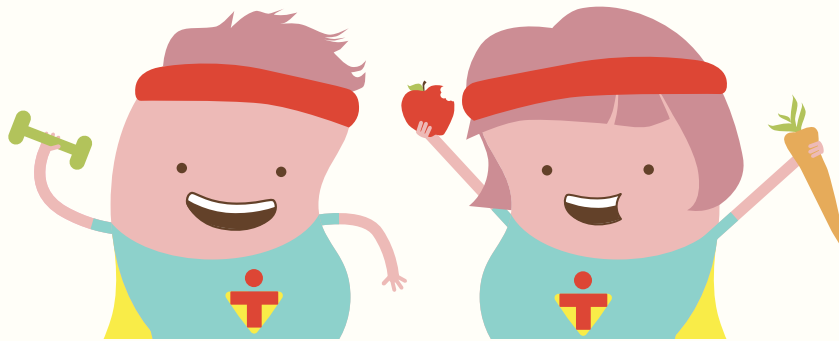


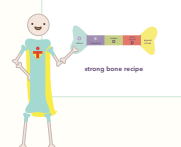
HEALTHY KIDNEYS BONE HEALTH



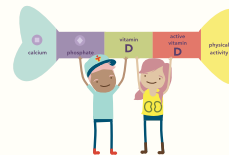
PRE-SCHOOL LEVEL



SCHOOL AGE LEVEL



ADOLESCENT LEVEL



RESOURCES MENU

1. Your Kidney Health Team
2. Meet Your Kidneys!
3. Balance
4. Connections
5. Healthy Eating
6. Being Active
7. Taking Medicines
8. Healthy Blood
- 9. BONE HEALTH**
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HEALTHY KIDNEYS

The Kidney Health Learning Resource is to help children, parents, families, and caregivers living with kidney disease live well with the disease.

The Kidney Health Learning Resource is also for the health care team. The resource helps open the doors to conversations, learning and relationship-building with children, youth and families about kidney disease by presenting simple, age-appropriate design and medically and clinically accurate information and concepts.

The Kidney Health Learning Resource Advisory Group thanks parents and children who welcomed us into their private experience of living with chronic kidney disease. Children and families shared experiences and took time to let the consultant know what has been - and what would have been - helpful to know as they coped with chronic kidney disease in their families. To the children and families: thank you for sharing so that other families and health care providers can benefit from your wisdom. Your openness, enthusiasm and courage inspires us all.

We thank the members of Pediatric Nephrology, Children's Hospital, Health Sciences Centre Winnipeg who provided input, shared expertise and gave encouragement in the development of the learning resources. We also thank members of CANN-NET for their reviews of materials and their enthusiastic support.

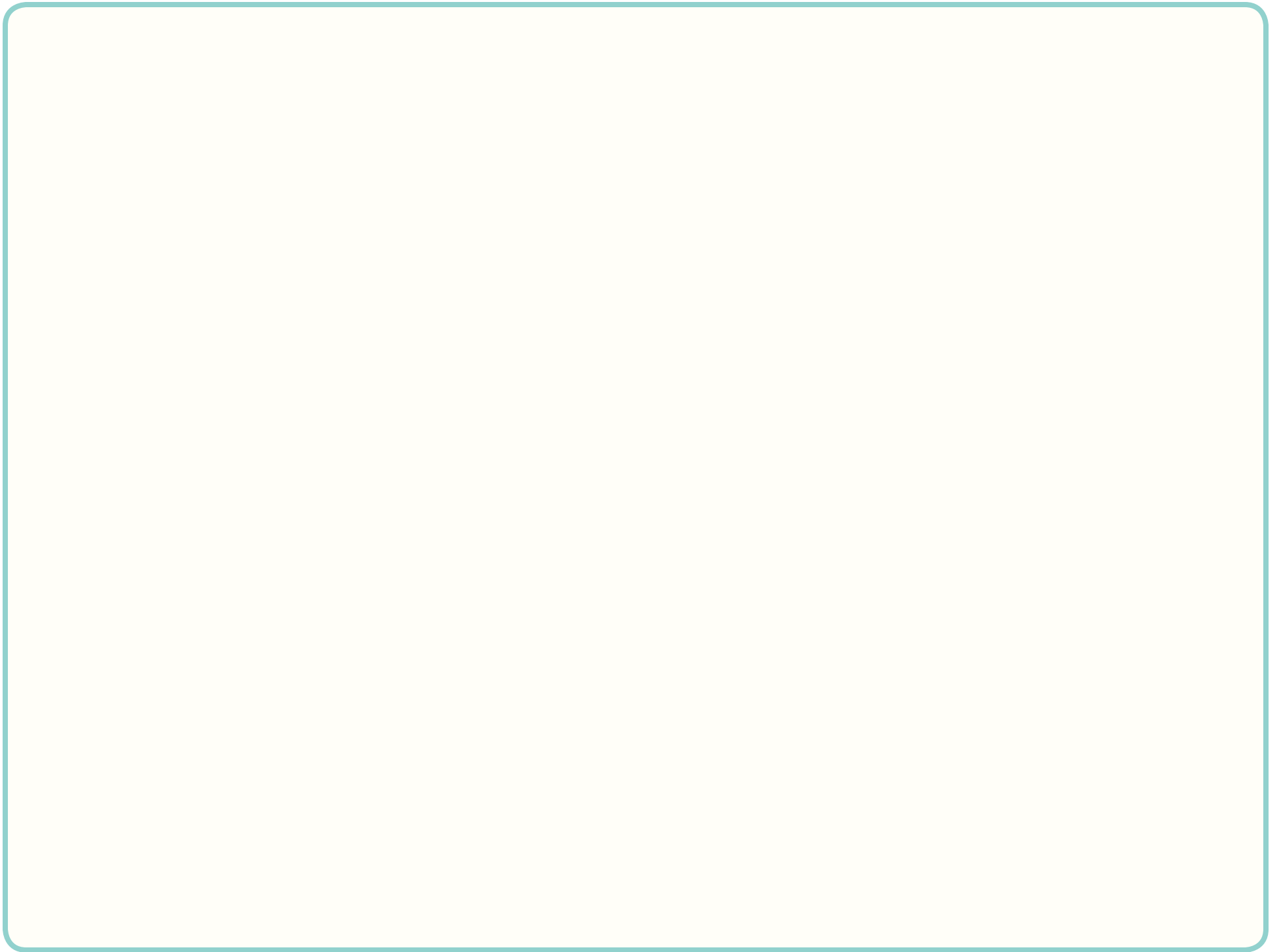
Finally, we thank the Children's Hospital Foundation of Manitoba for their financial support in the development of this resource.

Developmental levels within this resource:

