



# Rising



Bread, Community,  
and Achondroplasia

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The book you hold  
in your hands was  
made with you in  
our hearts.

Make lots of bread,  
make lots of friends,  
and make lots of  
memories.

This world  
is for you.



To Leigh Ann,

You're a sun in the sky and  
candle in the dark whose  
light will inspire a generation.

Thank you.



Sofia

TODAY IS:  
**THE  
Rising  
LOVE  
Community  
BREAD  
Festival!**

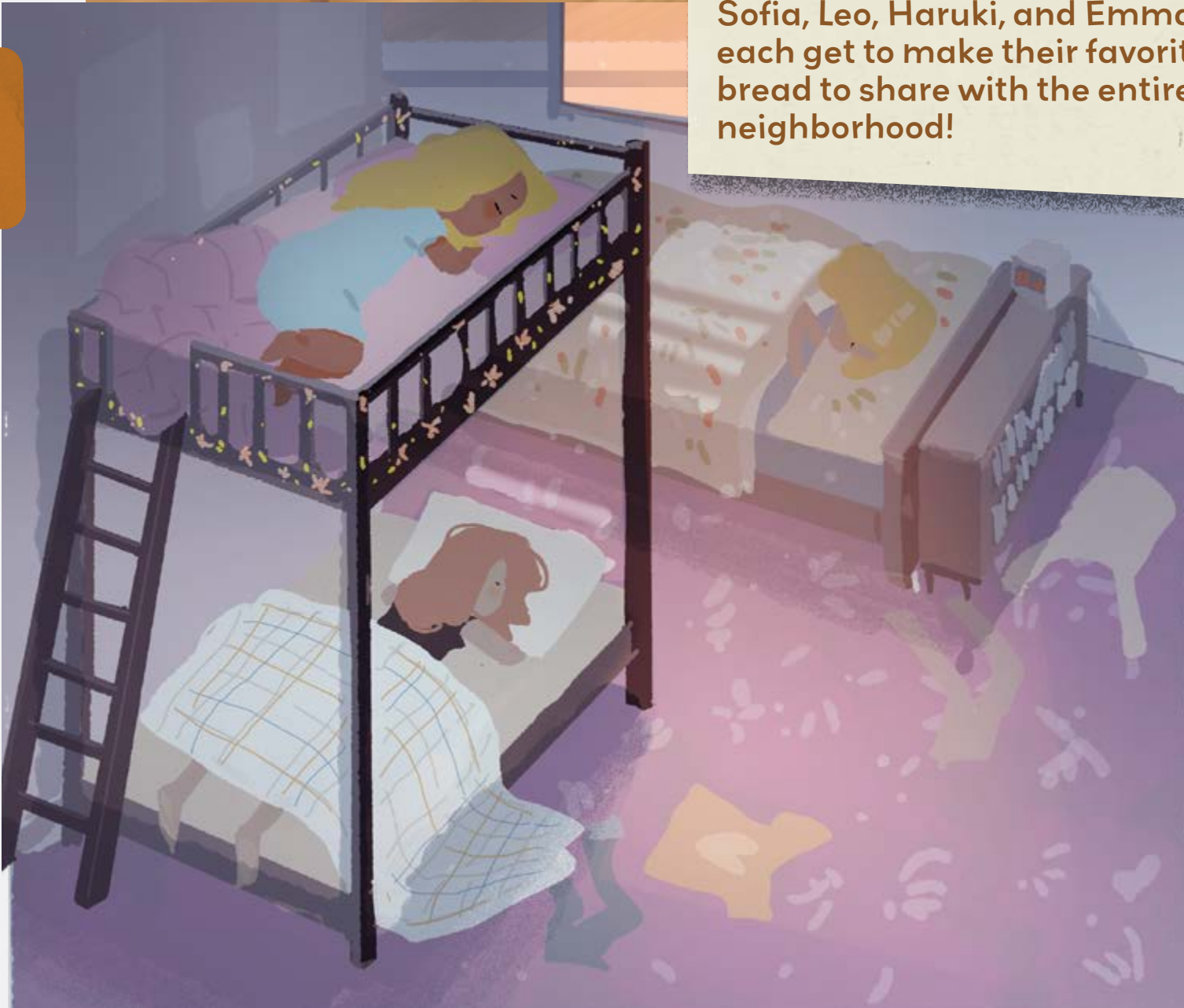


Haruki



Sofia, Leo, Haruki, and Emma each get to make their favorite bread to share with the entire neighborhood!

