140 million years ago)

Hello, cousins! Guess who I am?

[Jump like a KANGAROO. Keep hopping till somebody guesses "Kangaroo."]

Yes, I am **Kangaroo!**

Almost everybody in my group lives only in **Australia.**

We are a very different kind of mammal from all of you.

We are **marsupial** mammals. Our females all have **pouches** on their bellies to carry **babies** in after they are born.

Besides us **kangaroos**, the marsupials include **bandicoots** and **wombats**. We've got **koalas** and **Tasmanian Devils**, too.

Only one **marsupial** lives outside of Australia: It lives in **North and South America**. Who is it?

[Wait for somebody to guess "possum".]

Yes, **Possum** is a marsupial mammal too!

I am Kangaroo!



koala



kanagaroo



Tasmanian devil

#15 Confluence: MONOTREMES

[MON-oh-treems] (180 million years ago)

Hello cousins!

Just like the Marsupials, I live in **Australia**.

I am one of the **strangest** creatures alive today.

Guess who I am?

[Wait for somebody to guess "Duck-billed Platypus".]

Yes! I am **Duck-billed Platypus!** My head looks like a duck. I have webbed feet, too.

My group also includes **Spiny Echidnas**. [ee-KID-nuhs]

Our group produces **milk** like mammals do, but we lay **eggs** like reptiles do.

Evolution has made me halfway between a **reptile** and a **mammal**.

I am **Duck-billed Platypus!**



Duck-billed platypus



Spiny echidna

#16 Confluence: REPTILES AND BIRDS
(310 million years ago)

Hello cousins! Guess who I am?

[Move your arms or whole body like a snake.]

Yes! I am **Snake!**

I belong to a larger group whose name starts with "R".

[Wait for somebody to guess "Reptile"]

Yes! I belong to the **Reptiles.**

Reptiles includes **snakes, lizards, alligators, crocodiles,** and something with four legs that can hide inside its shell.

[Wait for somebody to guess "Turtle".]

Yes! Turtles!

Back in the time of the dinosaurs, some of us **reptiles began to fly.** Those flying reptiles went extinct when the dinosaurs went extinct.

But another kind of flying creature survived that extinction, and they are now our closest cousin. **So who is our flying cousin?**

[Wait for somebody to guess "Birds".]

Yes! Birds!

Our group includes both the living **reptiles** and all the **birds.**

I am SNAKE!

#17 Confluence: AMPHIBIANS (340 million years ago)

**

Hello cousins! Guess who I am?

[Jump like a frog. . . Wait for somebody to guess "Frog".]

Yes! I am **Frog!**

My group includes **5,000 species** of **Amphibians**.

Amphibians include all the **frogs** and **toads** of the world.

We also include something whose name starts with "S".

[Wait for somebody to say "Salamander".]

Yes! **Salamanders!**

Unlike birds and reptiles, all amphibians must **lay our eggs** in water.

I am **Frog!**



#18 Confluence: LUNGFISH
(417 million years ago)

Hello cousins!

Guess who I am?

[Wait for somebody to guess "Fish."]

Yes I am a **fish**.

But now you need to guess **what kind of fish**, because I am your **closest fish relative**.

Here is a **clue**: My name **rhymes** with "**dung-dish**".

[Wait for somebody to guess "Lungfish". Hint: The first word is something you breathe with.]

Yes! I am **Lungfish!** I am **Lungfish!**

Even though I am a **fish**, I have real **lungs**, too, so I can **breathe air** when my **pond** dries up!

Your **ancestors** of long ago looked a lot like me.

Does that make you **feel special?** . . .

I am **Lungfish!**



#19 Confluence: COELACANTH [SEAL-uh-kanth] ****
(425 million years ago)

Hello cousins!

Guess who I am?

[Wait for somebody to guess "Fish"].

Yes. I am a fish, but **what kind** of fish?

Here is a **clue**: Scientists have called me a "**living fossil**" because everybody thought I went extinct with the dinosaurs until I was discovered alive in the deep ocean 70 years ago.

[Wait for somebody to guess Coelacanth. If nobody can, just keep reading.]

I am **Coelacanth!** **[SEAL-uh-kanth]**

My closest relative is a **lungfish**. But lungfish must live in **freshwater**. I live only in the **deep ocean**.

This means that when your great-great-great-great-**grandfather** was the same as my great-great-great-great-grandfather, we all lived in the ocean together. And YOUR **ancestors** were fish that looked like me!

I am **Coelacanth!**



#20 Confluence: RAY-FINNED FISHES ****
(450 million years ago)

Hello cousins!

