Knowledge Tree

Zac's Pal

Behavior

- Relaxed Lies down
- Nervous Tail between legs
- Curious Uses whiskers
- Scared Hair standing up Whiskers back

Humans and Animals Living Together - Care

- Give food
- Have litter box
- Brush fur
- Give fresh water
- Clip claws
- Visit vet
- Mother protects kittens from humans

Life cycle – mother cats

- Finds safe place to give birth
- Mother protects kittens
- Mother feeds the kittens
- Gives birth to a litter (a few kittens)
- Mother licks them (bath)

Life cycle - kittens

- Small and weak
- Can't see
- Bite and scratch for protection

Cats

Knowledge Tree

Zac's Cap

Tadpoles

- Baby frogs
- Grows legs, toes and lungs
- Eats algae
- Uses gills to breathe under water
- Turns into froglets
- Change shape
- Long tail
- Swims like a fish

Froglet

- Has legs and toes
- Has lungs
- Tail gets shorter

Eggs

- Mother lays
- In water
- Hatch into tadpoles
- Jelly coating protects them

Frog Adult

- Tail gone
- Has lungs
- Can leave the water
- Eats insects, worms, snails
- Amphibians
- Live on land and water
- Special skin
- Slimy - stays wet
- Drinks through skin
- Breathes through skin

Life Cycle + Description of Frogs

Knowledge Tree

On Dad's Lap

Description - Kinds

- 340 breeds
- Hundreds to choose from
- Beagle - small, gentle, playful
- Greyhound - large, thin, fast (chases things), quiet, not good guard dog
- Boxer - medium-sized, playful, strong, active

Humans and Animals Together

- Tamed by humans
- Protects human family
- Herd animals
- Popular pets
- Protect property
- Guides people who can't see

Description - Mammals

- Has backbone
- Has hair
- Warm blooded
- Female makes milk and feed to their babies
- Long or short fur

Behavior

- Able to communicate - growl and wag tails

Dogs

Article #1
Article #2
Article #3

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Knowledge Tree

A Pig and His Wig

Behavior - wild pigs

Tusks help dig for food

Snouts help them find food underground

Use super sense of smell to root for food underground

Eat leaves, roots and fruits

Eat small reptiles and rodents, like mice

Habitat

Eat grain - 7 pounds a day - on farm

Pigs on farms

In the wild - forest and grassland

Pigs on farms are most common

Raised on farms all over the world

Behavior

Take baths - water and mud to keep cool and for sunscreen

Picky eaters - slowly nibble

Description

Skin is thick with stiff hair

Smart*

Clean

Barrel-shaped bodies

Round noses (snouts)

Short legs

Wonderful mothers

Wild pig mothers find perfect spot (hidden) to give birth

Life cycle - mother pigs

Stays with piglets for 2 weeks

Gives birth to piglets (10 - 12)

Keeps the piglets safe; gives love

Teaches piglets to survive

* additional information about being **smart**: 4th smartest animal; learn to do things on command; excellent memories; recognize other pigs and humans

Pigs

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Knowledge Tree

Tag Dad

Behavior

Mostly attacks large sea mammals - seals, small whales

Almost never attacks humans

Description

Special skin - teeth-like scales - swim faster and protects

Oldest fish on the planet - 400 million years

Special body - skeleton is cartilage - lighter than bone

Super senses - night vision + ability to smell - helps find prey

Life Cycle

Baby called a pup

Born size of a bicycle

Mother doesn't take care of pup

Description - Great White

Great white shark - pretty scary - 300 sharp, pointy teeth - powerful jaws

Humans and Animals Together

Humans kill up to 100 million sharks each year - food, caught by fishermen, sport

Sharks are important in the ocean's food chain

Humans should protect sharks

Sharks

Knowledge Tree

So Big!

Behavior

Can run very fast - helps catch food

Can sneak up on animals to catch and eat

Can see in the dark - can hunt at night

Love to swim - go in water to get away from sun

Description - Tigers

Largest cats in the world

Have brown or black stripes - no two tigers have the same stripes

Humans and Animals Together - Tigers

Wild tigers becoming extinct - Fewer trees - habitat disappearing - Killing for fur, food, bones

People plan to save tigers - Save habitat - Stop poachers - Keep people from buying fur and bones

Description - Cheetahs

Cute, furry, spunky, cuddly

Run faster than any other animal on the planet - 60 miles an hour - Top speed when a year old