PRE-SCHOOL LEVEL

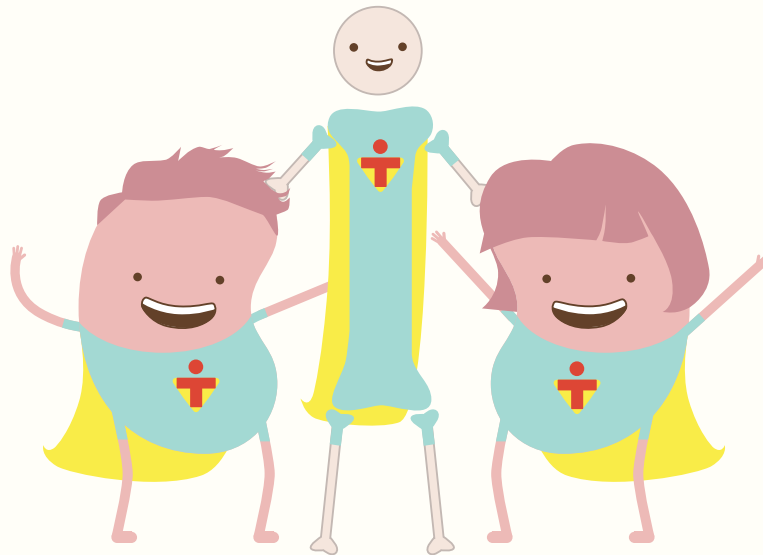
SCHOOL AGE LEVEL

ADOLESCENT LEVEL



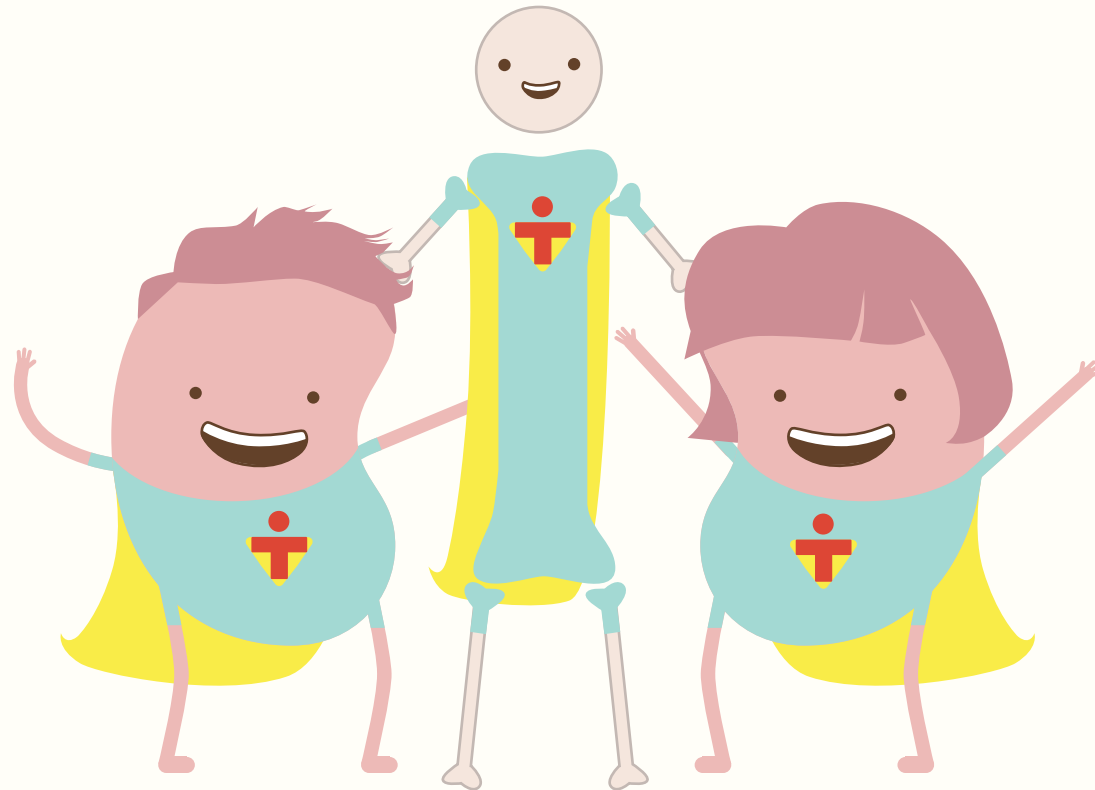
BONE HEALTH

PRE-SCHOOL LEVEL

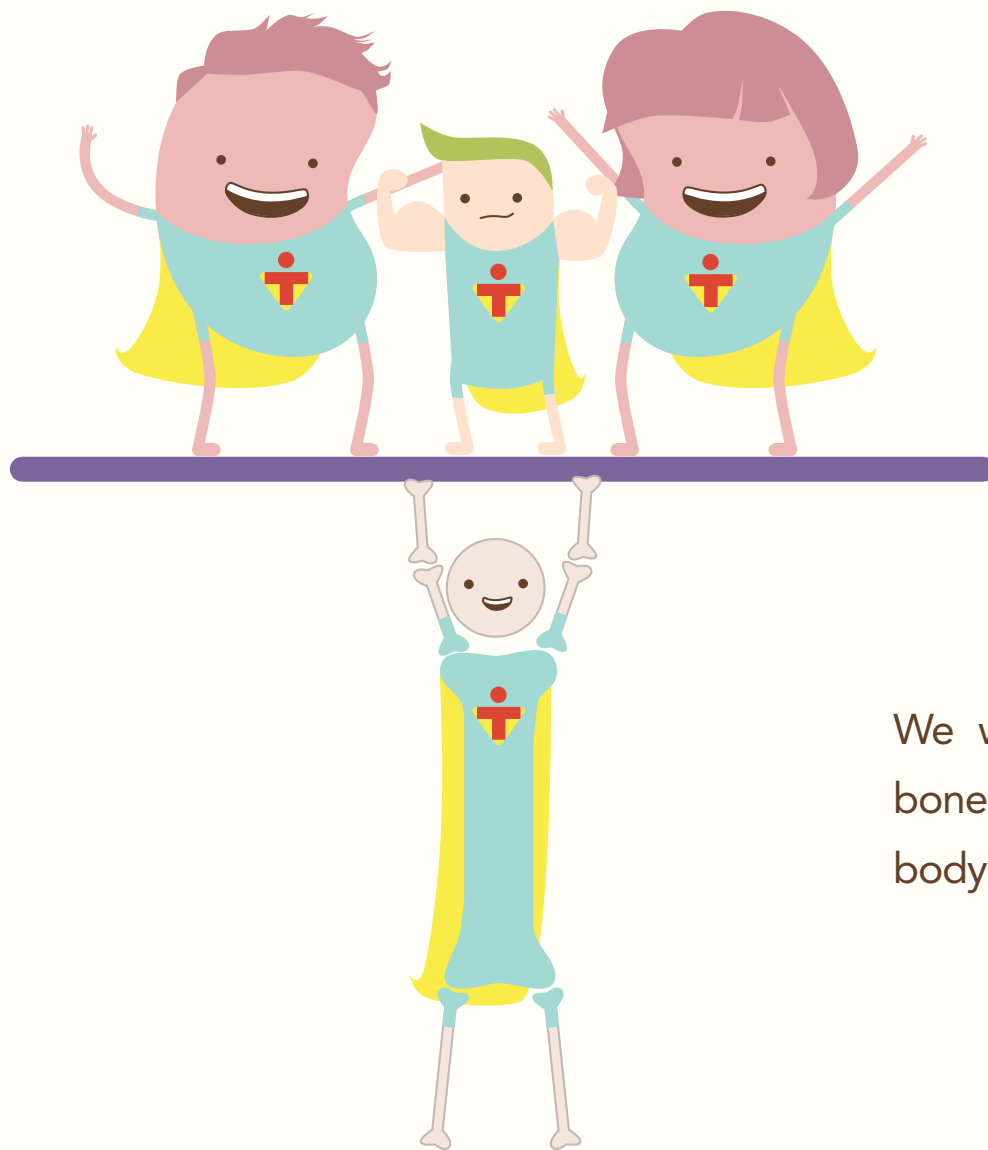


RESOURCES MENU

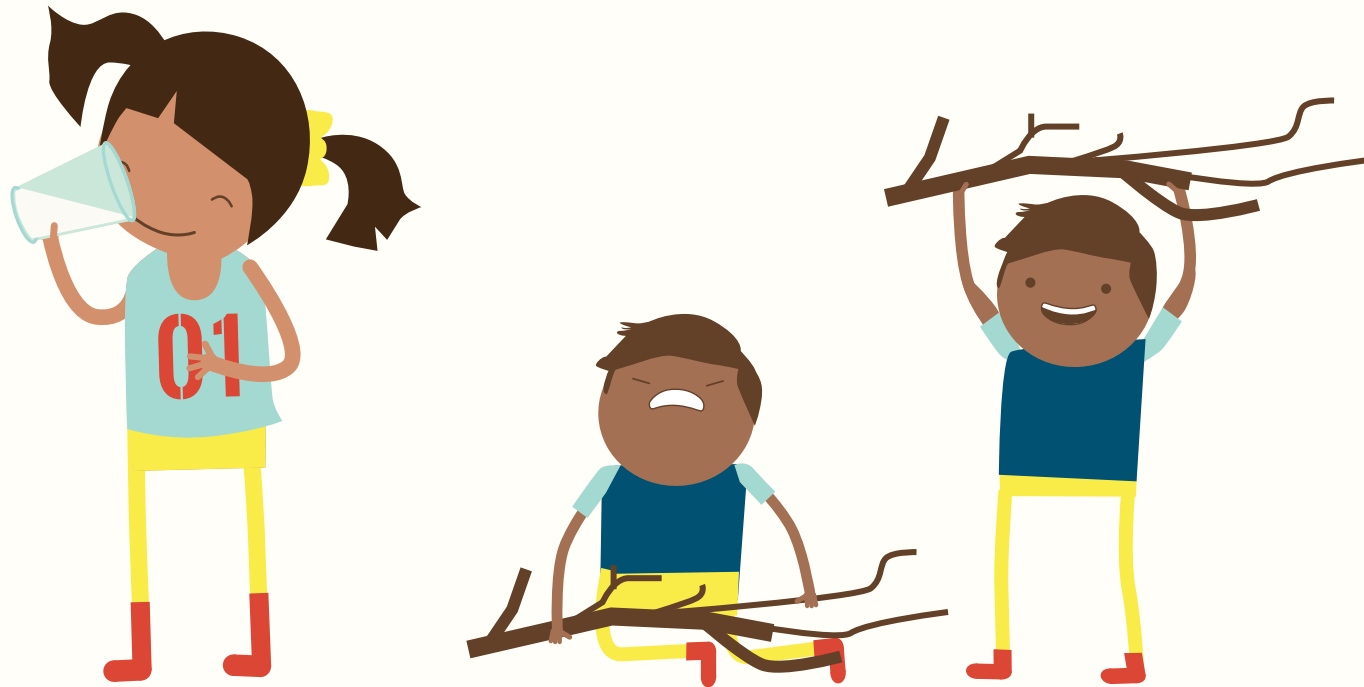
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Here is the *Kidney Twins'* friend, **Bone**.



We want to have strong bones. My bones are strong because we give my body what it needs.

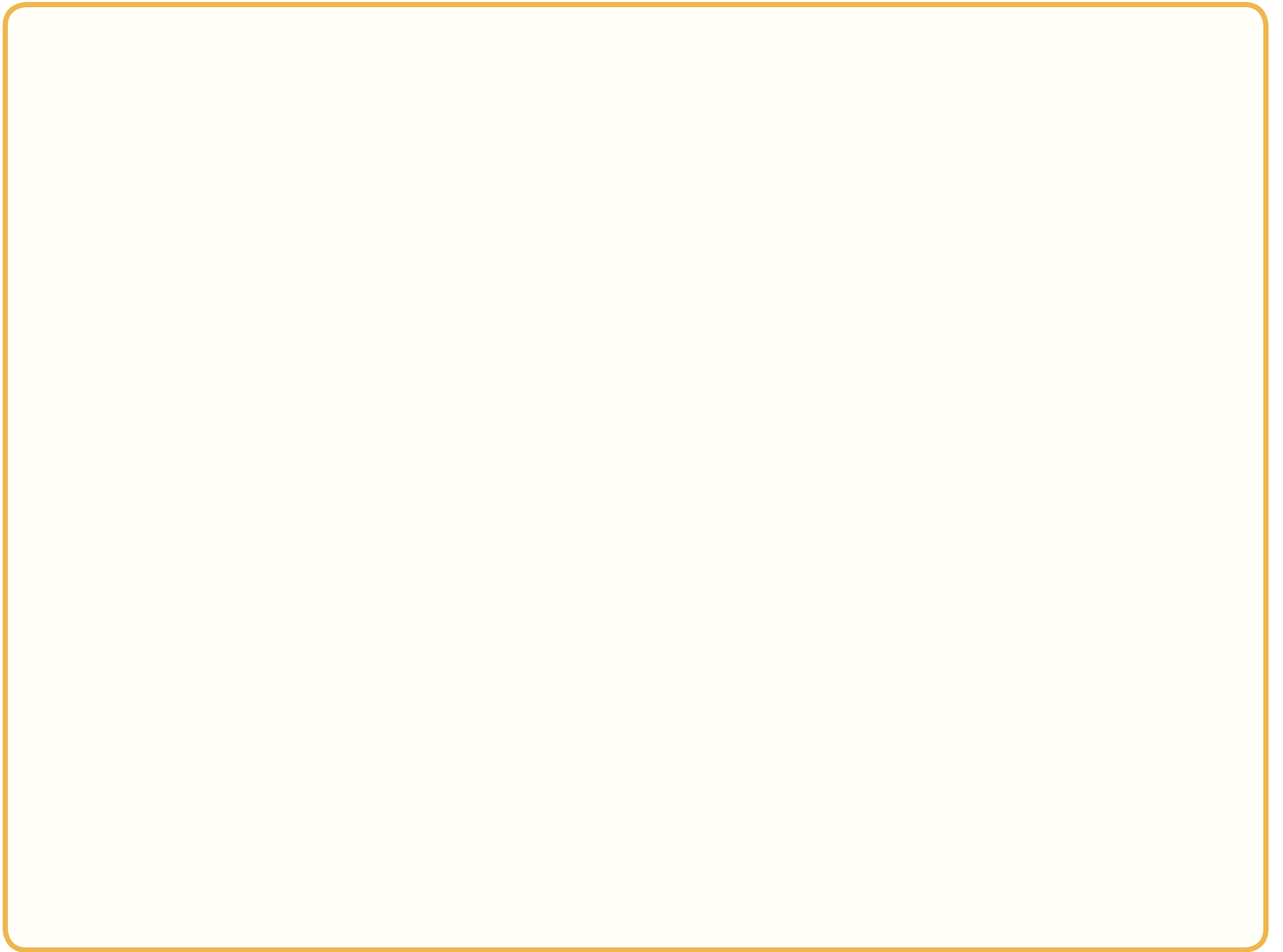


Strong bones help you grow better and stay strong! There are lots of different bones in your body!