Guess who I am?

[Wait for somebody to guess "Fish," but not "Shark"]

Yes, I am a fish. Almost any kind of fish you can think of is part of my big family.

Some of us live in the ocean, like **swordfish** and **tuna**.

Some of us live in rivers and lakes, like **trout** and **minnows**.

And some of us live in coral reefs, like **Nemo** and **Dora**.

My group also includes animals that don't look much like a fish, even though they really are fish. One kind looks like a snake . .

[Wait for somebody to guess "eel"]

Yes, **eel**.

Another kind was named after a land mammal that **gallops** . . .

[Wait for somebody to guess "seahorse"]

Yes, **seahorse**.

I am Fish!



#21 Confluence: SHARKS and RAYS *****
(460 million years ago)

[Speak in a sly, evil tone of voice.]

Hello **FOOD** — oh, I mean, COUSINS!

I am so happy to **EAT** you — I mean, **SEE** you.

I am **Shark!**

My group includes all the **sharks** and **rays**.

We are **missing** something in our bodies that all of you have. What might that be?

[Wait for somebody to guess "bones". Or give them a clue: "It rhymes with something you must turn off in a movie theater."]

Yes, my friends, we lack **bones**. But I don't miss them at all! We sharks never have to **worry** about **breaking a bone**. Instead, we have something inside us that is strong like a bone, but it is also flexible. What might that be?

[Wait for somebody to guess "cartilage". If they need a hint, say, "Your ear is made of this."]

Yes . . . **cartilage!**

I am **Shark!**



#22 Confluence: LAMPREYS
(530 million years ago)

Hello, cousins!

Guess who I am?

Here is a clue. I look like an **eel**, but I am not an eel. My name rhymes with "**damp-tree**".

[Wait for somebody to guess "lamprey". If they cannot, give another clue: "The first syllable is something you turn on at night in order to see."]

I am LAMPREY!

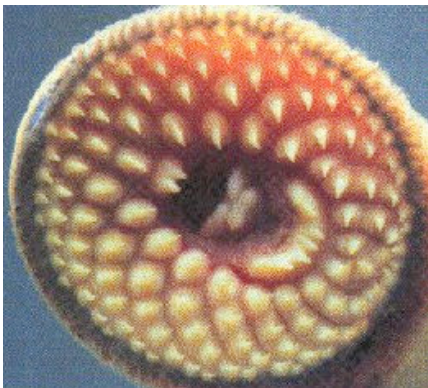
Sharks have something in their bodies that I am missing. What might that be?

Here is a CLUE: a famous shark **movie** has this title, and we humans use this body part to bite and chew.

[Wait for somebody to say "JAWS".]

Yes, I am missing **jaws**, and so did your own ancient ancestor that you share with me.

Instead, my mouth is like a **suction cup**, with lots of little **teeth**.



#23 Confluence: LANCELETS
(560 million years ago)

Hi cousins! You will never guess who I am, so I will tell you:

I am **Lancelet**!

Lancelets are the size and shape of your **little finger**.

We like to **hide** in the **sand** in the **ocean**.

I am **missing** something. Remember how "lungfish" was the last creature that had **lungs**? Well, the ancestor you share with me is **missing** something that **rhymes** with "frills".

[Wait for somebody to say "gills".]

Yes, we are **missing gills**. So how do we **breathe**?

[Wait for somebody to say "skin". If nobody is right, say that it rhymes with "thin".]

Yes! We **breathe through our skin**! That's why we have to stay small.

I am **Lancelet**.



#24 Confluence: SEA SQUIRTS (or Tunicate) ****
(565 million years ago)

Hi everybody! My name **rhymes** with "Bee Hurt".

[Wait for somebody to guess "Sea Squirt". If nobody is right, then say that the first word is "Sea".]

Yes! I am **SEA SQUIRT!**

Another name for me is "**Tunicate**" (Tune-i-cate)

As an adult, I look like a **paper sack** sitting on the bottom of the ocean.

But young sea squirts look like **tadpoles**. They have **muscles** and can **swim**.

When they turn into **teenagers**, they stop swimming and lose all their muscles. They also **lose** something else. It rhymes with "**train**".

[Wait for somebody to guess "brain".]

Yes! Our teenagers lose their **brain!** And adult sea squirts are brainless, too.

I am **Sea Squirt!**

I am **Sea Squirt!**



adult



young

#25 Confluence: ECHINODERMS *****
(ee-KINE-oh-derms) (570 million years ago)

Hello! My name ends in "fish", but I am not a fish. Guess who I am?