Humans and Animals Together - Cheetahs

Cheetahs born in the National Zoo in Washington DC

In wild - endangered live in smaller area than 100 years ago

Big Cats

- Article #1
- Article #2
- Article #3

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Knowledge Tree

Rod's Box

Humans and Animals Together - Wolves

- All dogs came from wolves
- Wolves survived because humans gave them food and shelter
- Wolves and humans helped each other get food
- Wolves stayed with humans - became smaller and friendlier
- Wolves became dogs; learned to get along with humans

Description - Breeds

- Over 300 different kinds
- Have same kind for mother and father

Description - Breeds

- Most popular - Labrador Retrievers
- Smallest - Chihuahuas
- Largest - Great Dane
- Mixed breed = mutt; looks and acts like parent dogs

Humans and Animals Together

- Dogs became pets - love people
- Humans created imaginary dogs
- Movies - Beethoven; Old Yeller
- Books - Clifford, Old Yeller
- Comics - Snoopy; Scooby Doo

Dogs

Knowledge Tree

Hop On!

Description - Biggest Pig = Giant Forest Hog

- 600 pounds
- Bristly and black
- Sharp tusks
- Puffy cheeks
- Lives in forests of Africa
- Eats grass

Description - Biggest Mammal = Blue Whale

- Heart = weight of a small car
- Eats a lot - 400 million krill a day
- Weighs 170 tons = 600 giant forest hogs
- Baby drinks 65 gallons of mother's milk a day
- Big voice - carries hundred of miles through water

Description - Smallest Pig = Pygmy Hog

- Eats roots, bugs and small reptiles
- Lives in India
- 15 pounds
- 10 inches

Description - Many Names

- Very large = hogs
- Male pigs = boars
- Female pigs = sows
- Baby pigs = piglets

Description - Smallest Mammal = Bumblebee Bat

- Also called Kitti's hog-nosed bat
- Weighs 2 grams = paperclip
- Catches insects at dusk
- One inch long
- Lives in groups of 100 in cave

Hogs

Knowledge Tree

To the Top!

Description

Super hearing - hear mice squeaking under snow

Arctic fox - Tiny ears - keep it warm

Super tails - balance, blanket to keep warm, send messages - wags "hi"

Fennec fox - Big ears keep it cool;

Fennec fox - Thick fur protects from sun; Fur-covered feet to walk on hot sand; Stays in underground hole when hot - comes out when sun sets to hunt

Behavior

Hunt for food at night

Super noses sniff food in the dark

Look for birds and small mammals (mice and rabbits)

Very careful and shy

Habitat

Foxes live everywhere

Cold places (North Pole) = Arctic foxes

Woods or farmlands around the world = red foxes

Deserts (Africa) - Fennec foxes

Foxes

- ■ Article #1
- ■ Article #2
- ■ Article #3

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Knowledge Tree

Buzz, Buzz

Humans and Animals Together

People take honey from bees

Bees can sting

People scared of stingers - stay away from honeybees

Behavior

Make honey from food from flowers

Go flower to flower to collect nectar and pollen

Work hard to get food from flowers

Eat nectar in flowers

Buzz around flowers

Bees attracted to bright colors of flowers

Move pollen from one flower to another to make seeds

Always busy

Humans and Animals Together

Ecologists study relationship between living things and environment

People worried because many bees are dying - May be chemicals used on farms Some hurt by disease

Bees and flowers are an example of what ecologists study

Habitat

Live in big groups

Bees help plants in the environment

New seeds grow into new plants

People working to save bees

About 100 crops depend on bees - apples, nuts, and berries

Bees need flowers and flowers need bees to survive

Live in one hive - one queen = mother bee; thousands of bees

Move pollen from flower to flower

Pollen lets plants grow new seeds

Bees

■ Article #1
■ Article #2
■ Article #3

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Knowledge Tree

Gus's Pup

Humans and Animals Together - reader dogs

How to be a reader dog

Owner has to pass tests

Dogs learn to obey commands - sit, down, stay

Dog and owner need to work together

Humans and Animals Together - reader dogs

Reader dogs listen and help kids with reading

Can read to dog online

Great listeners

Kids feel better about their reading

Can help kids who struggle be calm

Dogs don't judge kids' reading

Humans and Animals Together - service dogs

Service dogs help people be independent

Dogs wear special vest or collar to go with owner in stores and places most dogs can't go

Guide people who are blind (can't see)

Help people who are deaf (can't hear)