Emma



Leo







Sofia is excited to see her friends, but first she needs to make her bed.



Leo is a little nervous because he's never made bread before. His older, super cool brother Matt is going to help.



Haruki was too excited to sleep. He's getting ready already!



Emma stayed up late with her sisters, so she needs a little help waking up from Dad.

**"Rise and shine, my love"**

Dad says.





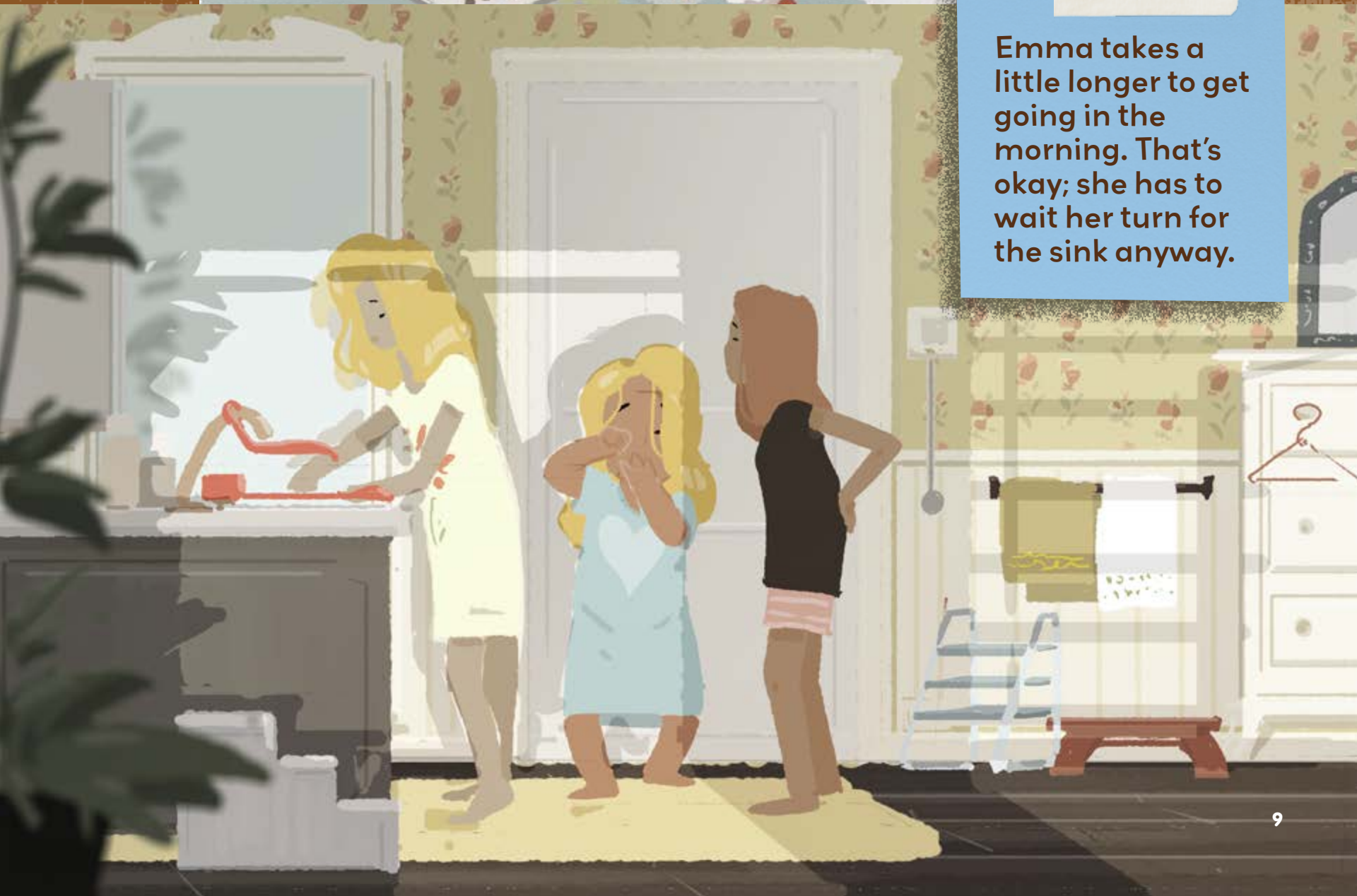
Sofia wants to pick the perfect bread for her friends. She's been trying to decide all week!



Emma takes a little longer to get going in the morning. That's okay; she has to wait her turn for the sink anyway.



