

Book #1 Bones of the Hand, Arm, and Shoulder

In Book 1, Dr. Bonyfide and his friend Pinky Le Darpals take young people on a whimsical, step-by-step journey through the bones of the hand, arm, and shoulder. Readers enjoy puzzles, rhymes, X-ray vision glasses, and kid-friendly learning!

Welcome!

Want to know your body's secrets?
It's amazing what's inside!
I'll help you learn about yourself.
Hello, I'm Dr. Bonyfide!

Come on a guided tour with me.
Know yourself inside and out.
We'll start with the powerful bones,
as we go along our route.

Your skeleton is a puzzle.
And these parts, they interlock.
But instead of puzzle pieces,
each bone is a building block.

Yes, these bones have names and functions,
for you to learn about.
With discoveries everywhere,
my fun rhymes will help you out.

And before you even know it,
you'll have learned them all with ease.
You'll sing and say the names of bones
just like your ABCs!





Say them like this:

Osteology "**os-tee-OL-uh-jee**"

Osteologists "**os-tee-OL-uh-jists**"

The strongest syllable is always shown in **CAPITALS** and **red**.

The Skeleton



In these books I'll teach you about all **206** bones.
Can you believe that's how many you have?

Osteology is the study of bones and the skeletal system.
The word comes from *oste-*, which means "bones"
and *-ology*, which means "the study of."

Some doctors are experts in all **206**.
They call themselves **osteologists**.

Complete this book and you will be an expert
in the skeletal system!

