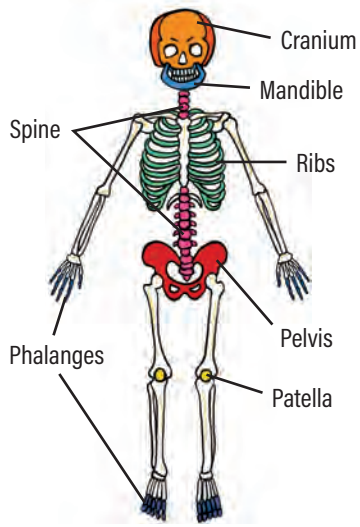
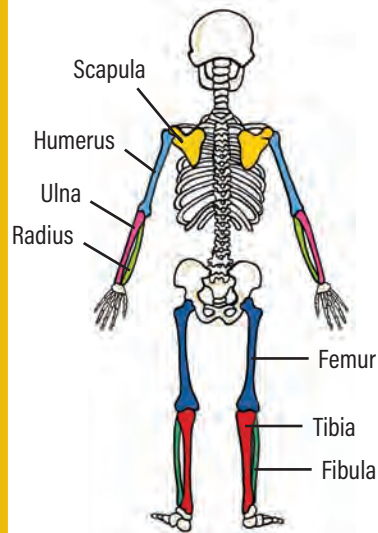


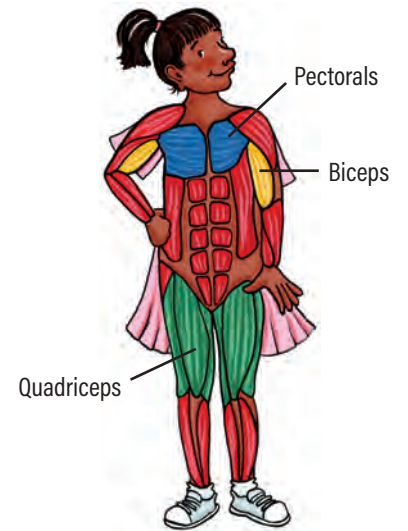
Human Skeleton Front



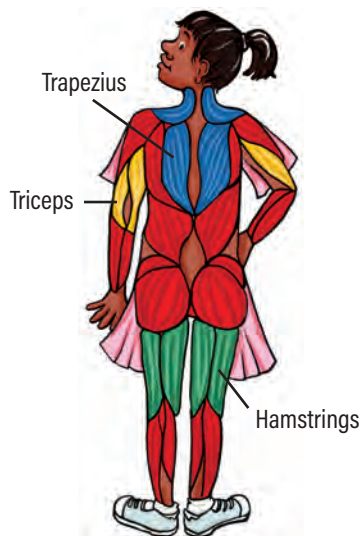
Human Skeleton Back



Human Muscles Front



Human Muscles Back



Cranium

(Cray-nee-um)

Skull Bone



Iguana

Cranium

The cranium is the part of the skull that protects the brain. Wearing a helmet protects the cranium so it can keep the brain extra safe.



Find Your Cranium!

Mandible

(Man-dih-bull)

Jaw Bone



Hippo

Mandible

The mandible is the part of the skull that holds the bottom teeth.

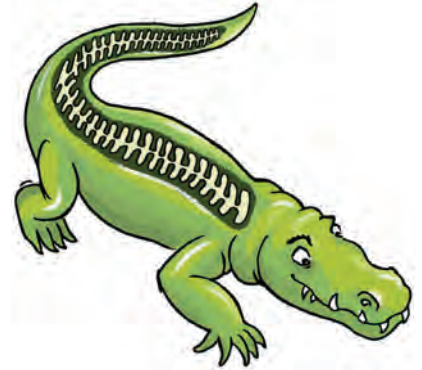


Find Your Mandible!

Spine

(Spyne)

Neck, Back, and Tail Bones



Alligator

Spine

The spine protects the spinal cord which delivers messages from the brain to the rest of the body. The spine is made of neck bones, back bones, and even tail bones.

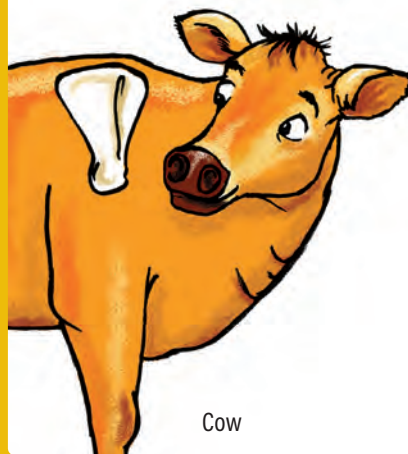


Find Your Spine!