[Wait until somebody says "Starfish".]

Yes! I am **Starfish!** My group includes **6,000 species** of **starfish, sea urchins, sea cucumbers,** and something that rhymes with "hand holler".

[Wait until somebody says "sand dollar".]

Yes! **Sand Dollars** are in my group too.

Our group is called "**Echinoderm**" (eee-KINE-oh-derm), which means "spiny skin".

All of us Echinoderms have "**radial symmetry**". This means that we don't have a right side or a left side. We don't have a head or a tail. Instead, we have the same **shape** as the wheels on something you ride that has pedals . . .

[Wait until somebody says "bicycle".]

Yes! Our insides are shaped like the spokes on a bicycle wheel. That shape is called **radial symmetry**. I am **Starfish!**



#26 Confluence: LOTS OF COOL CREATURES *****
(590 million years ago)

Hello cousins! The group I represent has many different kinds of animals. Some of us live in the **sea**, but a lot of us are found on **land**. I am one of the land-dwellers. Guess who I am?

[Flap your arms and wait for someone to guess "butterfly"]

Yes! I am a **Butterfly**! My group includes all the **insects** and **spiders** and **centipedes** and **scorpions**. Our cousins who live in the water include **crayfish**, **shrimp**, **lobsters**, **crabs** and **barnacles**.

Our Stream of Life also includes creatures who live in the ocean and whose name **rhymes** with "**slams**".

[Wait for someone to guess "clams"]

Yes! **Clams**! Even though **butterflies** and **clams** have very different forms, we are more closely related to each other than we are to any of you. So that's why we all join your "**River of Life**" journey at the same time—in one fell swoop.

In addition to clams, our group includes **oysters**, **octopuses**, **squids**, **snails**, and **slugs**.

Also in our group is an animal whose name rhymes with "**germ**".

[Wait for someone to guess "worm". Or offer a hint: "Many of them live in the soil."]

Yes! **Worm**! We love worms, too!

I am **Butterfly**!

#27 Confluence: PRIMITIVE FLATWORMS
(630 million years ago)

Hello cousins! My name rhymes with "**slat germ**".

[Wait till somebody guesses "Flat Worm".]

Yes! I am **Flat Worm**!

Here is the coolest thing about us:

Flatworms **eat** and **poop** through the same hole!

Yes! We **eat** and **poop** through the very same hole!

The **ancestor** you share with me also **ate** and **pooped** through one hole, too!

So tell me this: Are you **proud** to be **related** to a flatworm?

[Wait for some responses.]

I am **proud** to be **related** to you! I am **Flat Worm**!



#28 Confluence: **JELLYFISH, SEA ANEMONES,** ** **and CORALS** (700 million years ago)

Hello cousins! I am **not** a **fish** and I am **not** a **starfish**.

But my **name** does **end** in “fish.” Who am I?

[Wait for them to guess “Jellyfish”.]

Yes! I am **Jellyfish**!

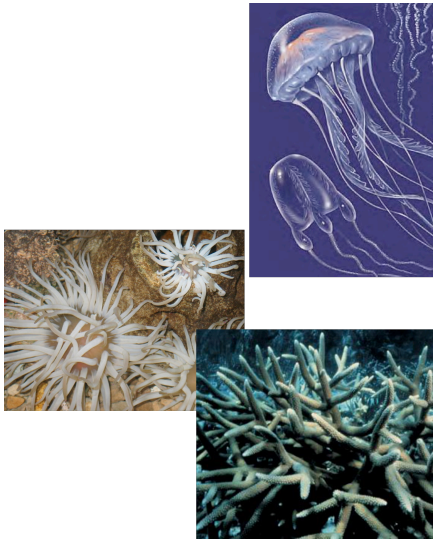
My group also has **corals** and **sea anemones** **[uh-NEM-uh-nees]**.

Just like **flatworms**, we **jellyfish eat** and **poop** through the same hole.

We have **no heart**, **no kidney**, and **no brain**.

We **breathe** through our **skin** — and so did your ancestors!

I am **Jellyfish**!



#29 Confluence: COMB JELLIES
(740 million years ago)

Hello cousins! My name has **two words**.

The **first word** is something you humans drag through your **hair**.

[Wait for somebody to guess "comb".]

Yes! My first name is "**Comb**".

My second name is something you add to a peanut butter sandwich.

[Wait for someone to guess "jelly".]

Yes! My second name is "**jelly**".

So I am "**Comb Jelly**".