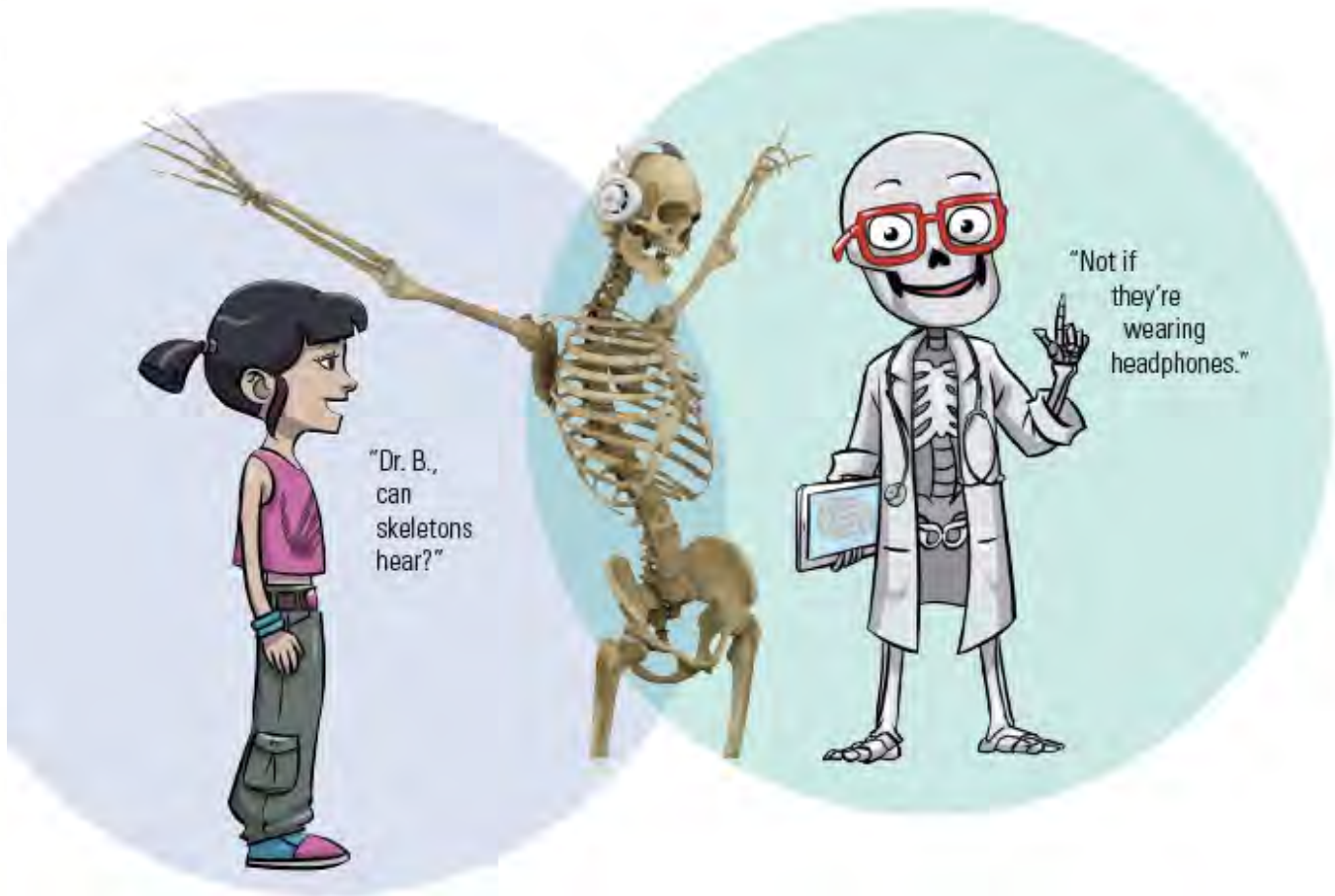


Let's start with the big picture.
Tap your knees, feel your chin.
There's something hard
underneath the skin...

What is it exactly?
You're feeling your bones—
your living framework.

Humans are born with about 300 bones.
As we grow, some bones fuse together,
leaving us with 206 bones in the adult
human body.

What do you think your bones do?



The bones of the skeleton have five main functions:

- 1. Structure:** The organization of the bones in the skeleton give your body its shape.
- 2. Protection:** Bones protect several organs, such as the brain, heart, lungs, stomach, and intestines.
- 3. Movement:** Muscles are attached to bones. Together, muscles and bones make it possible to move your body.
- 4. Production:** Red blood cells, which transport materials, and white blood cells, which protect against disease, are made in some bones of the body.
- 5. Storage:** Minerals such as calcium and phosphorous are stored in bones.

Phalanges

We will begin with your hands, starting with the fingers.



The 14 bones of your fingers are called phalanges.

Say it like this: "**fuh-LAN-jeez**"



What can you do with your phalanges?
List three examples.

Let's **DIP** into the phalanges to get a better grip. We'll show you a word trick, to give your brain a tip! The word trick is called a mnemonic, and you say it like this: "**ne-MON-ick**"

The letters D-I-P help you remember the bones of the fingers.

D stands for the distal phalanges.

They are at the tips of the fingers.

I stands for the intermediate phalanges.

They are the middle bones of the fingers.

P stands for the proximal phalanges.