Scapula

(Ska-Pew-Luh)

Shoulder Blade



Cow

Scapula

The scapulae help arms and front legs move around the rib cage.



Find Your Scapula!

Humerus

(Hyu-mer-us)

Funny Bone



Dog

Humerus

The humerus is the bone closest to the body in the arm or front leg.



Find Your Humerus!

Radius and Ulna

(Ray-dee-us) and (Ull-nuh)



Walrus

Radius and Ulna

The part of the arm or front leg farthest from the body has 2 bones. The radius is on the same side as your thumb. The ulna is the same side as your pinkie finger.



Find Your Radius and Ulna!

Phalanges

(Fuh-lan-geez)

Finger and Toe Bones



Horse

Phalanges

Phalanges are the names for the bones in fingers and toes — there are lots of them!



Wiggle Your Phalanges!

Ribs

(Rihbz)



Snake

Ribs

The ribs connect to spine bones to make a cage that protects the heart and lungs.



Find Your Ribs!

Pelvis

(Pell-viss)

Hip Bone



Bear

Pelvis

The pelvis connects rear legs to the body.



Find Your Pelvis!

Femur

(Fee-mer)

Thigh Bone



Cheetah

Femur

The femur is the bone in the leg/rear leg closest to the body.



Find Your Femur!

Patella

(Puh-tell-uh)

Knee Cap



Ostrich

Fun Fact: Ostriches have 2 patellas in each knee!

Patella

The patella covers the front of the knee.



Find Your Patellas!

Tibia and Fibula

(Tih-bee-uh) and (Fib-you-luh)

The Tibia is Your Shin Bone



Lion

Tibia and Fibula

The part of the leg/ rear leg farthest from the body has 2 bones. The tibia is the big bone in front. The fibula is the small bone on the same side as the little toe.



Find Your Tibia and Fibula!

Biceps

(Bye-seps)



Gorilla

Biceps

The biceps muscle has 2 parts (Bi=2). When biceps get shorter, the arm bends so that you can pick things up.

Biceps' Partner Muscle: Triceps
(when biceps get shorter, triceps get longer)



Find Your Biceps!

Triceps

(Try-seps)



Kangaroo

Triceps

The triceps muscle has 3 parts (tri=3).
When triceps get shorter, the arm
straightens.

Triceps' Partner Muscle: Biceps
(when triceps get shorter, biceps get longer)



Find Your Triceps!

Quadriceps

(Kwa-drih-seps)

Thigh



Goat

Quadriceps

Four muscles (Quad=4) on the front of
the leg make Team Quadriceps. When
Team Quadriceps get shorter, the leg
straightens.

Quadriceps' Partner Muscle: Hamstrings
(when quadriceps get shorter,
hamstrings get longer)



Find Your Quadriceps!

Hamstrings

(Ham-stringz)



Pig

Hamstrings

Three muscles on the back of the leg
make Team Hamstrings. When Team
Hamstrings gets shorter, the leg bends.

Hamstrings' Partner Muscle: Quadriceps
(when hamstrings get shorter,
quadriceps get longer)



Find Your Hamstrings!

Pectorals

(Peck-tour-rellz)



Horse

Pectorals

When pectorals get shorter, the shoulders move together in front of the body.

Pectorals' Partner Muscle: Trapezius
(when the pectorals get shorter, the trapezius gets longer)



Find Your Pectorals!

Trapezius

(Truh-pee-zee-uss)



Tiger

Trapezius

When trapezius gets shorter, the shoulders move together in back of the body.

Trapezius' Partner Muscle: Pectorals
(when the trapezius get shorter, the pectorals get longer)



Find Your Trapezius!

Anole Floor Push-Ups



Do 5!

Find your **Pectorals** and **Trapezius**!

Anole Floor Push-Ups



Anoles do push-ups every morning to show everyone how strong they are!

Draco Volan Wall Push-Ups



Do 5!

Find your **Trapezius** and **Pectorals**!

Draco Volan Wall Push-Ups



Draco Volans do push-ups to attract a partner! They can also fly!