I look a bit like a jellyfish. Jellyfish **capture food** by stinging. But I capture food like a **cowboy** captures a wild horse.

I toss a lasso [**lass-OOH**] out into the water and drag in my food.

I am **Comb Jelly**!



comb jelly

#30 Confluence: PLACOZOAN (Plack-oh-ZOH-an) *****
(780 million years ago)

Hello, my dear and precious cousins!

I am **so excited** to meet all of you! I have been so **lonely**!

Can you **guess why**?

[Wait silently to the count of ten.]

I shall tell you why I am lonely.

Throughout this whole "River of Life" journey, you **humans** have been meeting **gibbons** and **monkeys** and **kangaroos** and **snakes** and **frogs** and **fish** and **sharks** and **lampreys** and **sea squirts** and **insects** and **flatworms** and **jellyfish**.

Meanwhile, I have been playing the same game for the same amount of time. But along my stream of life I have met absolutely **nobody**!

I have been traveling **my little creek** in the River of Life all by myself.

I understand that, for you **humans**, this is **Confluence 30**. Other creatures have joined your journey **30 times**.

But for me, this is **the very first confluence**. I am the **only living species** in a single **genus** within a single **family** within a single **order** and a single **class** of a whole **phylum** of life! I am **unique**!

I have been **waiting** a very long time to meet **my cousins**. And look how many of you there are! Your group has already gathered up more than **1 million species** on your journey. Wow!!!

My name is **Placozoan [Plack-oh-ZOH-an]**. I am tiny and I look like an **ameba**, but I am more complex than any ameba. I am **Placozoan**, and I am no longer **lonely**!



#31 Confluence: SPONGES ****
(800 million years ago)

Hello cousins!

One hundred years ago, every **kitchen** and **bathroom** in America had my **dead body** in it, even though I only live in the **ocean**. Who am I?

Here is a **clue**: Today humans use something made out of **plastic** instead of me. But they still call it by my **name**.

[Wait for somebody to guess "sponge".]

Yes, I am **sponge**!

Here is something **amazing** to know about me:

If a **stormy sea** tears me to pieces, those pieces **disintegrate** into little swimming cells.

Those **swimmers** then come back together and form a single big sponge once again!

I am SPONGE!



#32 Confluence: "CHOANOFLAGELLATES" ***
[ko-AN-oh-FLAJ-el-ates] (900 million years ago)

Hello cousins!

I am **Choanoflagellate!** [ko-AN-oh-FLAJ-el-ate]

Who among you was **Sponge?**

[Look up to see who raises their hand.]

Hello Sponge!

A single one of your **cells** looks just like me.

But unlike you, I prefer to be **alone** my whole life.

I do not join with other cells to form a colony like yours.

I am **Choanoflagellate!**



#33 Confluence: the DRIPS
(950 million years ago)

Hello cousins!

None of you has heard of my group. But my name is something that a leaky faucet does.

[Wait for somebody to guess, "drips." If nobody guesses correctly say, "Here is a clue: It rhymes with "hips".]

Yes! My group is the **Drips**!

You heard right. We are **Drips** — and proud of it!

We are all **parasites**.

I am a Drip!

#34 Confluence: FUNGI
(1 billion years ago)

Hello cousins! Guess who I am?

[Let them guess for awhile. If nobody guesses "Mushroom, read the clue that follows . . .]

Here is a **clue**: My name **rhymes** with "**flush-broom**", and many of you have eaten me.

[Wait for someone to say "Mushroom".]

Yes! I am **mushroom**!

My group includes all the kinds of **fungi** in the world.

There are **more kinds** of us alive today than there are all of you combined.

Fungi include something that grows on old **bread** and **cheese**:

What is that?

[Wait till someone says "Mold".]

Yes! **Mold**!

I am **Mushroom**!

#35 Confluence: AMOEBOZOANS
(1.2 billion years ago)

**

Hello cousins!

My **name** starts with an "**A**".

Here is a **clue**:

If you have ever looked at a **drop of pond water** through a **microscope**, you have probably seen me.

Who am I?

[Wait for somebody to say "Ameba".]

Yes! I am **Ameba**, and I am **happy** that you are my **cousins**.



Amoebozoans

#36 Confluence: PLANTS & (green & red) ALGAE ****
(1.5 billion years ago)

Hello cousins! All of you know who I am.

[Put your arms out like a tree. Stand perfectly still until someone guesses "tree." Give them clues if they need help.]

Yes! I am a **Tree!**

I represent all the **plants** of the world.

I also represent all the green and red **algae** [**ALE-gee**] that live in **water**.