Strong bones help you run and play!

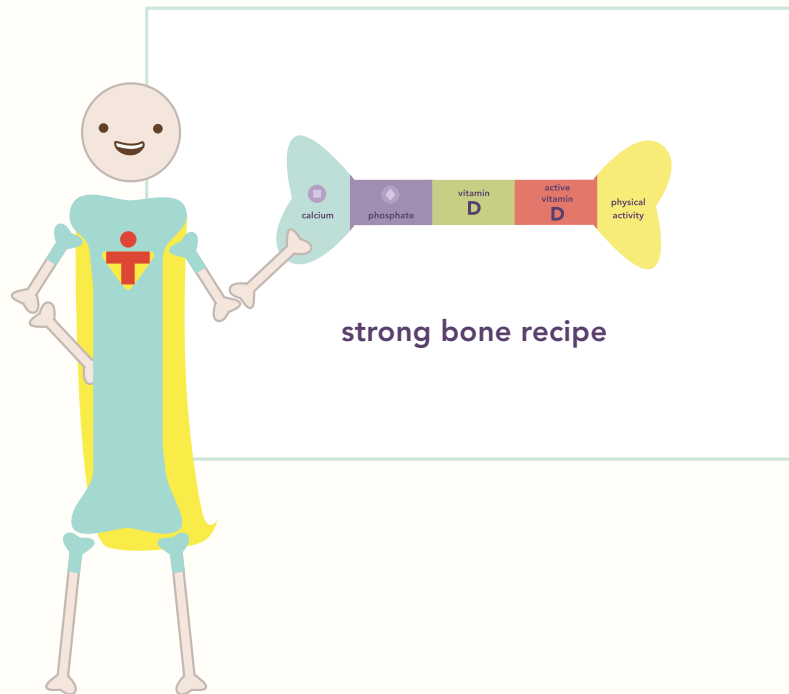


UP NEXT: SCHOOL AGE LEVEL



BONE HEALTH

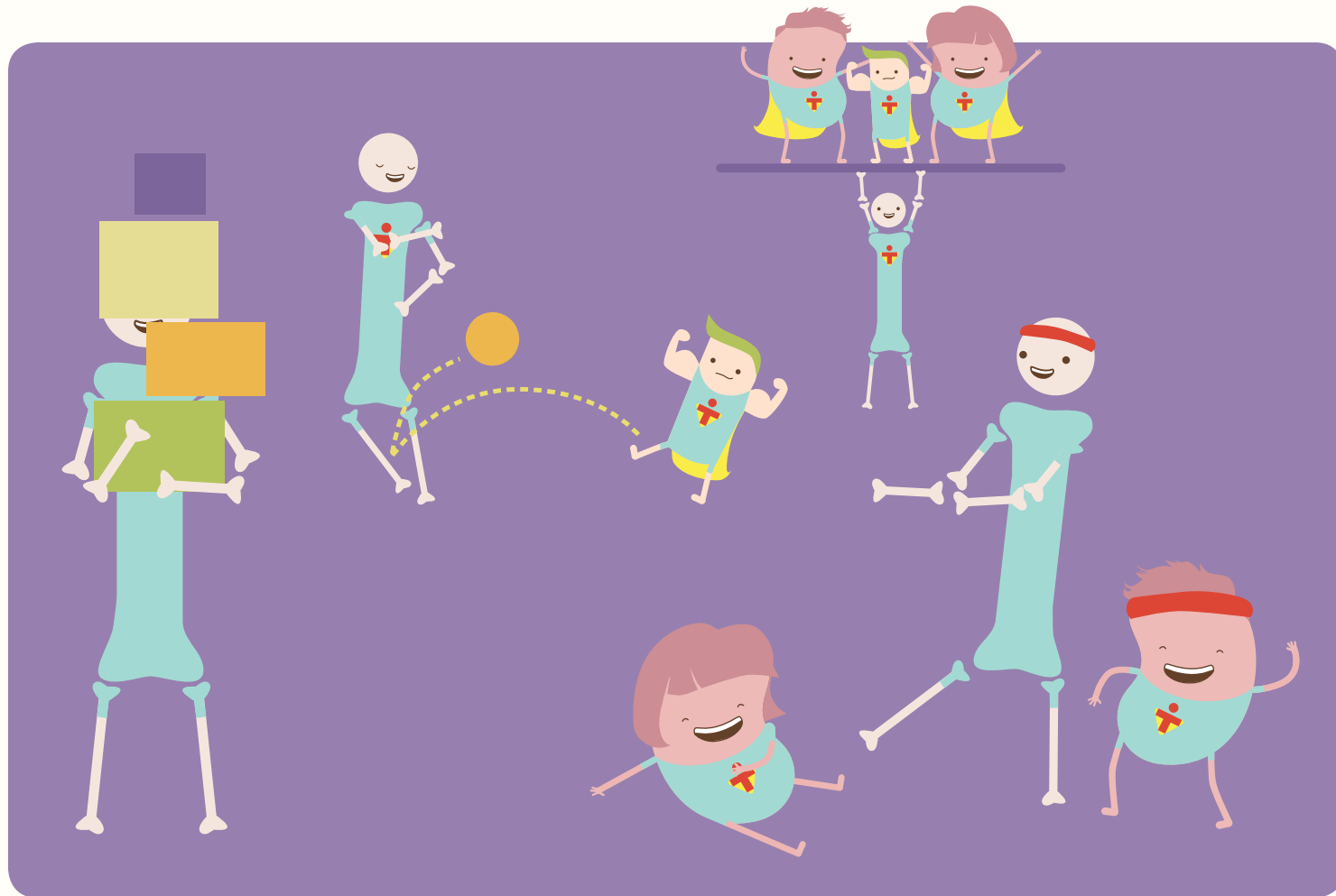
SCHOOL AGE LEVEL

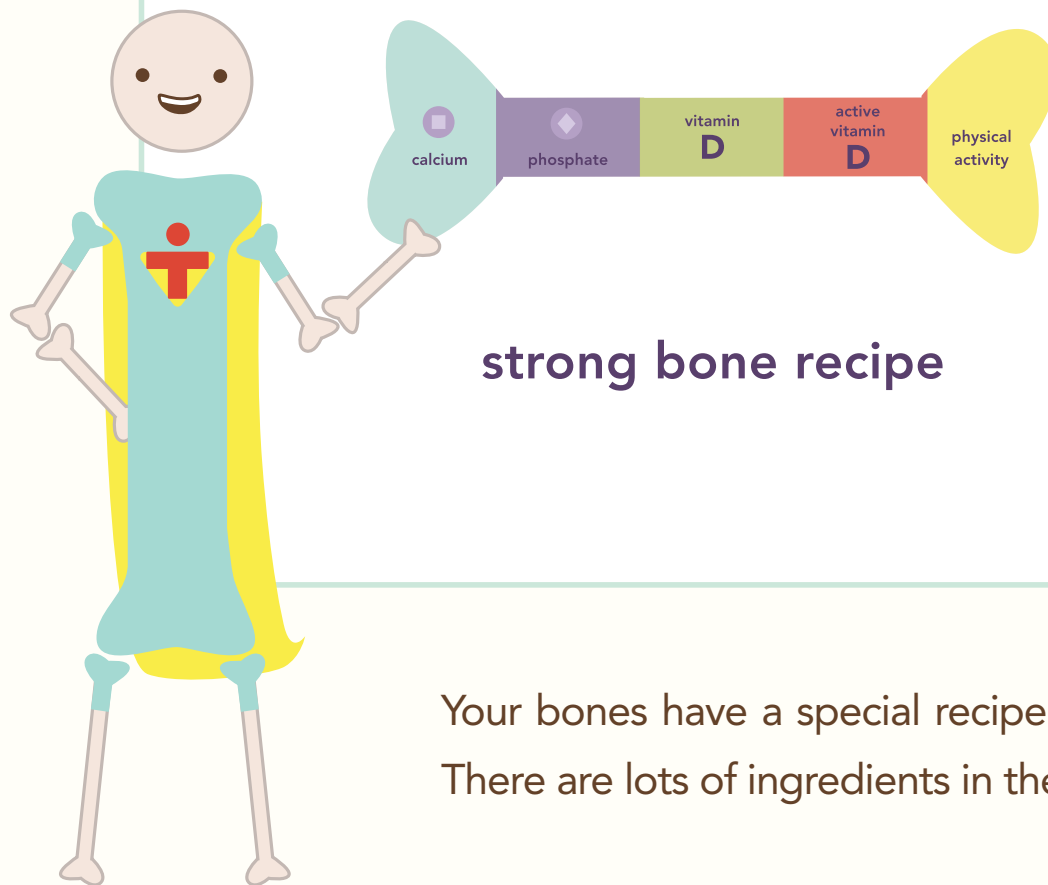


RESOURCES MENU

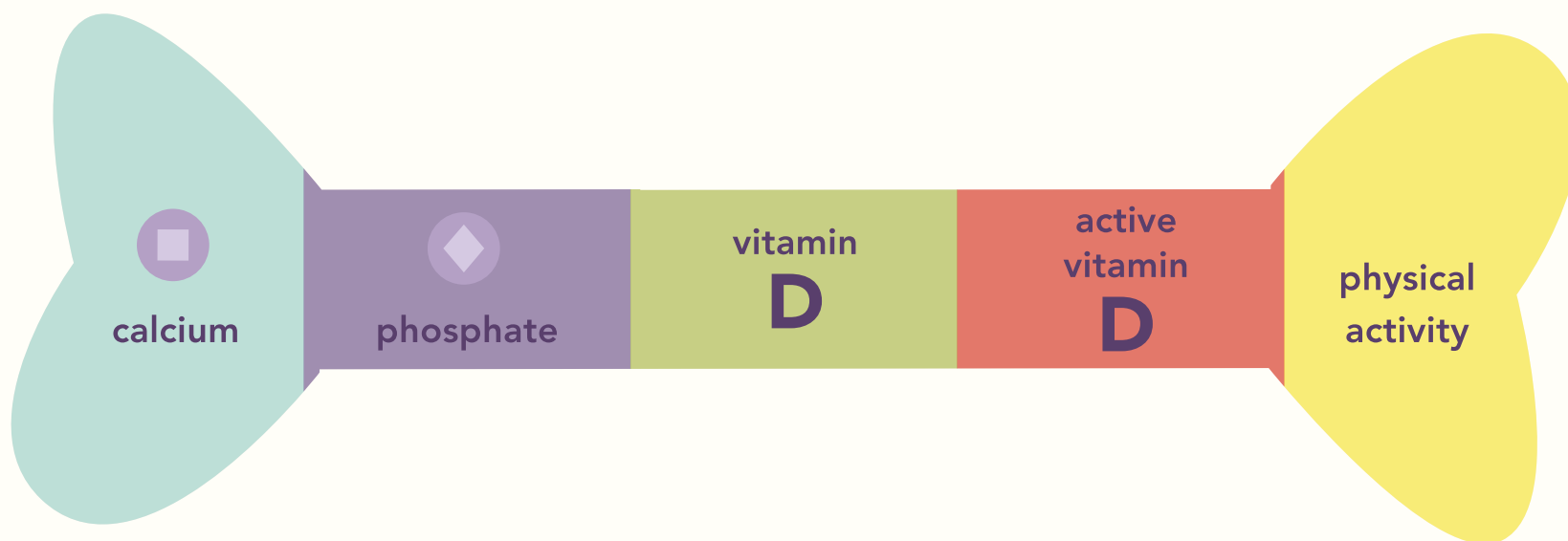
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There are more than 200 different **bones** in our body! We want to make sure we have strong, healthy bones.





The five main ingredients in the Strong Bone Recipe are:



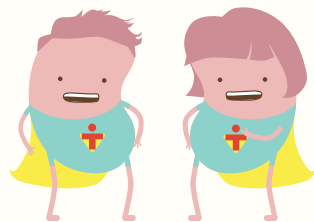
We need the right amounts of these ingredients to build strong bones.



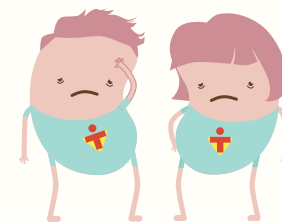
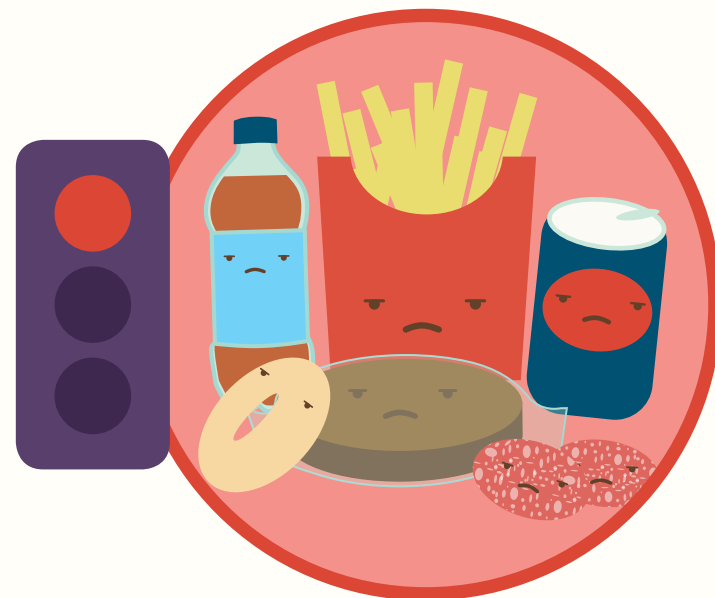
We need to get the right amounts of **calcium** and **phosphate** in the foods we eat. Usually we get more phosphate in our food than we need, so we need to focus on getting enough calcium.