Matt helps make Leo's hair cool.  
**"It'll help with being nervous,"**  
Matt says.






An illustration of a young boy with dark hair, wearing a striped shirt and pants, running through a kitchen. He is carrying a basket with a book and some items. The kitchen has wooden cabinets, a sink, and a window. A large potted plant is on the left. The text "WAKE UP!" is written in large, bold, brown letters across the top of the page.

**"WAKE UP!"**

**It's  
bread  
day!"**

Haruki yells,  
on his way to  
the kitchen.

An illustration of a young girl with brown hair, wearing a purple dress, standing in a kitchen. She is holding a book and a bag of flour. A woman with dark hair, wearing a yellow dress, is standing in the background near a doorway. The kitchen has wooden cabinets, a sink, and a window. A large potted plant is on the left. The text "WAKE UP!" is written in large, bold, brown letters across the top of the page.

"What bread  
did you choose,  
Sofia?" her  
mom asks.

Sofia smiles and  
turns to her mom  
with the recipe in  
her teeth!

**"Ooo,  
that's my  
favorite,"**  
Says mom.

**"I'll start  
up the  
clay oven."**



"Do we really need  
**that bowl?**"  
asks Matt.

"It's the one  
Grandma  
uses!"  
answers Leo.



Haruki was so excited he didn't  
wait for his parents to get started!

**What a mess!**





Now that everyone is awake  
and in the kitchen, it's time  
to make the dough!

Emma is making her  
family's famous pretzels.

**"Dad, can you  
take a picture  
from up high?"**

asks Emma.





All bread begins  
as dough.

Dough then  
turns into bread  
after spending  
some time in  
the oven.



When making dough,  
recipes can use  
different amounts of  
different ingredients.



Most dough  
starts with flour  
and water...

Then, some  
people add  
honey and  
cinnamon.



Or maybe rosemary  
and garlic.



Some bread uses  
butter and sugar.



And others use  
baking soda  
and salt.



Even when dough has more or less of something,  
it can still be delicious. That's why there are so  
many unique types of bread!



Now that all the dough is made, it's time to put it in the oven!



**Oh, no!**

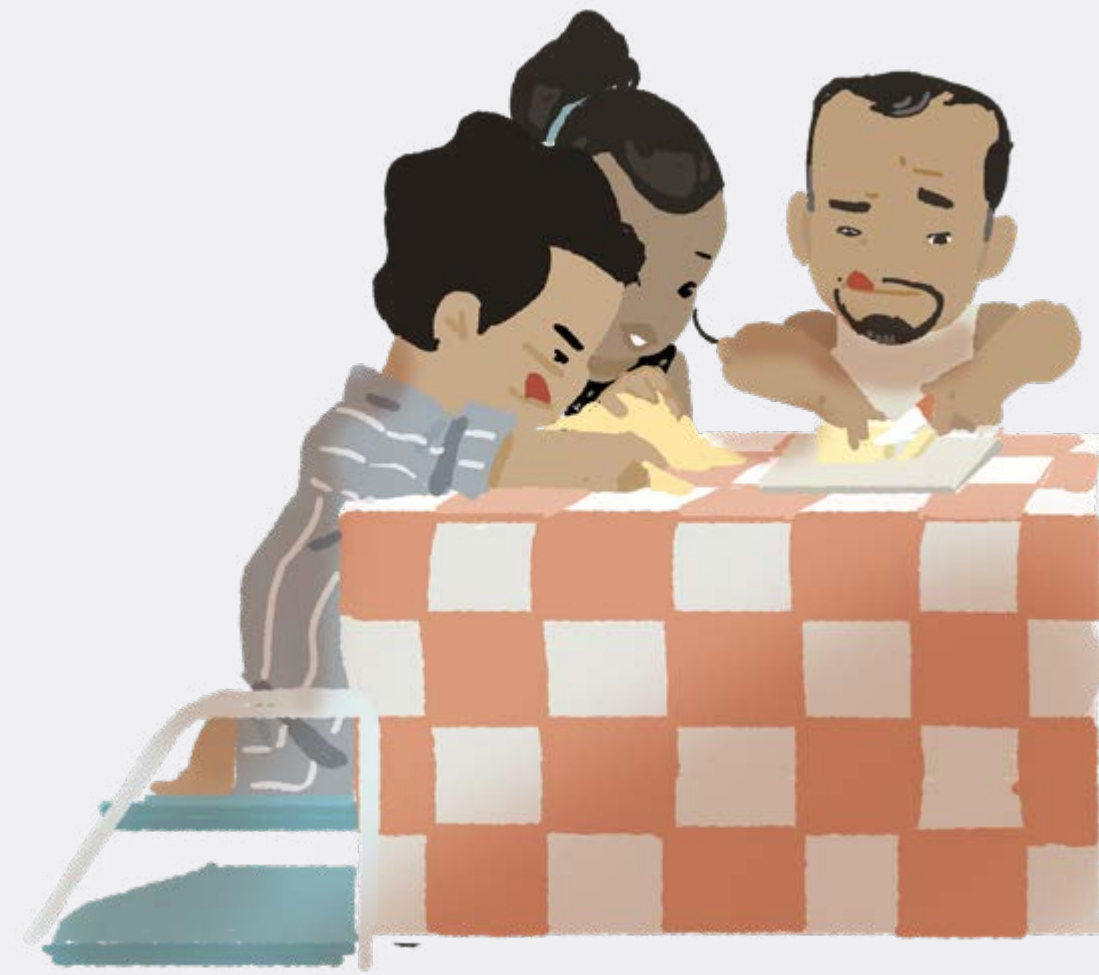
Leo accidentally dropped some dough on the floor!