Plants and **algae** are very proud of something that we can do.

It is something that no **animal** or **fungus** or **ameba** can do.

It is a long word that starts with a "**P**".

[Wait for someone to say "photosynthesis".]

Yes! **Photosynthesis!**

Unlike all of you, my group never has to search for **food**.

So long as there is **sunlight**, we make our own food.

I am **Tree!**



red algae and green algae

#37 Confluence: the remaining **EUKARYOTES** ***** (2 billion years ago)

Hello cousins! Guess who I am?

Here is a clue:

I am the reason why you must **filter water** from **streams** and **lakes** when you go **camping**.

[Wait for someone to guess "Giardia." If they can't, tell them it begins with a "G".]

Yes! I am **Giardia**! **[gee-AR-dee-uh]** I make you sick if you drink me.

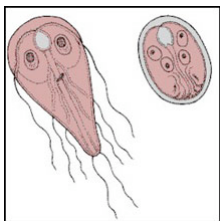
The group I represent is very **diverse**, and we all need to live in the ocean or in rivers and lakes.

Almost all of us are **single cells**, and we are the last on this journey to protect our precious **DNA** within a **nucleus**. We are the last of the **Eukaryotes** [You-CARRY-oats].

In addition to **Giardia**, our group includes:

- **foraminifera** **[FOR-uh-min-IF-er-uh]**, who have tiny shells made of calcium
- **radiolaria** and **diatoms** who build beautiful little shells of dissolved sand
- and all the **brown algae**, including huge ocean **kelp**.

I am **Giardia**!



Giardia

#38 Confluence: ARCHAEA [Ark-EE-uh] *****
(3 billion years ago)

Hello cousins! The name of my group is **Archaea** [ark-EE-uh].

We are all **single cells**. We were discovered in a famous **national park** in the United States whose name starts with "Y".

[Wait for somebody to say "Yellowstone".]

Yes! We were discovered in the **hot springs** of Yellowstone National Park. We live only in places that are **hostile** to humans: like **hot springs** on land or down **deep in the ocean**.

There is something in the **air** that will **poison** us. What is it?

[Wait for somebody to say "oxygen".]

Yes! **Oxygen**!

Oxygen is poisonous to us.

We **Archaea evolved** long before there was any **oxygen** in Earth's atmosphere.

However, there is **still one place** we can thrive today on the surface of Earth. It is a place without any **oxygen**. The only stuff we find to **breathe** there are **stinky farts**!

Where is that?

[Wait for somebody to say "intestines".]

Yes! We can live in animal **intestines** — including yours!

I am **Archaea**!

#39 Confluence: EUBACTERIA [YOU-bacteria] *****
(3.5 billion years ago)

Hello cousins!

Because this is the **very last confluence** in The River of Life, you probably think I represent something that starts with a **"B"**.

[Wait for somebody to say "Bacteria".]

Bacteria is what you think I am.

But that word is as **old-fashioned** as "groovy" and "ice box."

Ever since scientists split **Archaea** [ark-EE-uh] away from our group, we have gone by a different name.

Now we are called **Eubacteria** [YOU-bacteria].

A few of us cause some nasty diseases — like **Lyme Disease, tuberculosis, pneumonia, and diphtheria.**

But most of us should be **loved** by humans and other animals.

We are the ones who **recycle** your **garbage and poop**, and turn them into stuff that **plants** can use.

I am **Eubacteria!**

#40: Ocean of Origin
(3.8 billion years ago)

[Your voice should sound mysterious and wise. Look up at the people after each sentence and pause.]

Greetings, my **children**. . .

Welcome to the **birthplace** of your most **ancient ancestor**! . . .

I am the **Ocean of Origin**. I gave **birth** to your most ancient ancestor long, long ago. . .

I am so **pleased** to see what you have **become**. . . .

I see that some of you have become **jellyfish**; some have become **clams**. . . .

Some of you have become **sharks**; others are **snakes**. . . .

Some of you **fly through the air**; others **swing through the trees**.

Some of you **are trees**!

Some of you make beautiful **music**; some of you **dance** . . .

One species among you has done something especially **amazing**. . .

That species has dug up **fossils**, looked through **microscopes**, asked big **questions**, and thus **discovered** and **learned** the **entire story of life**! . . .

Thank you for learning **my story**! . . .

So tell me . . . Now that you know that every living thing is your **cousin**, tell me this: Are you **happy** to be part of a **very big family**?

Who is **thrilled** to be part of a **very big family**? . . .

Let us all **sing** together the **final verse** of the "River of Life" journey . . .