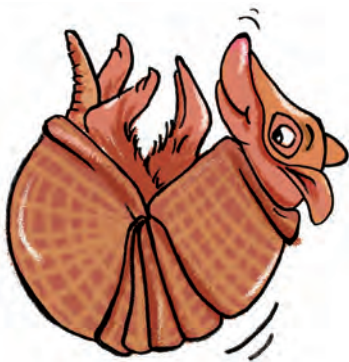
3-Banded Armadillo Rolls



Do 10!

Find your **Spine**!

3-Banded Armadillo Rolls



Armadillos roll into a ball to protect themselves when they feel threatened!

Sifaka Skips



Swing your right knee and left arm up high while pushing with your left leg. Switch sides. Do 10 on each side!

Find your **Femurs**!

Sifaka Skips



Sifaka lemurs walk on 2 legs when they skip and leap across the forest floors of Madagascar.

Chameleon Eyes



Only move your eyes.

1. Look Up
2. Look Down
3. Look Right
4. Look Left

Do 3 of everything!
Find your **Cranium!**

Chameleon Eyes



Chameleons can look in almost all directions so they can catch food and keep from being eaten!

Wolf Jog

Jog:

1. Forwards
2. Backwards
3. Sideways
4. On a different surface (floor, carpet, outside)



Do 15 steps of each!
Find your **Tibia!**

Wolf Jog



Wolves travel about 25 miles each day across all different kinds of land to find food.

Mountain Goat Climb



Start by standing with your Right Foot's Heel touching the tips of your Left Foot's Toes. Walk in a straight line.

1. Walk heel-to-toe forward
2. Walk toe-to-heel backwards

Do 10 steps of each!
Find your **Phalanges!**

Mountain Goat Climb



Mountain Goats can balance on ledges that are only 3 inches wide to climb steep mountains.

Squirrel Squat



Pretend to hold food like a squirrel. Sit down between your feet. Keep your back tall to be extra alert. Count to 10. Do 3!

Find your **Quadriceps!**

Squirrel Squat



Squirrels sit upright on their hind legs and hold food in their hands so they can look out for danger while they are eating.

Cow Kick

Stand, make sure you have space, do not kick anything or anyone, and then kick:



1. To the front
2. To the side
3. To the back

Do 5 times with each leg!

Find your **Fibula!**

Cow Kick



Cows can kick forward, back, and to the side.

Flamingo Balance

Balance on one leg.
Count to 20.



Do 1 time with each leg!
Find your **Tibia!**

Flamingo Balance



It is easier for flamingos to stand on one leg than two! Flamingos stand on one leg to save energy.

Sandpiper Hop

Hop on one leg for 5 times in each direction:

1. Forwards
2. Backwards
3. Sideways



Do 1 time on each leg!
Find your **Hamstrings!**

Sandpiper Hop



Sandpipers lose heat through their legs because legs don't have feathers. They stand and hop on one leg to keep the other one warm.

Frog Tongue



Stick your tongue out as far as it will go:

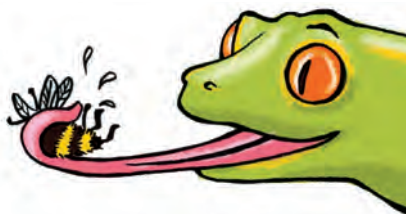
1. Straight
2. Up
3. Down
4. To the right
5. To the left



Do 3 times!
Find your **Mandible!**



Frog Tongue



Frogs lengthen tongue muscles to shoot their sticky tongue out superfast to catch insects. Then frogs shorten tongue muscles to pull the insects inside of their mouth.

Black Panther Pounce



Stand Heel to toe for 10 seconds. Then Jump in the air and land on both feet. Bend your legs when you land. Do 5 times!

Find your **Hamstrings!**

Black Panther Pounce



Black Panthers balance on tree limbs until their prey walks by and then they pounce!

Snake Slither



Lie on the floor face down. Pretend you are drawing a letter S with your body (move your body side to side) as you move forward.



Make 3 letter Ss!
Find your **Ribs!**

Snake Slither



Snakes can move forward by zig-zagging on the ground (making letter Ss) with their body as they move side to side.

Kangaroo Rat High Jump



Jump as high as you can with both feet. Bend your legs when you land.



Do 5 times!
Find your **Hamstrings!**

Kangaroo Rat High Jump



Kangaroo rats can jump 5 times their height straight up to escape predators!

Snow Leopard Long Jump



Jump as far as you can with both feet. Try and land balanced on both feet with your knees bent.