Description

Dogs have a super sense of smell

Use sense of smell to find plants or animals that hurt the environment

Humans and Animals Together - environment

Use sense of smell - find plants or animals

Train dogs to find harmful plants or animals

Workers destroy harmful plants or animals

Use dogs' sense of smell to save endangered animals

Find endangered gorillas that hide in forests - smelled gorilla dung

Workers then protect gorillas

Helpful Dogs

- Article #1
- Article #2
- Article #3

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Knowledge Tree

Yum, Yum, Nuts

Life Cycle - mother

Feeds cubs

Teaches them to survive in the woods

Keeps cubs warm

How to swim

How to hunt

Life Cycle - baby

Grow bigger - can walk

Likes to play and roll in snow

Called cubs

Grows stronger and can find own food

Stays with mother for a long time

Doesn't have much hair

Born with eyes closed

Drinks mother's milk

Behavior

Can swim

Excellent sense of smell for finding food

Can run fast

Can climb trees

Description

Mammal - Warm-blooded Lots of fur covering its skin

Sharp claws and teeth

Polar bear fur helps it live in ice and snow

Large body with short legs and short tail

Humans and Animals Together

Bears live in the U.S. national parks that humans visit

Bears look for campsites where people are

People bring food that bears smell

Park workers - Use special garbage cans that bears can't open

Ask visitors to use metal boxes for their food so bears can't get the food

Bears

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Knowledge Tree

Get Up!

Next Link

- Live in the ground
- Fish eat them
- Earthworms
- Birds eat them
- Spiders, snakes, turtles, and toads eat them
- Insects are foods for amphibians, like frogs
- Amphibians are food for mammals, like foxes

First Link

- Use sun's energy to make own food
- Plants
- Grasses and trees = examples
- Plants food for insects (grasshoppers)

Last Link

- Last link - apex predators
- Don't get eaten by other animals (bears)

Living Things Need Food

- Most living things are food for other living things
- Each living thing is a link in food chain
- Food gives energy
- Small animals get eaten by bigger animals
- Big animals get eaten by even bigger animals

Sea Otters

- Catches food
- Floats on back
- Puts hard shell on belly
- Hits shell with rock
- Sea otters uses rocks to help it eat
- Otter eats what is inside
- Shell breaks

Food Chain

Knowledge Tree

Mel

Life Cycle - chicks

- A chick is a baby bird
- Chicks get bigger and get feathers - look like parents as adult
- Chicks have wings and feathers
- Soft and fluffy
- Called down
- Keep chicks warm
- Some chicks become male chickens - roosters
- Some chicks become female chickens - hens

Description

- Chickens are one of the most well-known birds in the world - more chickens than people
- 150 different kinds (breeds)
- Rhode Island Red
- Great backyard pet
- Named for its color and where it was developed
- Happy
- Silver-Spangled Hamburg
- White with black stripes and dots, blue legs
- Shy
- Frizzle
- Feathers twist and curl
- Peace-loving

Life Cycle - hens

- Chick pokes hole in shell to get out
- Chickens hatch from eggs
- Egg has white liquid (water) for chick
- Chickens (hens)
- Lay eggs
- Sits on eggs to keep warm
- Egg has shell to protect chick
- Egg has yellow liquid (food) for chick

Hens and Chickens

Knowledge Tree

Jen's Web

Behavior

Web thrower - used like net over insects to trap them

Hang from it

Build webs to trap food

Protects eggs

Build webs

Funnel weaver - near ground - shaped like cone

Orb weaver - round web - spider feels web move when insect is trapped

Behavior

Spider silk comes out of spinnerets as liquid

Air turns liquid into strong silk thread = stronger than steel

Spider squeezes liquid from body

Liquid becomes strong silk thread

Thin or thick

Smooth or sticky

Some spiders hunt for insects and don't build webs

Life Cycle

Spiderlings are clear - helps them hide

Mother spiders lay hundreds of eggs

Baby spiders called spiderlings hatch from eggs

Some spiders are small - size of head of a pin

Some spiders are big - bigger than a human hand (Goliath Bird-eating Tarantula)

Description

All have eight legs

All have fangs - long, sharp teeth

Are arachnids

Two main body parts - abdomen and head

Have silk spinners called spinnerets - wonderful weavers

Spiders help people

Humans and Animals Together

Eat insects that harm farm crops

Eat insects that carry diseases

Protects plants by eating insects, helping farmers

Spiders and Webs

- Article #1
- Article #2
- Article #3

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