**"That's okay,"**

says Matt.

"The best bakers probably drop lots of stuff."



Haruki and his parents are rolling their dough into croissants.

**"Like father, like son,"**

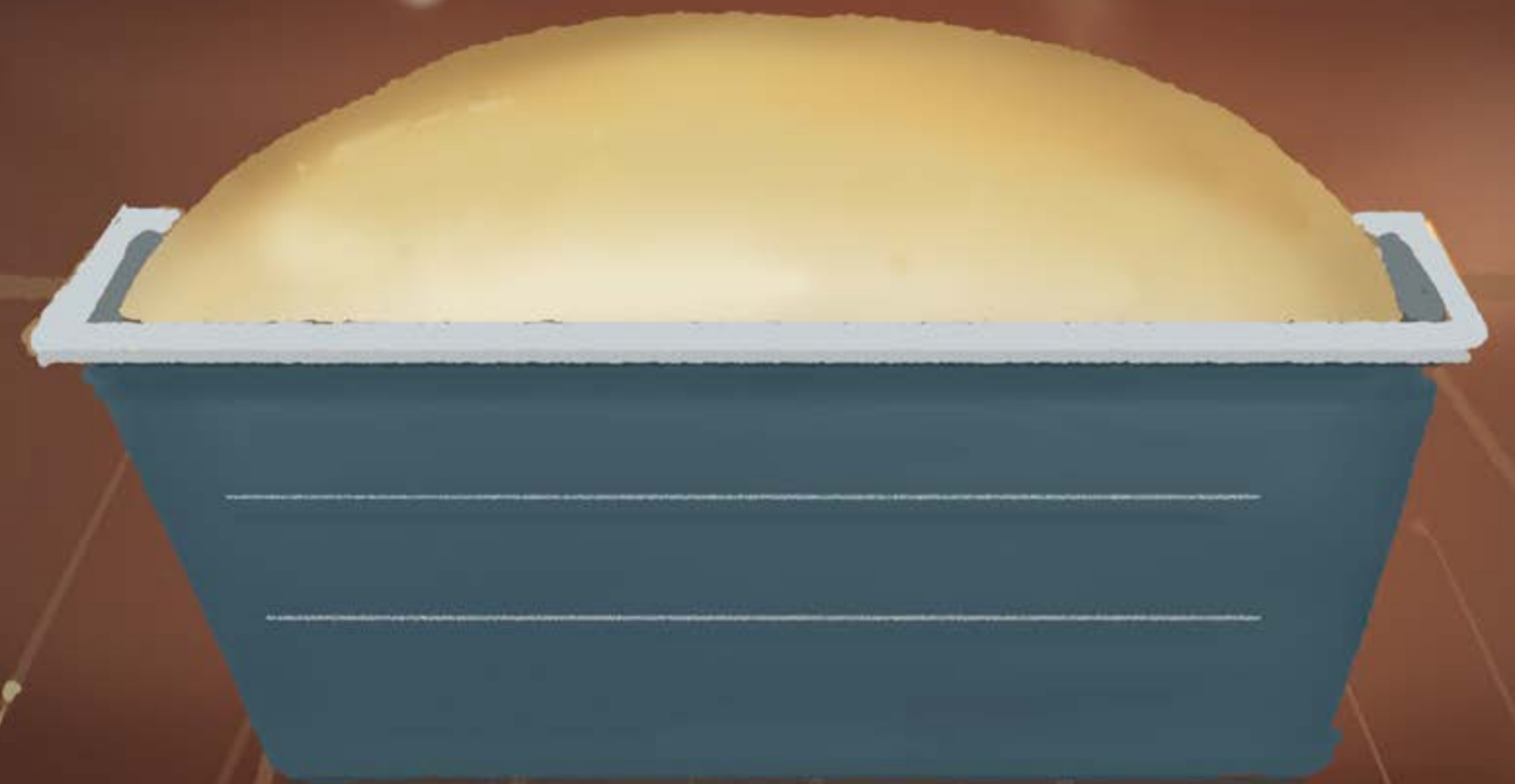
Mother says.

