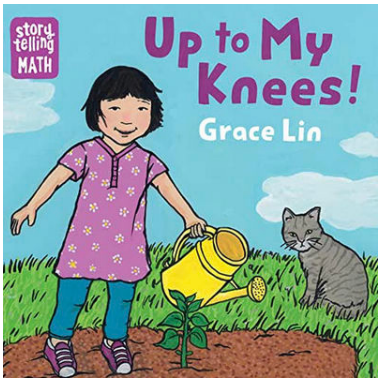

Up to My Knees!

Do you think the sunflower plant will grow taller than Mei?

Topics: comparison, height, measurement, **S**cience, **T**echnology, **E**ngineering, **A**rt, and **M**ath (STEAM), time, prediction

AUTHOR:
Grace Lin

Mei plants a sunflower seed. With water, sun, and time the little sunflower sprout grows and grows.

Ages: Infant to 5 years

ATOS Reading Level: N/A

Lexile: AD340L

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Activities To Do Together:

Use the book *Up to My Knees!* to explore informal measurement and to start conversations about the size of objects around you.

While reading the book *Up to My Knees!* try the following:

- Talk about the changes you notice in the growing plant. Discuss how the plant changes over time.
- Compare what you see on the pages of the story using words like larger, taller, smaller, wider, higher, longer, narrower, etc. “The seed is narrower than the hole.” “The shovel is wider than Mei’s hand.”
- Predict what will happen to the seed when it is placed in the ground. What does the story say the seed needs to grow?

When you have finished reading the story try the following:

- Plant a sunflower or bean seed. Help your child make a chart to keep track of the number of days it takes for the seed to sprout, to grow as tall as your child’s toe, as tall as their knee, their waist, and their shoulders.
- Go on a scavenger hunt and find objects that are taller, shorter, wider, narrower, longer, lighter, or heavier than something or somebody else. For example, find something that is longer than your shoe or find something that is both wider and taller than a chair.
- Organize objects by size. Arrange a group of books from shortest to tallest. Arrange a collection of toys from lightest to heaviest.
- Use comparison words like bigger, smaller, taller, heavier, wider, longer, shorter, and narrower when talking with your child. Compare the sizes of animals and objects with additional details. For example, a saltwater crocodile is longer than a rhino, but the rhino is heavier than the saltwater crocodile. Each of these animals is bigger in its own way.
- Encourage your child to identify an object that is as tall as their knee, their waist, their shoulders, etc.

Conversations During Daily Routines with Infants and Toddlers:

1. Tummy time - Place two of your child's toys near them and compare their size. "Bunny is as tall as my hand. Bear is taller than Bunny."
2. Play time - Line up three or four favorite toys by height. Use toys or other objects to build a tower that is as tall as your child's knee or waist.
3. Bath time - Make comparisons with the objects in and near the bath tub. Is a bar of soap wider than your child's hand? Is the towel longer than your child's body?
4. Dressing time - Notice what is as long as your child's foot, knee, and leg. Find objects that are as wide as your child's hand. Talk about these size comparisons together.

Questions for Mathematical Thinking:

1. Why do you think the book says that spring is the time to garden?
2. What happened when the seed was dropped in the hole?
3. What is as tall as your knee?
4. What plants are taller than you are?
5. How long do you think it took the seed to grow into a full-grown sunflower? Why do you think it took that long?

Early Math Project Resources:

Visit Up to My Knees (countplayexplore.org/book/up-to-my-knees) to find activities and related Learning Foundations and California Mathematics Standards for this book.

Spanish Title: *¡Hasta las rodillas!*

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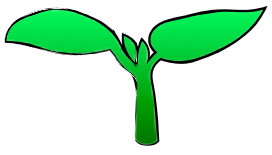
ISBN: 9781623542238

Related Books: *Red Leaf, Yellow Leaf* by Lois Ehlert; *Actual Size* by Steve Jenkins; *Super Sand Castle Saturday* by Stuart J. Murphy

World Catalog
https://bit.ly/3roMwV8
find *Up to My Knees* in the public library.



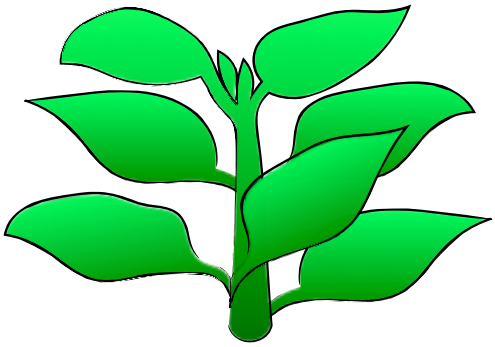
Math Connections:

The book *Up to My Knees!* shows the growth of a sunflower seed from sprout to full grown plant. It provides opportunities to talk about how living things change over time and changes that occur due to influences in the environment.

As you read the book with your child, notice how the sunflower plant changes. How many leaves does it have after it sprouts? When is the sunflower plant shorter than the cat? When is it about the same size as the cat? When is it taller than the cat? Ask your child how tall they think the plant would be compared to their own body.

Consider growing a sunflower or bean seed and noting the number of days it takes the seed to sprout, the time it takes for the sprout to grow as tall as your child's toe, and the time that passes until the seed grows as high as your child's knee. Ask your child to predict how long it will take the plant to grow as tall as their waist and track the plant's growth together to see if their prediction was close.

Make comparisons. Look for objects that are taller, shorter, wider, narrower, longer, lighter, or heavier than something or somebody else. For example, find something that is heavier than a teddy bear or find something that is both taller and narrower than a box of cereal. Organize a group of objects by size. This might include arranging cans of food by their height or weight or arranging a group of toys by length. Create a toy parade by lining up the toys by height.

Make a point of using comparison words when talking with your child. Expand on the idea that something is bigger or smaller by adding additional details. For example, a giraffe is taller than an elephant, but the elephant is heavier than the giraffe. Each of these animals is bigger in its own way.

Explore informal measurements. Show your child how to walk by placing their feet heel to toe so they can count how many of their foot lengths are needed to cover a particular distance. Demonstrate how their hands can be placed side by side to measure the hand widths that will fit across a surface. How many hand widths is the book that you are reading? Count together as you make these informal measurements.