Some people need to be careful with foods that don't have much calcium and have too much phosphate. Processed foods can have too much phosphate!

Yellow Foods: Sometimes Foods



Red Foods: Avoid



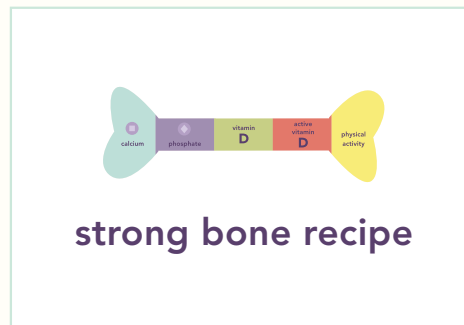
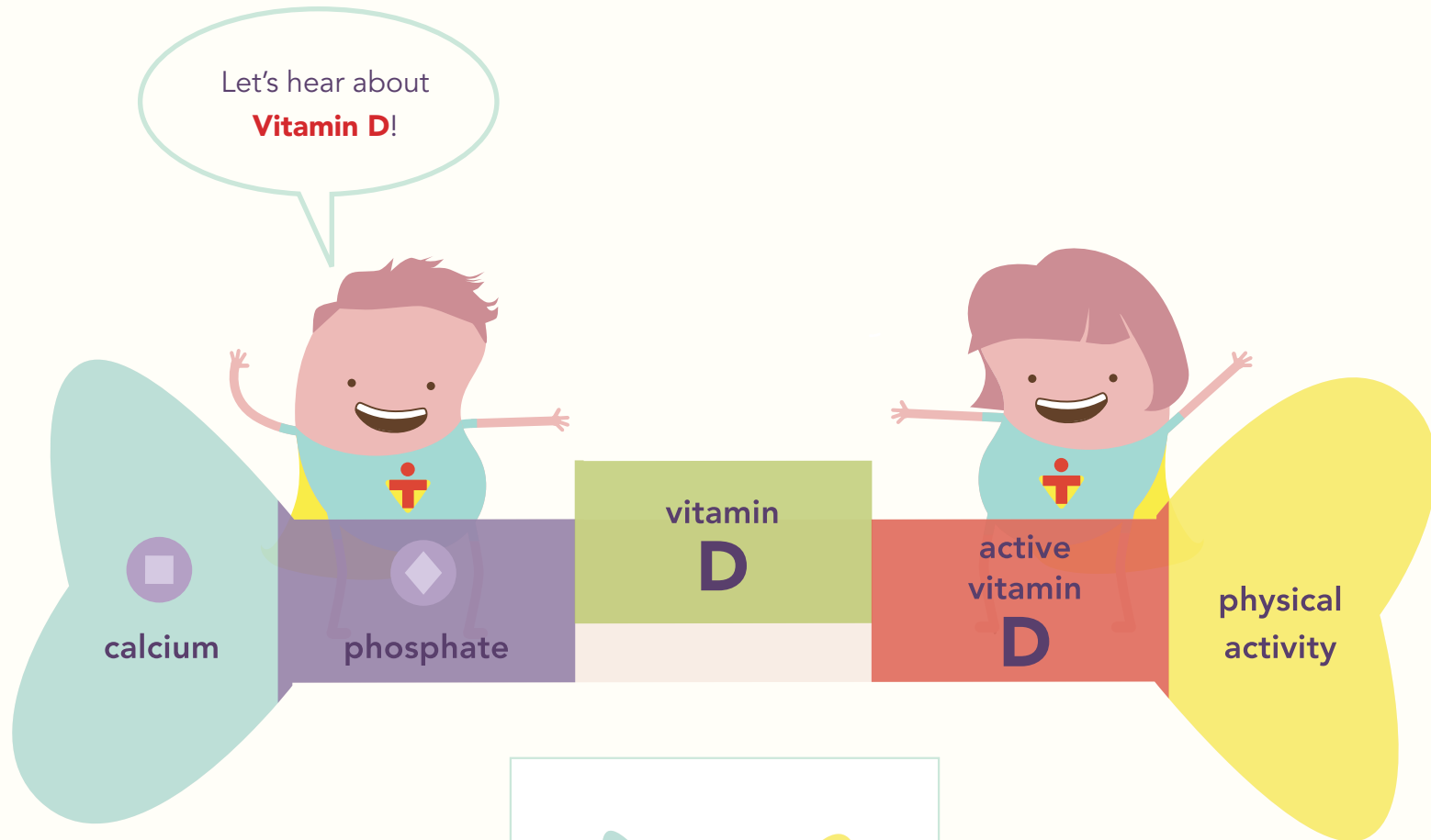


Many **Processed Foods** have phosphate added to them. Choose **Green Foods** first to help your body get enough calcium and not too much phosphate!



Remember, the Kidney Twins help with **balance** in your body. They balance two ingredients in our healthy bones recipe: calcium and phosphate.

The Kidney Twins **recycle** calcium in your body and get rid of the extra phosphate so you have just the right balance in your healthy bone recipe.