Emma loves creating shapes with the dough.





Because of the unique ingredients,  
if you put two types of dough in  
the oven for the same amount of  
time, they might rise and grow to be  
different shapes, sizes, and textures.





Now that the bread is made,  
**it's time to go  
to the festival!**



Leo can't wait to learn  
how to drive like Matt.

**"Good thing the park is  
just down the street!"**

jokes Leo.



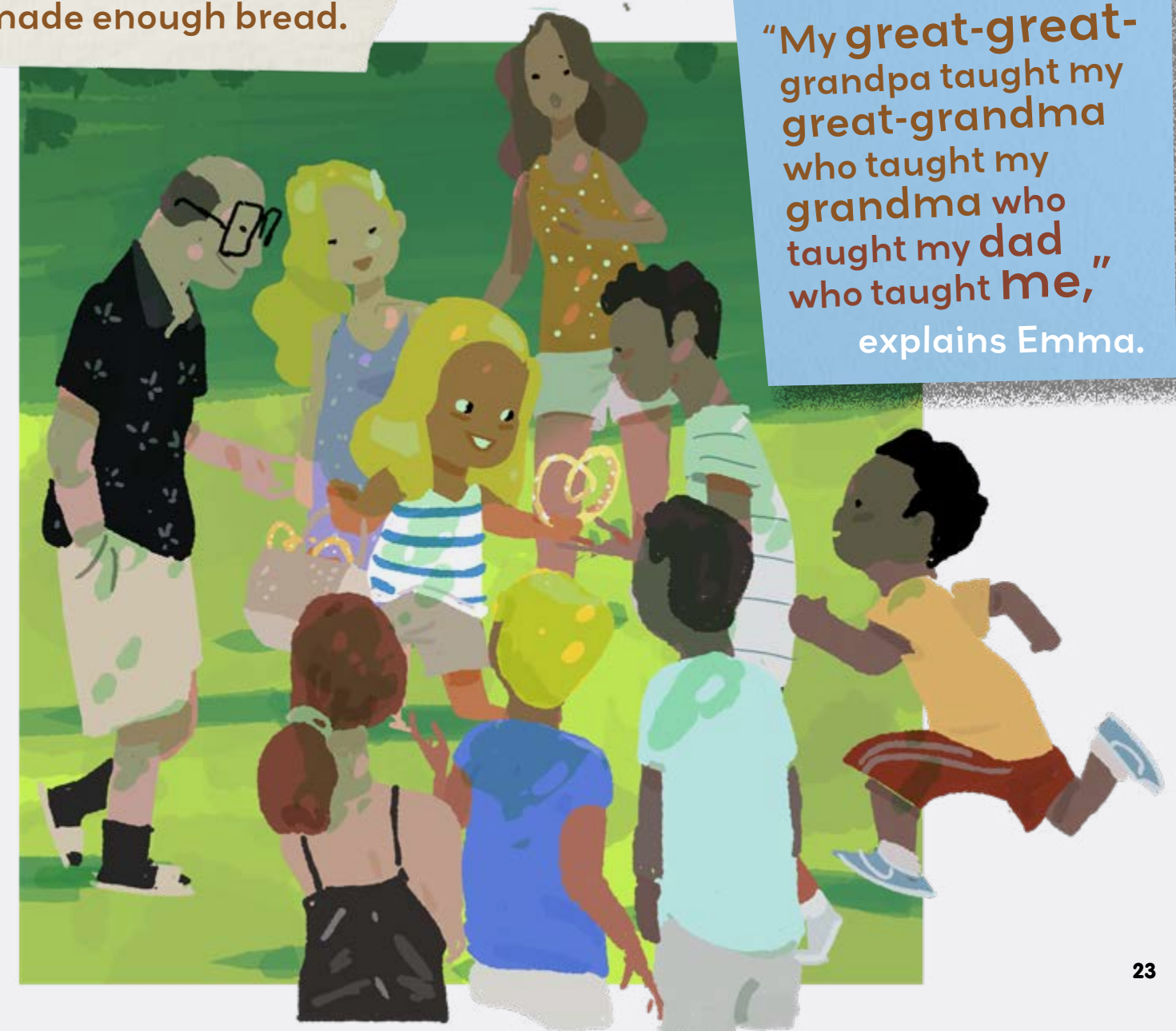
Sofia wonders if she  
made enough bread.