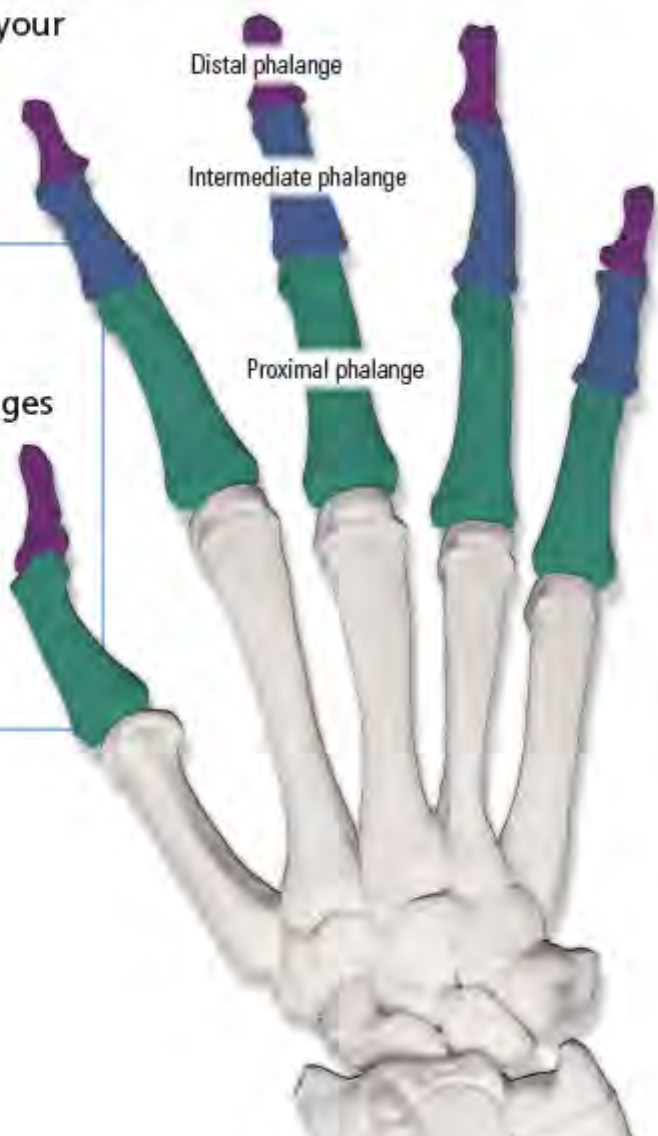
They are the finger bones closest to the palm.

Your thumb has two bones and your other fingers have three.



BONUS MATH

- _____ distal phalanges
- _____ intermediate phalanges
- + _____ proximal phalanges
- _____ phalanges in each hand