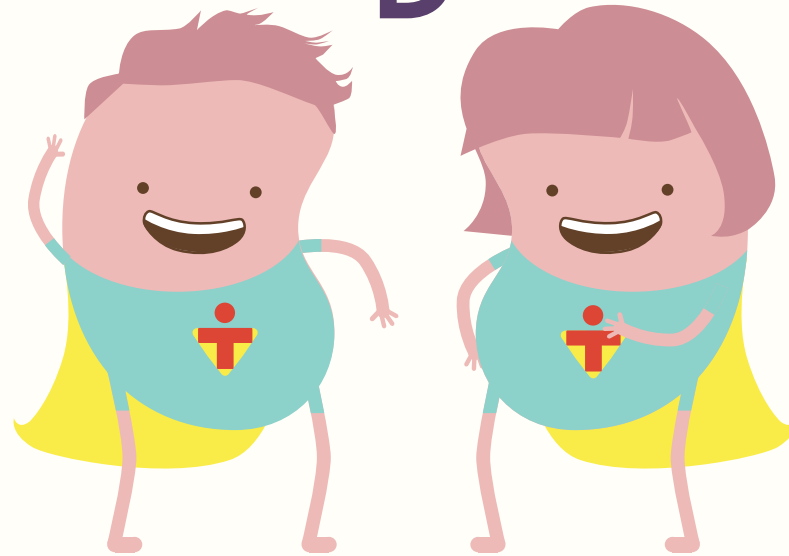




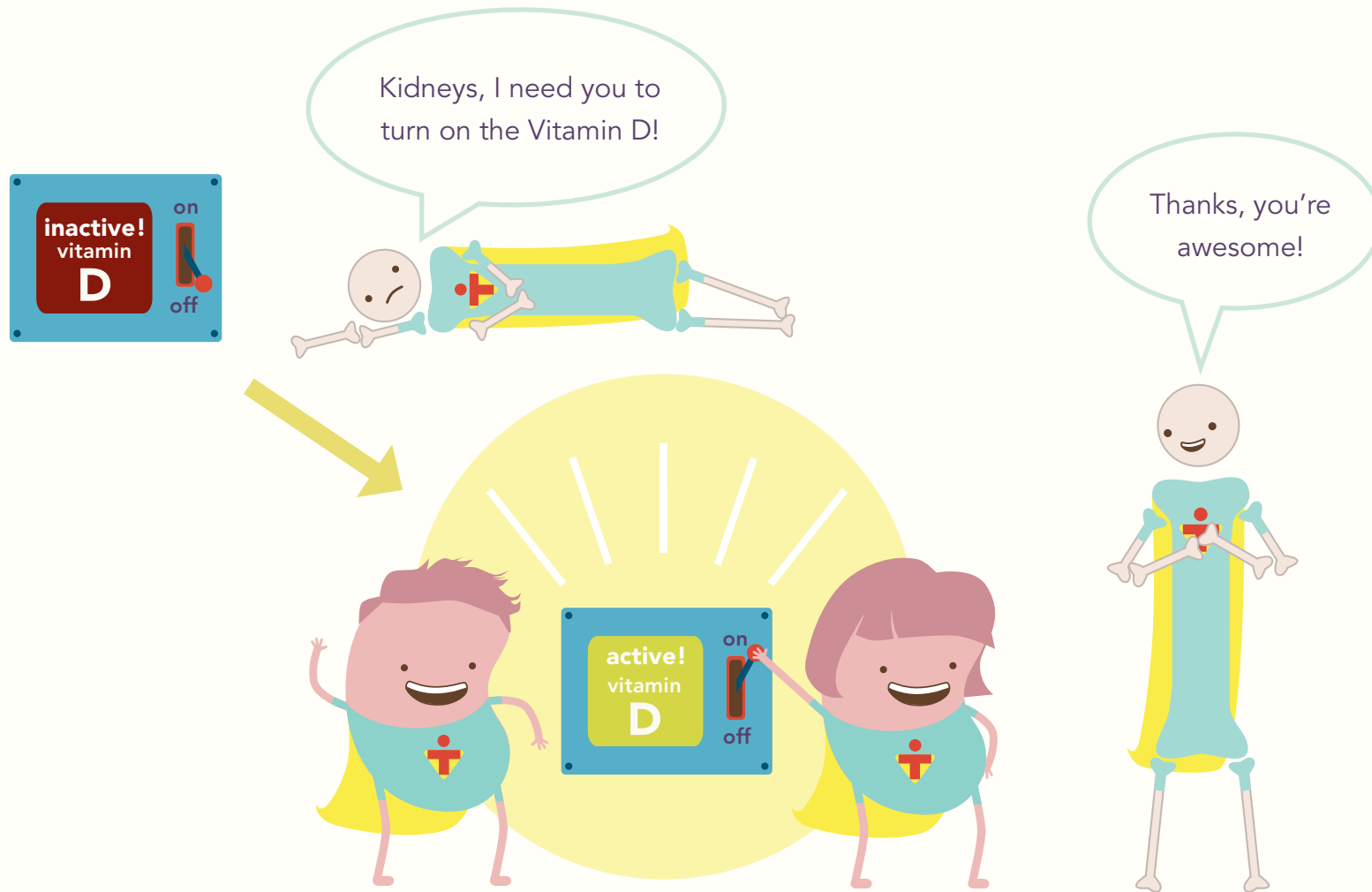
Vitamin D is called the sunshine vitamin because we get it from sunshine! We also get Vitamin D from **Whole Foods**. Your body can make Vitamin D if there is enough sun on your skin but you have to be careful not to get sunburned.

Most of us don't get enough Vitamin D from the sun, especially in winter. We can get Vitamin D in food and in **vitamin pills**.

vitamin
D



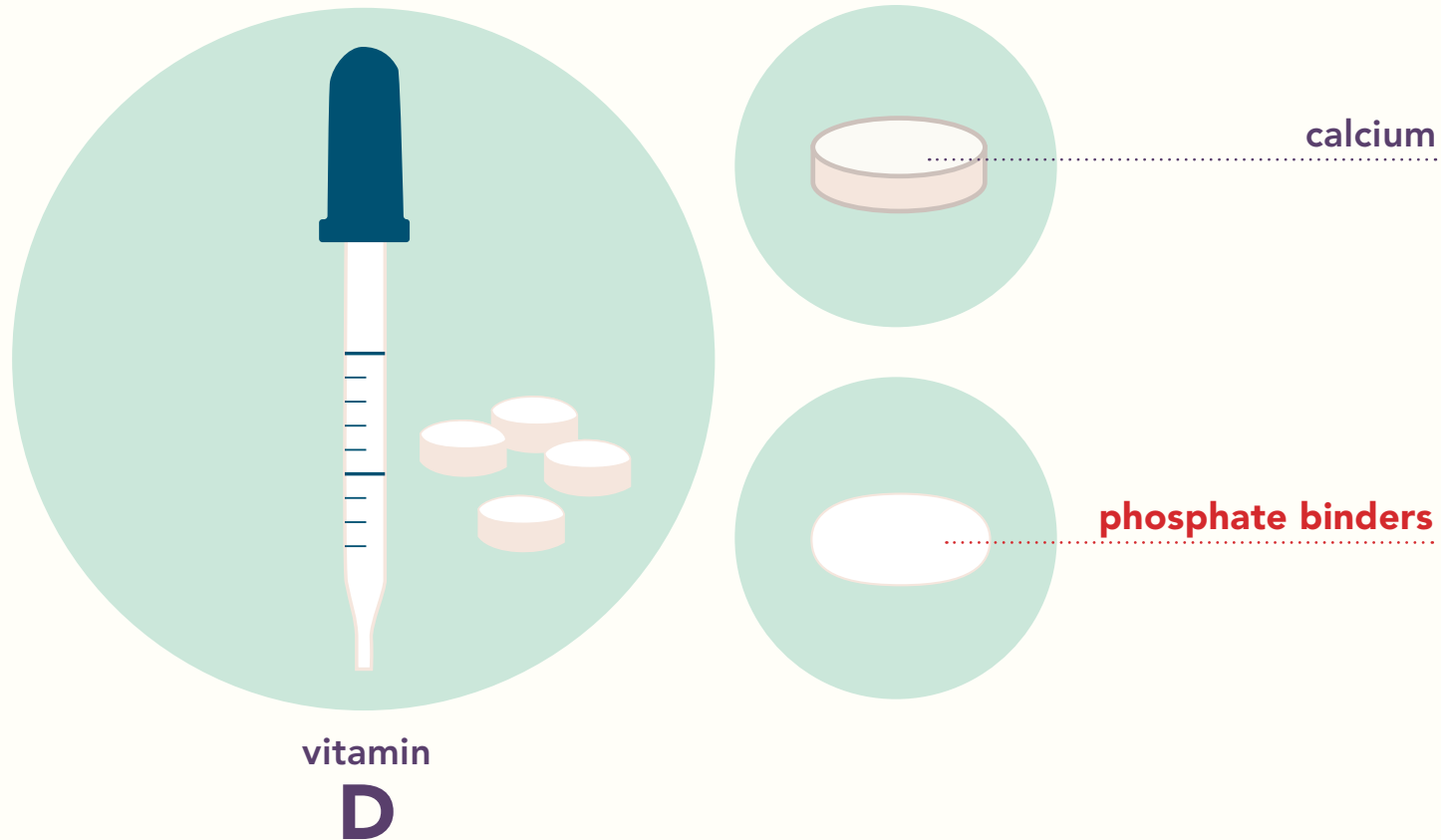
But there's a trick with Vitamin D:
the Kidney Twins have to help our body actually use it!



The Kidney Twins help out again! The Kidney Twins change Vitamin D that your body gets from food and sun into **active Vitamin D** – one of the main ingredients for strong healthy bones!

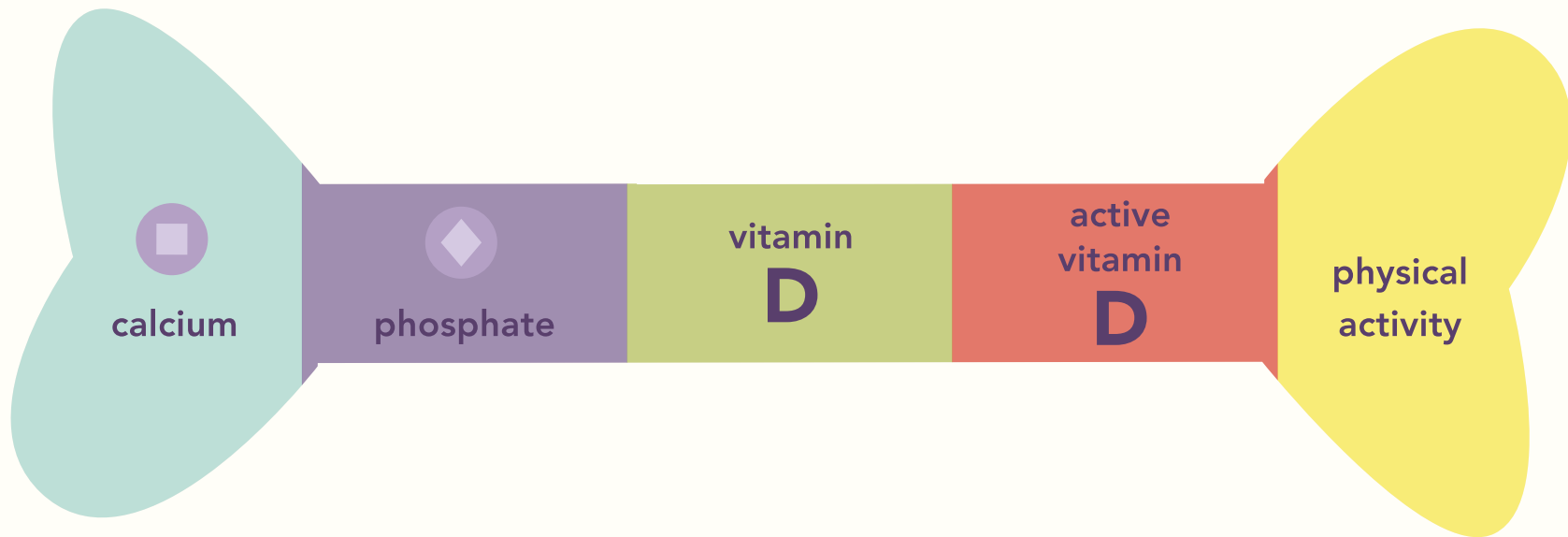
The last ingredient is being active. How do we get enough **physical activity**?