Do 5 times!
Find your **Quadriceps!**

Snow Leopard Long Jump



Snow leopards can jump distances of 45 feet to catch mountain goats!

Meerkat Pop Ups

Stand up as tall as you can. Then drop to the floor and make yourself as small as possible.



Do 10 times!
Find your **Patellas!**

Meerkat Pop Ups



Meerkats protect their families from danger by standing as tall as they can to look out for predators.

Owl Head Turns



Sit or stand facing forward. Turn your head as far as you can to the right without moving the rest of your body. Then, do the same thing to the left.

Do 3 times!
Find your **Cranium!**

Owl Head Turns



Owls can turn their heads 270 degrees!
That's almost all the way around.

Alligator Twists



Lie on the floor, twist and roll your body longways to the right. Then roll to the left.



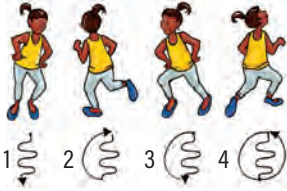
Do 5 times!
Find your **Scapula!**

Alligator Twists



Alligators grab their food and then twist and spin longways in the water to break it apart.

Honey Bee Waggle Dance



1. Waggle by walking 5 steps forward while you move your hips side to side.
2. Circle to the right back to where you started.
3. Waggle forward 5 steps again.
4. Circle to the left back to start.

Do 3 times!

Find your **Pelvis!**

Honey Bee Waggle Dance



Honey Bees tell their hive-mates where to find flowers by doing a waggle dance.

Horse Walk

Walk for 15 steps on the tips of your toes:

1. Forwards
2. Backwards
3. Sideways



Do 1 time! To make it even harder, lift your opposite knee up high!

Find your **Phalanges!**

Horse Walk



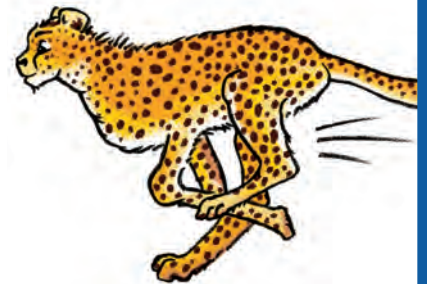
Horses have evolved to walk on their toes. They have one toe on each foot that contacts the ground.

Cheetah Run



Run as fast as you can for as long as you can. Do 1 time!
Rest while you find your **Femurs!**

Cheetah Run



Cheetahs can run nearly 65 miles per hour! They need to run fast to catch up to their dinner!

Gazelle Escape

Pretend a cheetah is chasing you!

1. Run as fast as you can for 5 steps then change direction to escape!
2. Repeat 5 times, changing direction every 5 steps.



Do 1 time!

After you've escaped, rest and find your **Fibulas!**

Gazelle Escape



Gazelles run superfast and keep changing directions to escape predators like cheetahs.

Wallaby Jumps

Take 5 big jumps, one right after the other, using both feet at the same time, in these directions:

1. Forwards
2. Backwards
3. Sideways to the right
4. Sideways to the left

Do each jump 5 times!

Find your **Quadriceps!**

Wallaby Jumps



Tendons are built in springs that attach muscles to bones. Wallabies store and release energy in their tendons as they move around by hopping and jumping.

Blue Jay Hop

Take small hops using both feet while you flap your arms like a bird.

1. In big circle to the left
2. In a big square to the right



Do 5 times!

Find your **Humerus!**

Blue Jay Hop



Blue Jays hop lifting both feet at the same time when moving on the ground.

Blue Jays fly in the air.

Hippo Mouth

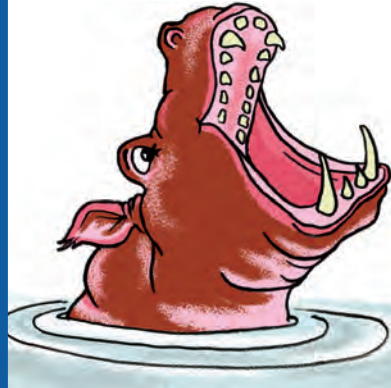


1. Open your mouth as wide as you can.
2. Keep your mouth open while you count to 10.
3. Close your mouth.

Do 5 times!

Find your **Mandible**!

Hippo Mouth



Hippos hold their mouths open extra wide to show off their tusks.

Tortoise Crawl



Crawl on all fours keeping both knees off the floor. Take a slow small step with your right hand, left leg, left hand, then right leg. Do 10 times!