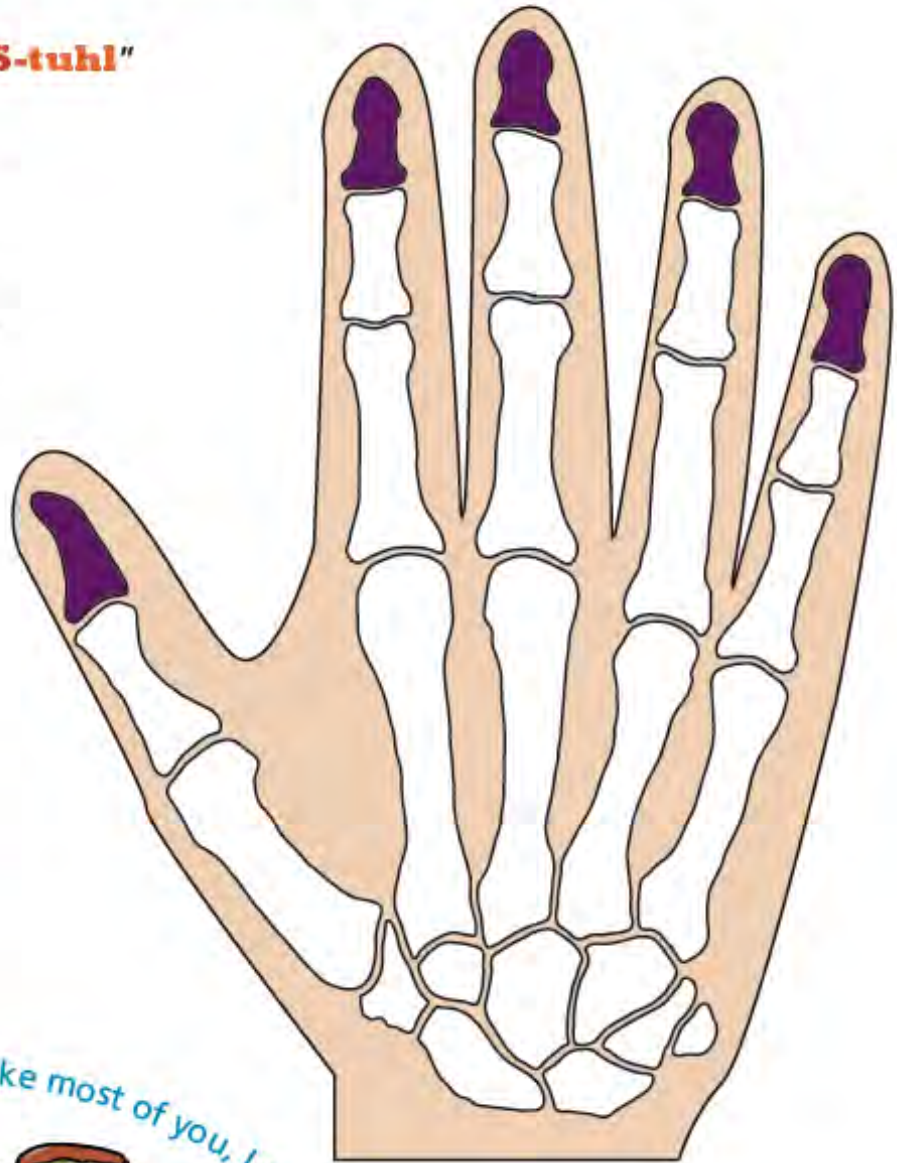


Distal Phalanges

Say it like this: "**DIS-tuhl**"

The five distal phalanges in each hand are found at the end of your fingers and thumb.

They play an important role in gripping and holding.



Like most of you, I enjoy a good **DIP**, like hummus or guacamole on my tortilla chip.



Circle the word that best completes each sentence.

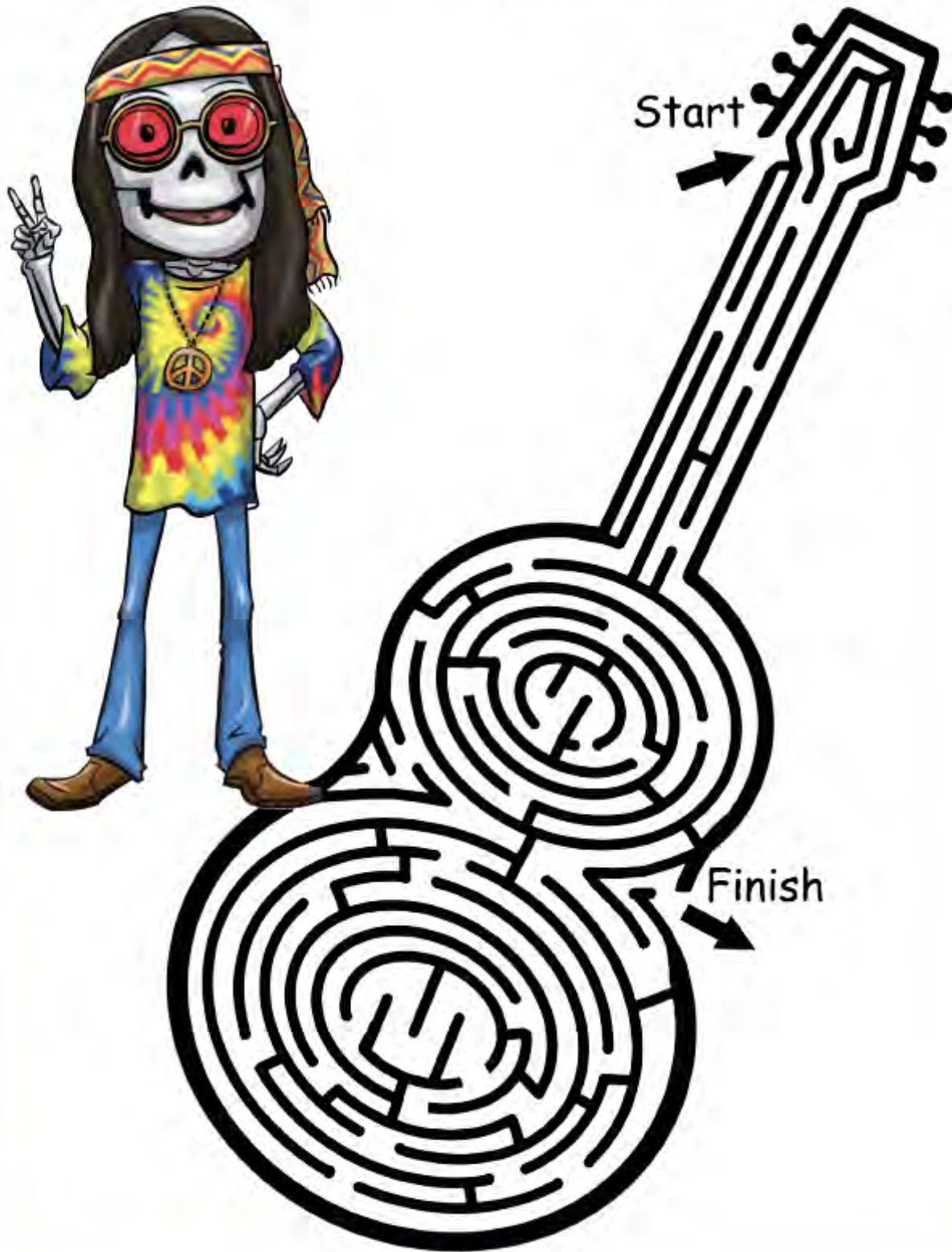
1. Phalanges are found in the _____.
(fingers, palm, wrist)
2. There are _____ phalanges in the hand.
(three, five, fourteen)
3. The _____ phalanges are closest to the arm.
(distal, intermediate, proximal)
4. The thumb lacks a(n) _____ phalange.
(distal, intermediate, proximal)