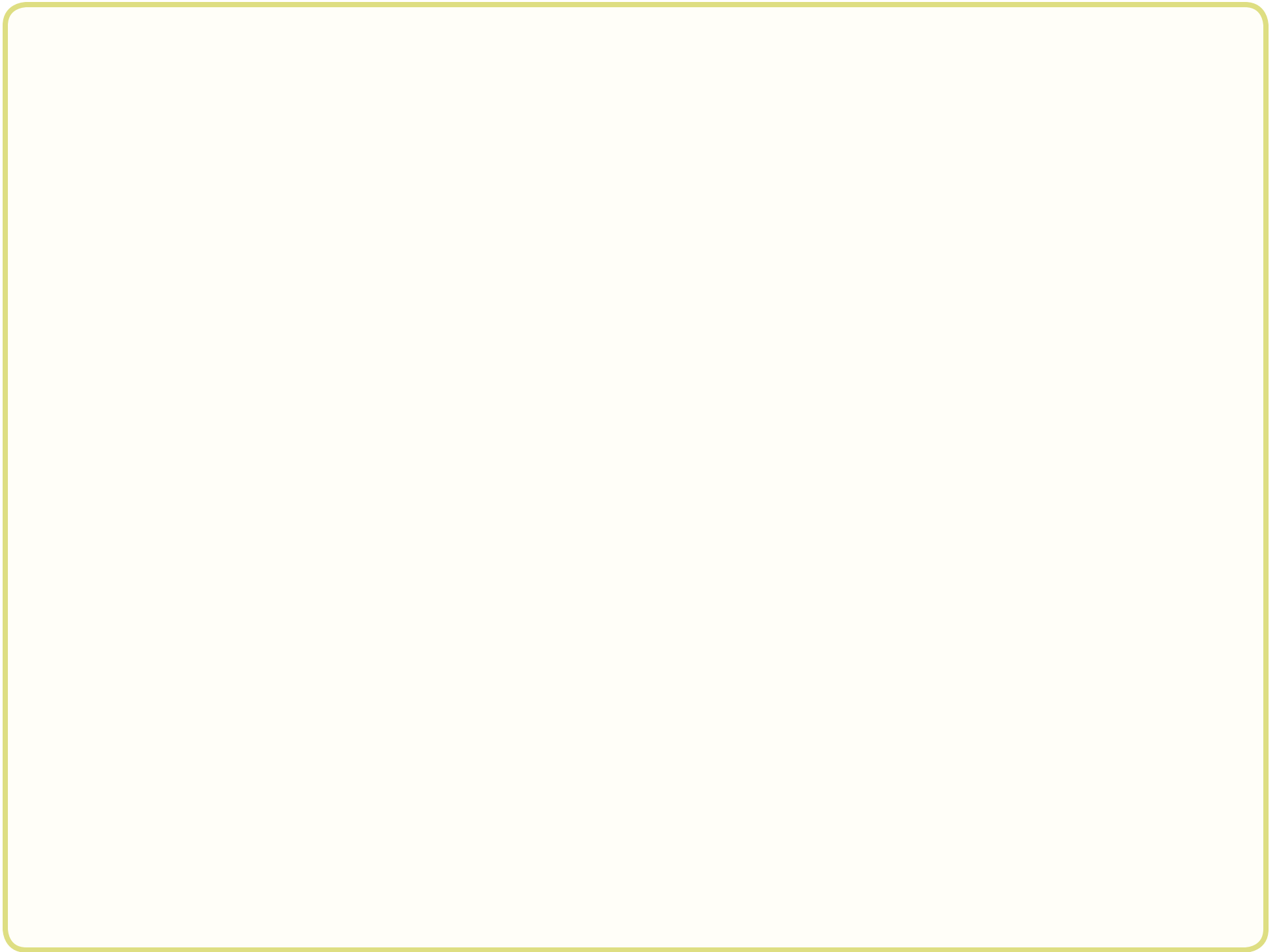


If we cannot get the right amount of the ingredients for our Strong Bone Recipe in our food, sometimes we need **medicine**.

Remember, we need these ingredients for strong bones!

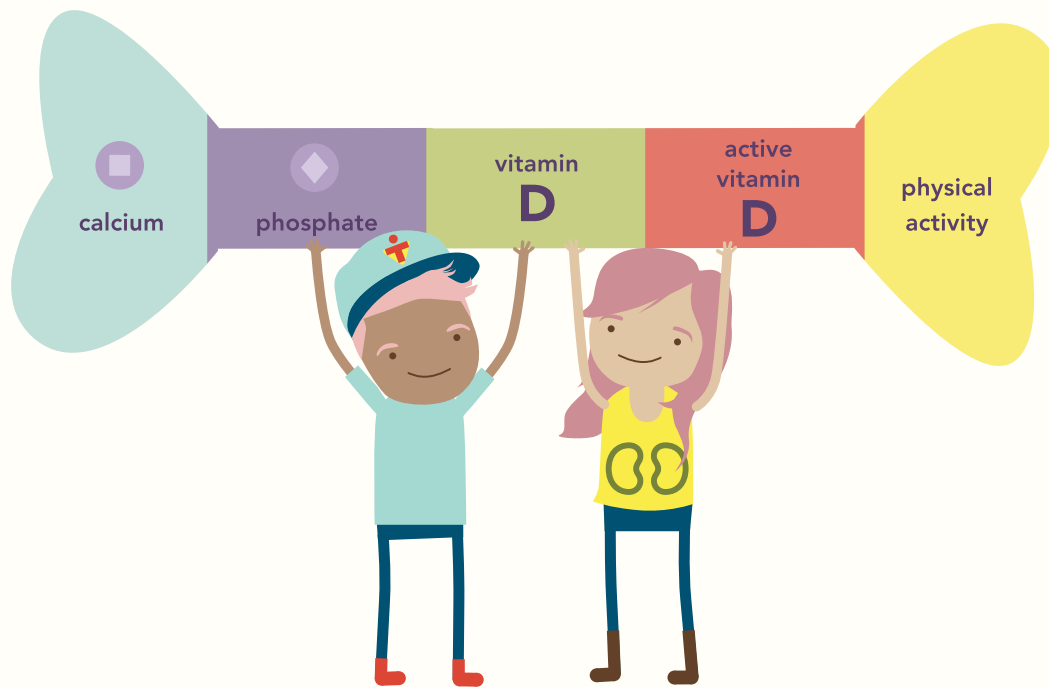


UP NEXT: ADOLESCENT LEVEL



BONE HEALTH

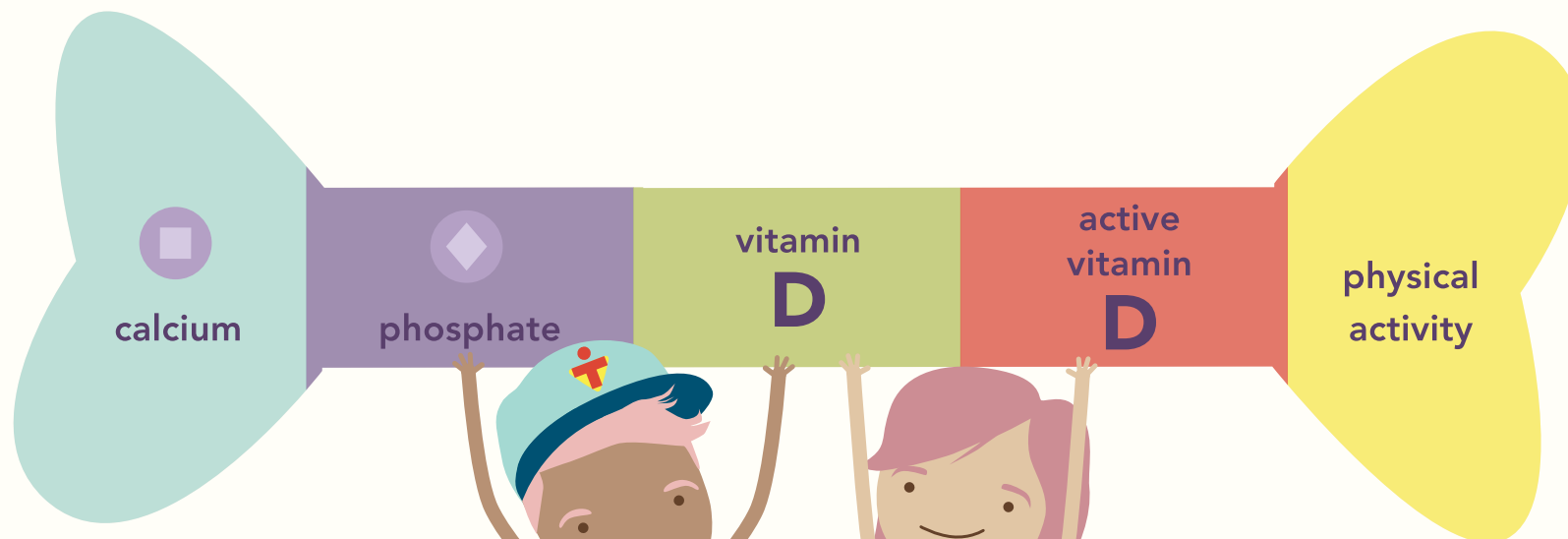
ADOLESCENT LEVEL



RESOURCES MENU

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Our bodies have a recipe for Strong Bones.