Find your **Patellas**!

Tortoise Crawl



Tortoise muscles can't move fast which makes it hard for them to catch themselves if they trip. Tortoises crawl slowly on all four legs to keep their balance.

Pufferfish Bigs



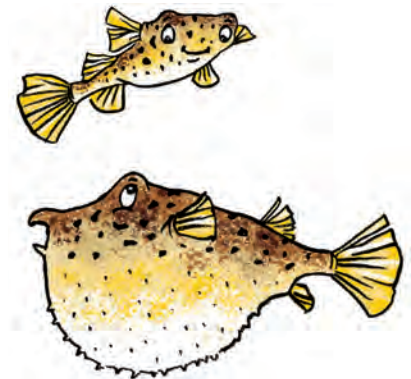
Breathe air in slowly through your nose to and see how big you can inflate your chest.

Breathe the air out slowly through your mouth.

Do 10 times!

Find your **Ribs**!

Pufferfish Bigs



Pufferfish can double or triple their size to scare away predators by inflating like a balloon.

Pointers



Get on all fours. Push into the floor with both arms. Keep your back flat and lift one arm to point. Count to 5. Do 3 times with each arm!

Find your **Triceps!**

Pointers



Pointer dogs find hidden rabbits and birds and point them out to people and other animals.

Harbor Seal Rolls



Lie on your back with your arms straight above your head and your legs straight out.

Roll longways 5 times to the right and then 5 times to the left!

Find your **Spine!**

Harbor Seal Rolls



Harbor seals roll longways on land to get around since it's hard to walk on flippers. They even roll when swimming!

Walrus Haul-Out



Balance on your toes and elbows with the bottom of your arms and hands pushing into the floor. Count to 20. Do 1 time!

Find your **Radius** and **Ulna!**

Walrus Haul-Out



Groups of walrus leave the water, or haul-out, to rest on land or ice.

BEAST MOVES

Beast Moves was developed by a veterinarian, Dr. Sandy San Miguel, and a coach, Mike Robertson, as a fun way to learn anatomy and stay healthy.

Illustrations by: Vicky Fieldhouse

Designed by: Allison Gardner

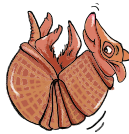
We hope that you enjoy playing!

More fun can be found in the SuperPower Shop at:

www.VetaHumanz.org

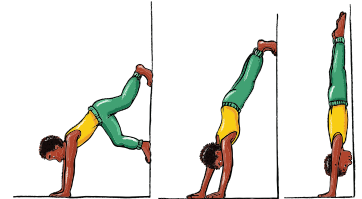
BEAST MOVES

Veterinarians use science to help people and their animals! Vets learn Basic Sciences first. Anatomy is a Basic Science where vets learn about the parts of the body, what they do, and how they work. Next, vets use Basic Sciences to help others. This is called Applied Science. Vets are always learning, applying what they learn, and practicing to get better at keeping people and animals healthy.



Remember!

1. Ask an adult or your doctor before you play.
2. Only do exercises you feel comfortable doing.
3. If you play, you do so at your own risk.
We will not be responsible or liable for any injury or harm you sustain as a result of playing.



Remember!

Take water breaks during and after exercise. If your urine (pee) is yellow, it is time for a drink of water.



How to Play:

1. Learn about bones and muscles with the **Yellow Basic Sciences cards**.
2. Find each part on your body and say its name out loud.
3. Find a space inside or outside where you won't bump into people or things if you move around.
4. Practice applying what you learned by playing Beast Moves with the **Blue Applied Sciences cards**!




Ways to Play:


1. Pick one card and do the exercise for a brain break
2. Randomly pick 5 cards and do all of the exercises
3. Only do leg exercises
4. Only do head exercises
5. Only do arm exercises
6. Only do jumping exercises
7. For an extra challenge, repeat each Beast Move 2-3 times!




What Do the Colors Mean?

Each exercise card has a small rectangle in the top right corner. The color of the rectangle signals the move's difficulty level.

 Green Beast Moves are good starting moves. They use less energy or have simple directions.

 Yellow Beast Moves are a little harder to do. They use more energy or are a bit more complicated.

 Red Beast Moves are the hardest to do! They use a lot of energy or have really complicated moves!

Game Tips:

- If you don't have space, you can run/jog/walk in place or take one step in each direction.
- To make Beast Moves easier, hold onto something or place your hand on a wall for balance.
- To make Beast Moves harder, balance on your own.