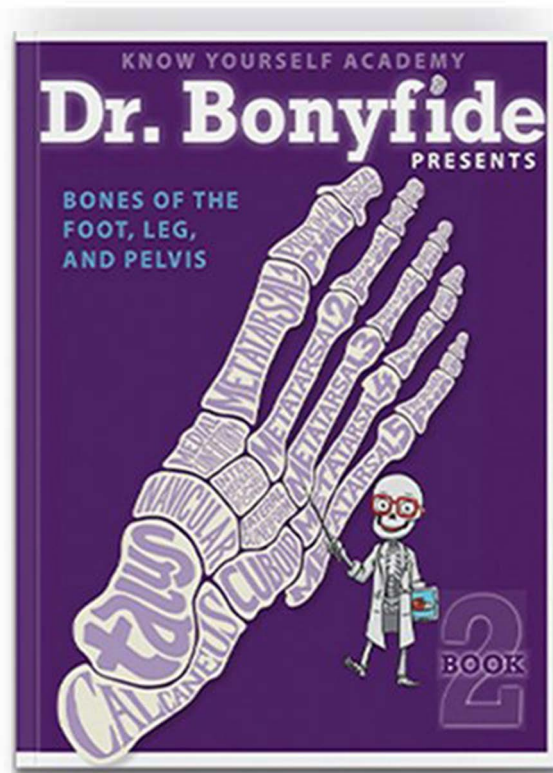
Activity: Distal Phalanges

Bonyfide Buddies, it's time to draw. Trace your hand on this page. Draw in your five distal phalanges. Then, color them in.

Activity: Distal Phalanges

Use a distal phalange to slide through the guitar maze.





Book #2 Bones of the Foot, Leg, and Pelvis

The fun continues with Book 2's circus theme! Readers join Dr. Bonyfide and Ringmaster Starr for an amaaaazing big top introduction to the bones of the foot, leg, and pelvis. Enjoy the antics of a colorful cast of acrobats, trapeze artists, and clowns in this second book of the Know Yourself Academy series. Engaging activities, hidden messages, and Know Yourself's beautiful visuals will help young people on the adventure to get to know how their body works.