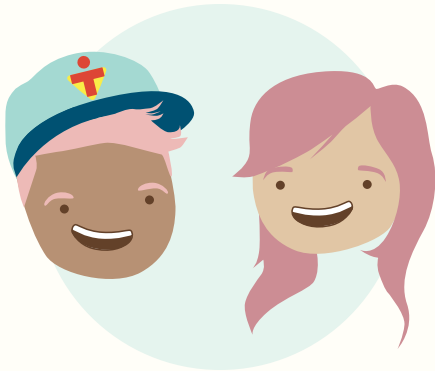
The recipe has 5 main ingredients:
calcium, phosphate, Vitamin D
and **active Vitamin D** and ...

... don't forget **physical activity!**

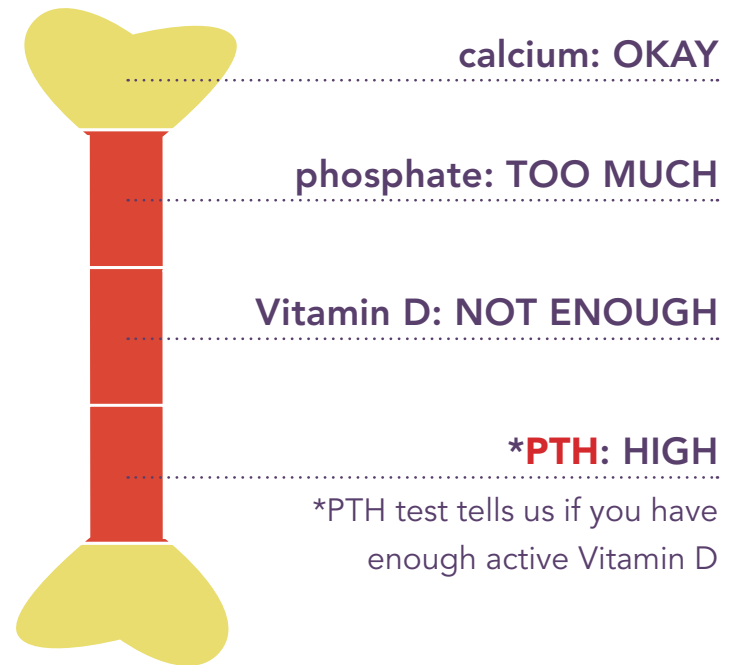
Our **Kidney Health Team** is always checking the amounts of each ingredient in the recipe.

They check the amounts of the ingredients through **blood tests**.

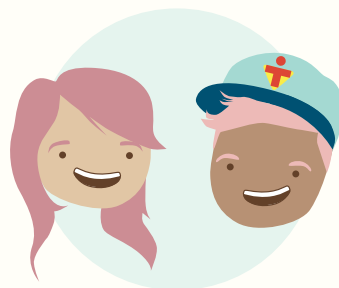
The amount of each ingredient is always changing so we have to have blood tests done regularly.



LAB RESULTS



The Kidney Health Team will adjust our **medicines** to get the right amount of the main ingredients for our Strong Bone Recipe.



What happens if we don't have the right amount of some ingredients for Strong Bones?

Your bones can get weak and you might not grow as well.

I've been taking 3 of these **pills**.

That's great because everything is just right – all with green check marks now!

LAB RESULTS

calcium: **GOOD** ✓

phosphate: **GOOD** ✓

Vitamin D: **GOOD** ✓

PTH: **GOOD** ✓



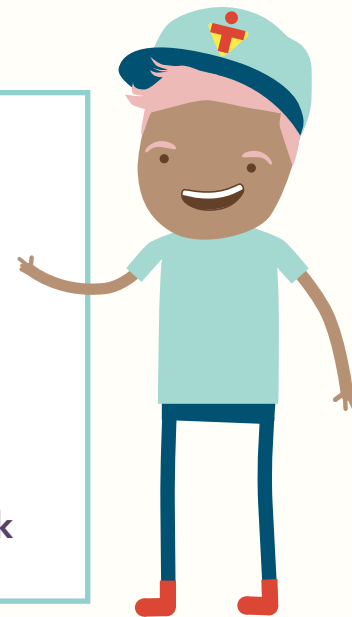
Will I notice anything if I do not have the right amounts of the main ingredients for strong bones?



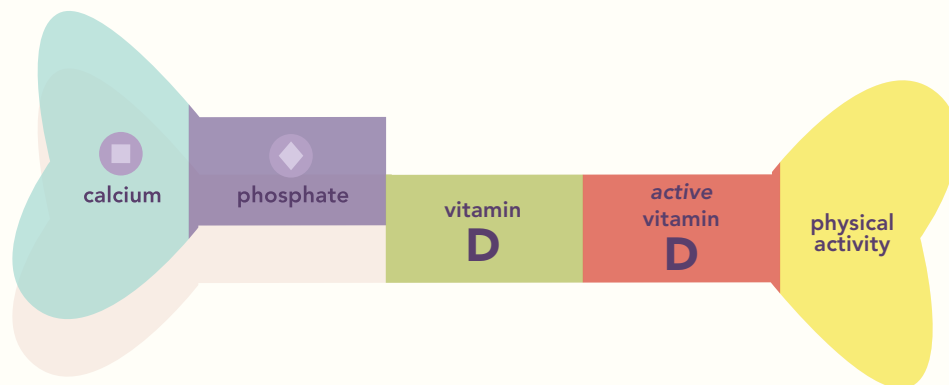
Most of the time you won't notice anything but if things are really out of balance, you might notice some of these things:



- Red eyes
- Itchiness
- Hard bumps along my veins
- Poor growth
- Weaker bones that can break

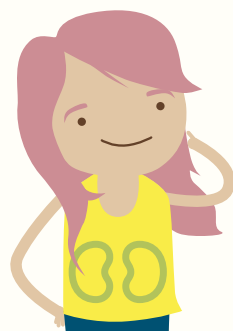


The right ingredients come from healthy food.



How do I know what is healthy food?

Foods that have many different **nutrients** are best. Some foods, like cola have too much extra sugar and too much phosphate. We need **Whole Foods**.



Whole Foods
come from plants
and animals!



Choose **Green Foods** First:

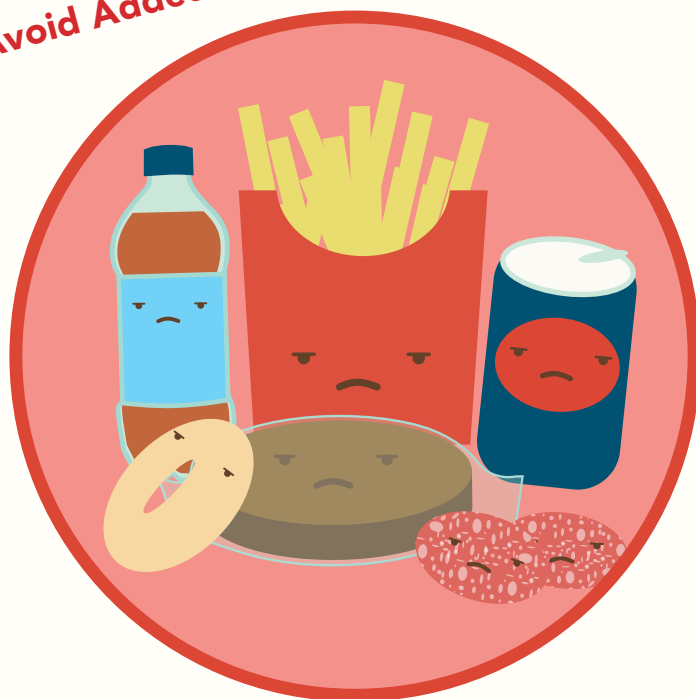


So I want to be careful that the foods I eat are right for my bone health. How do I do that?

It is better to get calcium and phosphate from Whole Foods to keep the best balance! **Processed Foods** can have too much added phosphate for our bodies.



WARNING
Avoid Added Phosphate

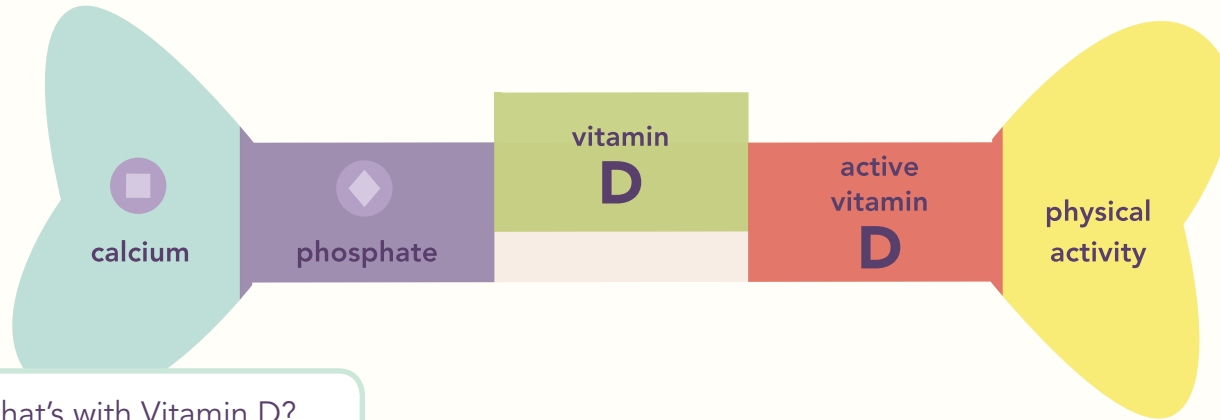


colas • bottled iced tea
flavoured waters • store-bought baking
flash frozen meat • chocolate
pre-seasoned and processed meats

I have heard some people have to be careful about getting too much phosphate. There are a lot of Processed Foods that are full of phosphate that the **Doctors** say to avoid.

Some of the Whole Foods also have more phosphate. Getting advice from the Kidney Health Team **Dietitian** can really help sort that out.