**"Croissants!"**

Haruki  
yells as  
he arrives.



**"My great-great-  
grandpa taught my  
great-grandma  
who taught my  
grandma who  
taught my dad  
who taught me,"**  
explains Emma.





**"I made cinnamon naan because it makes people happy,"** says Sofia

**"Oh!** And it's my mom's favorite."

**"Croissants are the best"**

because I could eat an entire basket all by myself!"

Haruki says through a mouthful of bread.

Emma is showing off her pretzel shapes.

**"I love pretzels because you can make shapes."**

This one is a flower,  
and this one is my big sister,  
and this one is my little sister,  
this one is Dad,  
and this one..."

**"We made focaccia because my grandma always makes some when we visit."**





Any type of bread can  
make people happy.

What makes bread truly special is  
the way we can share it with our  
loved ones, friends, and communities.



.....♥.....

## TALK ABOUT ACHONDROPLASIA WITH FRIENDS

Did you know there are **hundreds** of different types of bread? Tortillas, Cornbread, Biscuits, Pumpernickel, Rye, Challah... **Can you name 4 more?**

Just like bread, people are made up of different "ingredients" that make them unique.

These ingredients can look like lots of things. They can look like your best friend, your older brother or sister, or your favorite teacher.



.....♥.....

Check out the cards on the next page to see what makes each of the Rising Love kids one of a kind. Then, see how you can use bread to talk to your friends and family about achondroplasia. **(It's okay if you have questions, just ask your favorite grown-up!)**







**Meet Sofia**  
8 years old

**"The best part about people is getting to show them I care!"**

**Personality**

Sofia loves animals and helping others. She is most comfortable in her home where it's quiet and she can spend time with her mom.

**Mother**

34 years old  
Does not have achondroplasia.

**Talking Points**



**Family**

Sofia's mom tries to provide a supportive environment to help Sofia build independence and confidence in her ability to adapt how and when Sofia feels it's necessary.



**Adaptations**

Sofia also has many different types of adaptations throughout her home. Stools, low furniture, light switches, and other items can help people with achondroplasia stay independent in a world that's usually made specifically for people of average stature.



**Specific Challenges: Sleep Apnea**

Sofia has achondroplasia, which causes the bones in her face to grow in a different way. Sometimes, this can make it difficult for air to get to her lungs, so she uses a machine made to help her breathe while she sleeps. This is called a CPAP or BiPAP machine.



**Unique!**

Only 1 of every 25,000 kids is born with achondroplasia! That means Sofia is 1 of only around 250,000 people in the world!



**Meet Leo**  
10 years old

**"My brother is the coolest person I know! After Grandma."**

**Personality**

Leo loves reading, his grandma, and playing football with his older brother, Matt. He gets anxious sometimes and can worry, but Matt has experience dealing with anxiety, so both have learned ways to support one another.

**Brother - Matt**

16 years old  
Has achondroplasia.

**Father**

40 years old  
Does not have achondroplasia.

**Talking Points**



**Family**

Leo's older brother Matt has achondroplasia, but Leo and their dad do not. Did you know 80% of kids with achondroplasia are born to parents of average stature? It can be random!



**Adaptations**

Matt can drive with specific adaptations. A pillow for back support, a raised seat, and some pedal extenders can make getting around as accessible as it is for someone without achondroplasia.



**Specific Challenges: Mental and Social Health**

Mental and social health are just as important to children with achondroplasia as the management of physical health. Leo and Matt are affected by anxiety differently, but Matt can help Leo by teaching him techniques for self-care that he learned when he wrestles with negative feelings.