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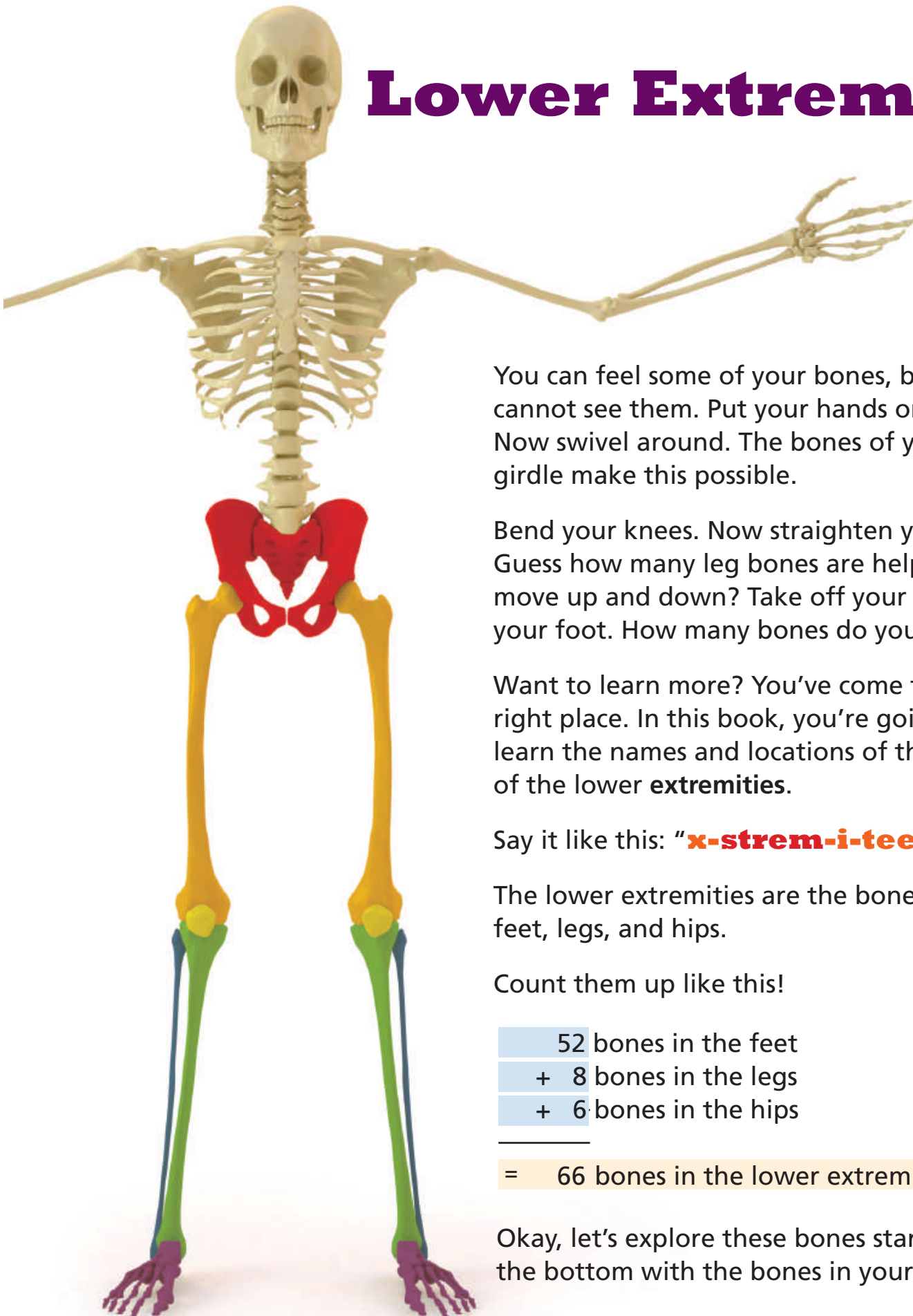
Preface

Know Yourself is a Public Benefit Corporation dedicated to making self-literacy as fundamental to early education as the ABCs and 123s. We believe people should know as much about how they are put together as they know about downloading apps to their phone.

The body is not only how humans physically move through life, but is used as a means of self-expression. Body language is an inherent part of communication. It is an inseparable element which research shows constitutes a majority of what human beings communicate. Psychology is linked to physiology. Body movements affect not only how others perceive you, but more importantly, how you feel about yourself. It follows that understanding the elementary engineering of how your body is put together will fortify your potential in life.