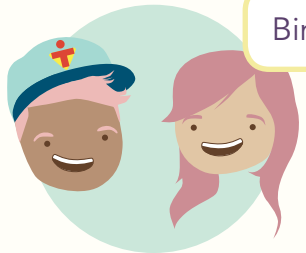


So what's with Vitamin D?

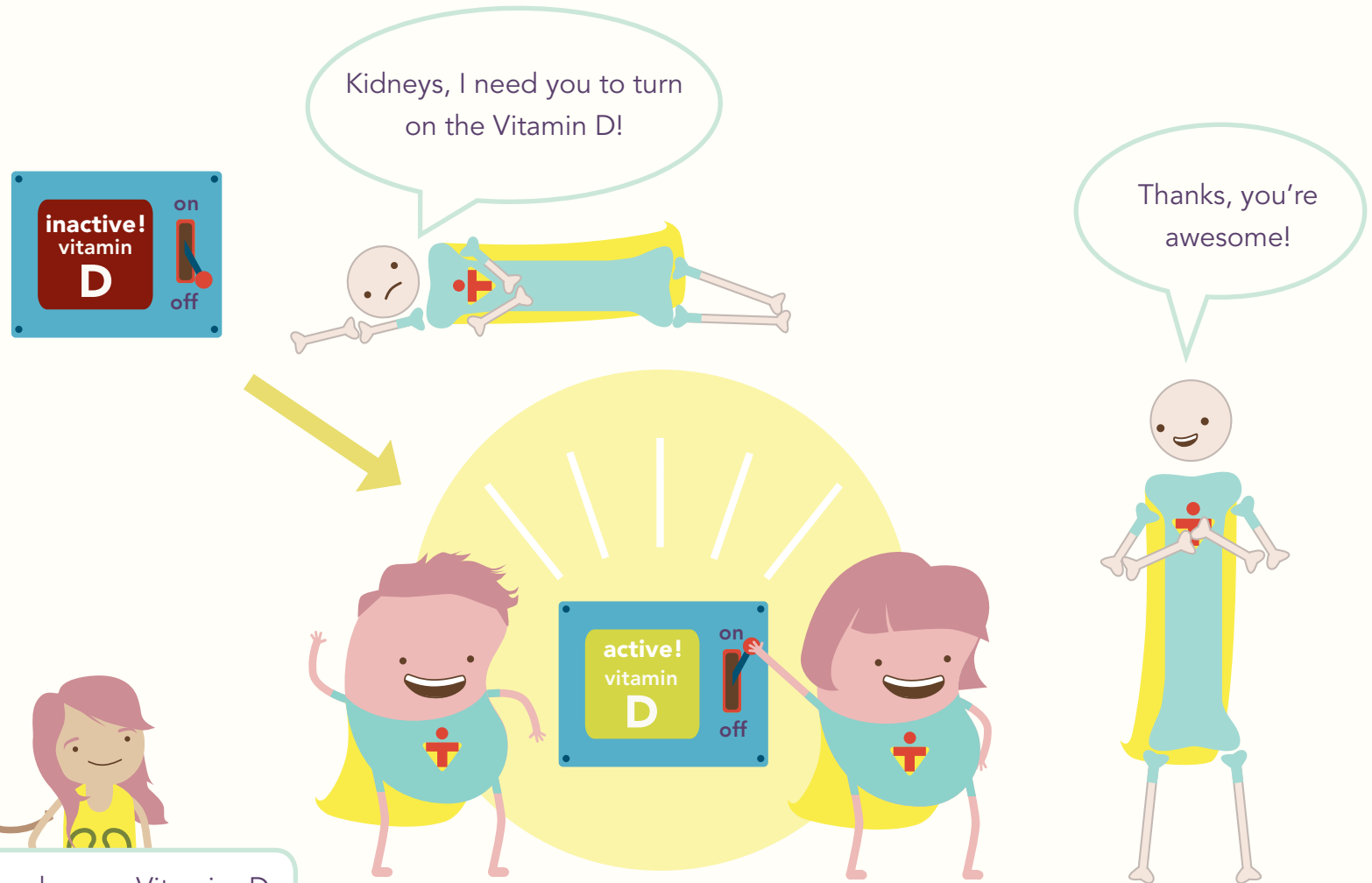
Vitamin D is a little tricky. We can eat food and take pills for Vitamin D but our body needs help to use it to make healthy bones.

Let me guess: this is where the **kidneys** come in?

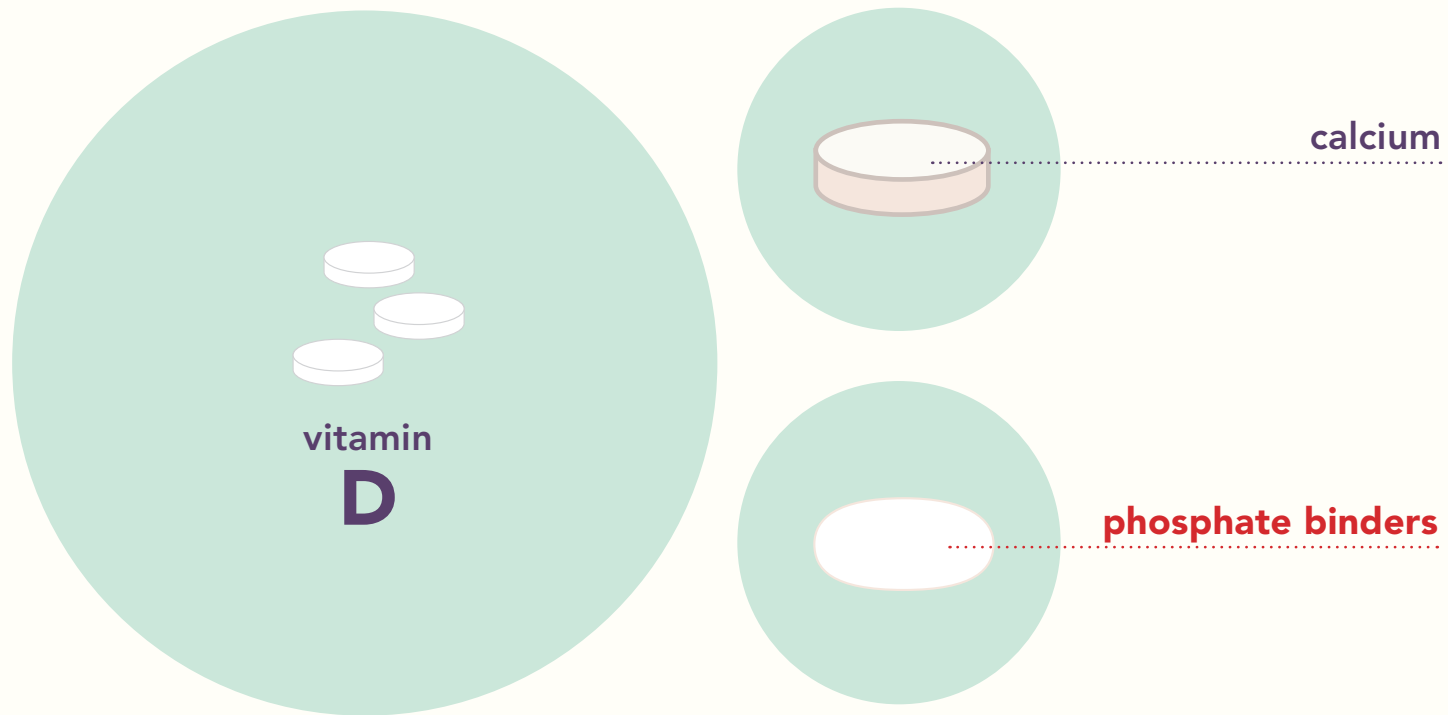
Bingo!



LAB RESULTS	
calcium:	GOOD ✓
phosphate:	GOOD ✓
Vitamin D:	GOOD ✓
PTH:	GOOD ✓



The kidneys change Vitamin D from food into **active Vitamin D** so our body can use it to make strong healthy bones.



If we cannot get the right amount of the ingredients for our Strong Bone Recipe in our food, sometimes we need medicine.



Physical activity! But how can we check if we are active enough?

We need to do activities that make us breathe fast, sweat and get red in the face.

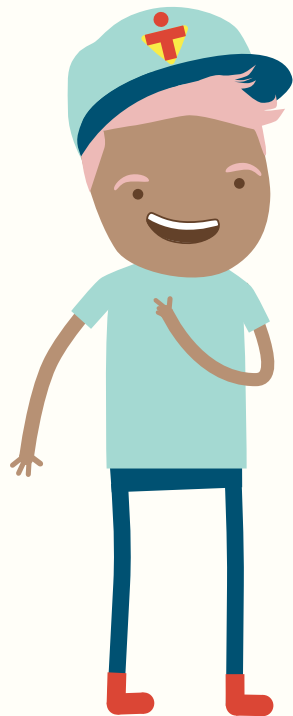


goal: 60 minutes every day!

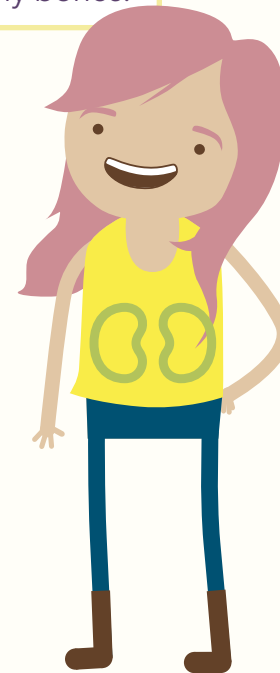


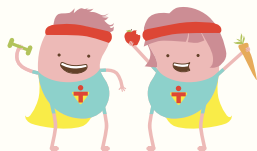
So with this recipe for Strong Bones, I can decide to help my bones be strong and healthy.

That's right. Making good choices about what you eat and do for activity are the main ways to help your body build strong, healthy bones.



MY
CHOICE





Created by Julie Strong BN, Tom Blydt-Hansen MD, Diane McKenty RN, and Angela Chotka MA with Pediatric Nephrology (Children's Hospital Health Sciences Centre) and Chotka Consulting: Creative Balanced Solutions. With thanks to the Children's Hospital Foundation of Manitoba for their generous support.

For more information about this resource, please contact Pediatric Nephrology at 204-787-4947 or jstrong@exchange.hsc.mb.ca or the Children's Hospital Foundation of Manitoba <http://goodbear.mb.ca>