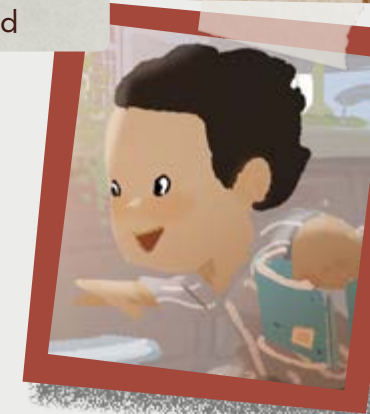


**Unique!**

Just like daily routines, every family has a different style of adapting their homes for achondroplasia. Because Leo doesn't have achondroplasia, he finds himself having to adapt to the tools Matt uses!

## Meet the Families

**Meet Haruki**  
10 years old



**"I don't like croissants... Just kidding, I LOVE croissants!"**

**Personality**

Haruki is a ball of energy. He loves people, loves parties, and loves playing soccer. Both of his parents have achondroplasia, so they have a lot of experience with having been short-statured kids themselves! It's helped Haruki become more independent (sometimes, a little too independent!).

**Mother**

39 years old  
Has achondroplasia.

**Father**

42 years old  
Has achondroplasia.

**Talking Points**



**Family**

Both of Haruki's parents have achondroplasia, which means Haruki will be able to learn a lot from his parents' experiences growing up.



**Adaptations**

Haruki's home has some custom adaptations to make it more comfortable for his family to go throughout their day. He also has a favorite step stool he's decorated like a skateboard.



**Specific Challenges: Getting Ready**

Haruki's shorter arms and legs can make getting dressed and drying his hair more challenging. It doesn't mean he can't! Kids with achondroplasia will find their own ways to do things, even if they don't look familiar or they take more time.



**Unique!**

Haruki's parents aren't worried because they've been able to meet lots of different doctors with expertise to help support Haruki as he grows up living a healthy, active life.

**Meet Emma**  
9 years old



**"Do you like this dress? I made it myself! It has stripes!"**

**Personality**

Emma has a big personality. She loves being the center of attention to show off all her favorite outfits and will talk your ear off about her two sisters: "They're both taller than me now, but that's only because they don't have achondroplasia."

**Two Sisters**

7 and 16 years old  
Do not have achondroplasia.

**Father**

45 years old  
Does not have achondroplasia.

**Talking Points**



**Family**

Emma is the middle sibling, and the only one in her family with achondroplasia. She has an older sister who was already growing fast when she was born—and now her younger sister is taller than she is, too.



**Adaptations**

With so many people in the house, Emma's family tries to adapt what they can while Emma takes care of the rest. Her dad stresses the importance of "asking when you need help," so Emma isn't shy about telling the people in her life what she needs.



**Specific Challenges: Siblings without Achondroplasia**

Every child is different, but it is not uncommon for children to begin feeling isolated as they see younger peers and siblings continue to grow quickly throughout childhood.



**Unique!**

Growing up with two sisters, Emma's had to learn how to hold her own! Different experiences and people are what help shape us into who we are.



## Using Bread to Discuss Achondroplasia (part 1)



### DOUGH RISES; BONES GROW

- 1 Besides turning into Grandma's Famous Focaccia, dough can be used as a metaphor to help explain how people end up always being unique.
- 2 It can also be used to help explain the science behind bone growth, and what happens differently in the bones of somebody with achondroplasia.



### BONES GROW; WE GROW

- 3 More than 90% of the bones in our body start as something temporary called "cartilage" (**the dough**).
- 4 As we grow (**bake**), our bones get longer when cartilage grows and turns into permanent bone (**becomes bread**).
- 5 This is how our bones get longer and we increase in height (**rise**).





## Using Bread to Discuss Achondroplasia (part 2)



### FGFR3 AND CNP: 2 INGREDIENTS

- ⑥ Like how water and flour are important ingredients for most types of bread, most of our bones have 2 main ingredients: FGFR3 and CNP, to help control how these bones end up growing **(rising)**.
- ⑦ In these bones, FGFR3 is a type of ingredient that slows bone growth **(rise slowly)**, while CNP is an ingredient that makes bones keep growing **(rise steadily)**.