The Know Yourself Team chose to begin this journey with our skeleton structure, the 206 bones of the adult human body. Our books are the foundation of our product line, which includes educational clothing, animation, graphic novels, music, and more.

Lower Extremities



You can feel some of your bones, but you cannot see them. Put your hands on your hips. Now swivel around. The bones of your pelvic girdle make this possible.

Bend your knees. Now straighten your legs. Guess how many leg bones are helping you move up and down? Take off your shoe. Feel your foot. How many bones do you feel?

Want to learn more? You've come to the right place. In this book, you're going to learn the names and locations of the 66 bones of the lower **extremities**.

Say it like this: "**x-strem-i-teez**"

The lower extremities are the bones of your feet, legs, and hips.

Count them up like this!

$$\begin{array}{r} 52 \text{ bones in the feet} \\ + 8 \text{ bones in the legs} \\ + 6 \text{ bones in the hips} \\ \hline = 66 \text{ bones in the lower extremities} \end{array}$$

Okay, let's explore these bones starting at the bottom with the bones in your feet.

How is your foot organized?

The forefoot is composed of five toes and five metatarsals.

The midfoot is composed of four distal tarsals.

The hindfoot is composed of three proximal tarsals.



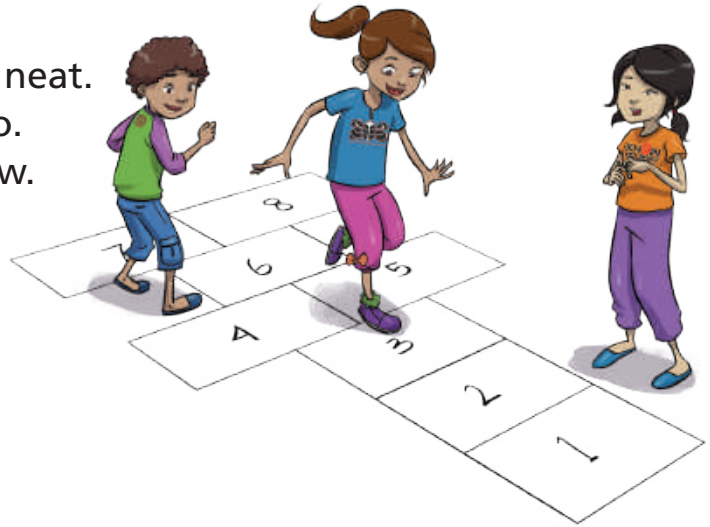
FOREFOOT

MIDFOOT

HINDFOOT

The Phenomenal Feat of Your Feet

Heel, arch, ball, and toes.
Those are what you have down low.
They perform a phenomenal feat.
They keep you upright, straight, and neat.
An awesome group that helps you go.
Let's all give thanks for our feet below.



Phalanges

Say it like this: "fa-lan-geez"





Every toe has a number and they each have a name.

They are called phalanges, but they're not all the same.

The big toe is known as the **hallux**. It's phalange #1.

Next is the **long toe**. It's phalange #2.

The **middle toe** is phalange #3.

Right next to that is your **ring toe**, phalange #4.

And your **pinky toe** is phalange #5.

There are 14 bones that make up your phalanges.

Phalanges

Write the answers on the lines below.

Phalange #1 is called the _____ .

The long toe is phalange number _____ .

Phalange #3 is called the _____ .

The ring toe is phalange number _____ .

Phalange #5 is called the _____ .

How many
phalange bones
are in one foot?

7 3

10 14

How many
phalange bones
are in two feet?

6 20

10 28



Like your hands, your feet are tools of mobility.

Let's **DIP** into the phalanges.
We'll show you a word-trick.

The word-trick is called a mnemonic.
And you say it like this: "**ne-mon-ick**"

Here's how it works:
The letters D-I-P help you remember the bones of the toes.

D stands for Distals. They are out at the tips.

I stands for Intermediates. They are the bones in the middle.

P stands for Proximals. They are the bones at the base.

Your big toe has two bones and your other toes have three.
Take a look at your own foot and you will clearly see.