FGFR3 stands for Fibroblast Growth Factor Receptor 3  
CNP stands for C-Type Natriuretic Peptide



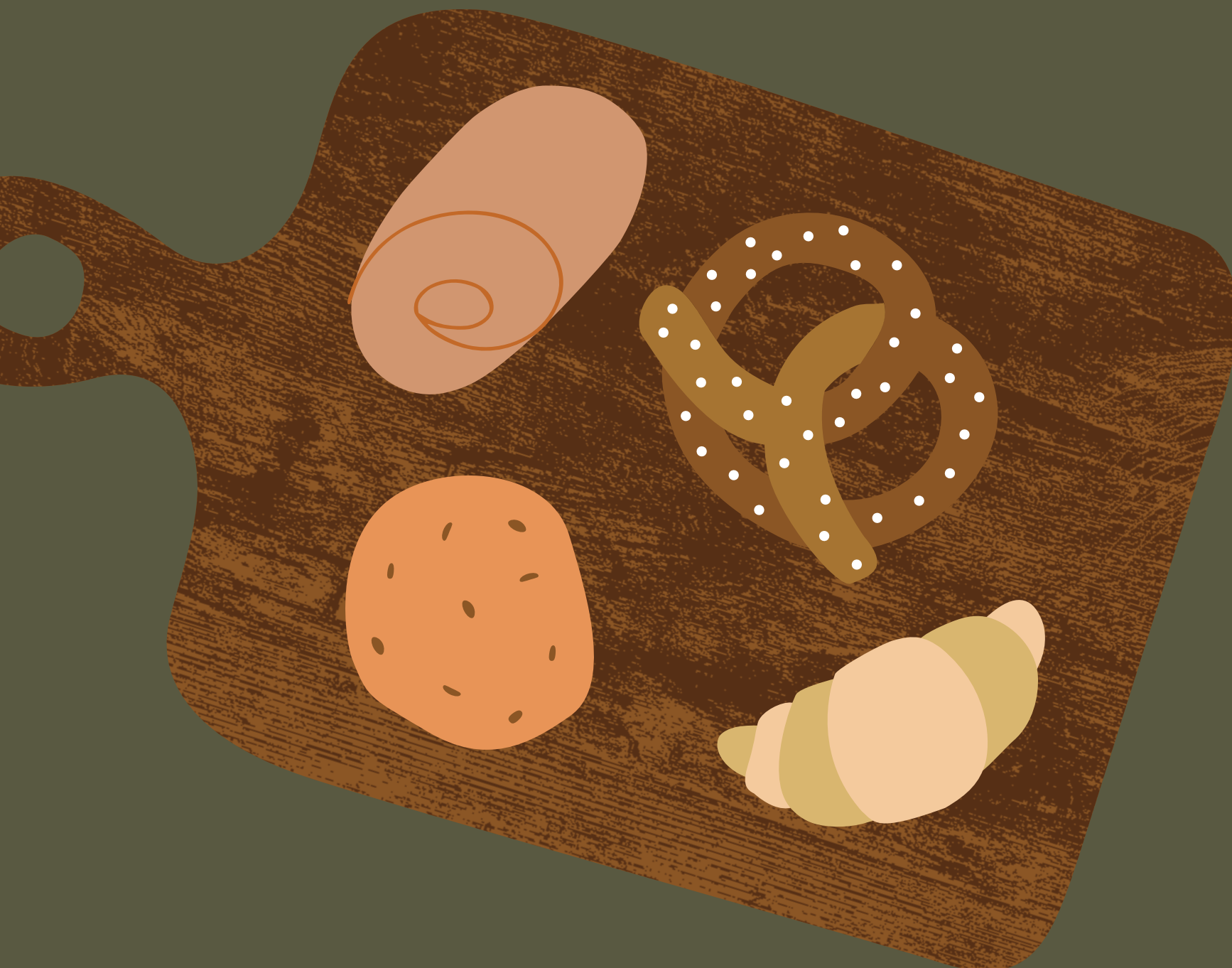
### SAME INGREDIENTS; DIFFERENT AMOUNTS

- ⑧ In the bones of someone who has achondroplasia, the balance of these ingredients is different. They have more FGFR3 than the CNP can keep up with.
- ⑨ As a result, cartilage **(dough)** is told to stop turning into bone **(rising)** sooner than in bones with a closer balance of FGFR3 and CNP **(ingredients)**.
- ⑩ This is how achondroplasia can cause some kids' bones to grow differently than other kids'. Same ingredients, just different amounts.



To see the full Reader's Companion for *Rising Love*, visit [achondroplasia.com](http://achondroplasia.com).





How can the Rising Love Bread Festival help the people in your life understand achondroplasia?

Meet Sofia, Haruki, Leo, and Emma. Four unique kids in families where achondroplasia is just a part of life. Today, our young heroes are each baking their favorite bread to share at the Rising Love Bread Festival.

With beautiful hand-drawn illustrations, dive into the details of the Rising Love world to connect, inspire, and educate anyone—no matter how they grow up.

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