



# Food and Water

Ideas to investigate and games to play in the kitchen,  
at snack time, or around water.

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### Good for Groups

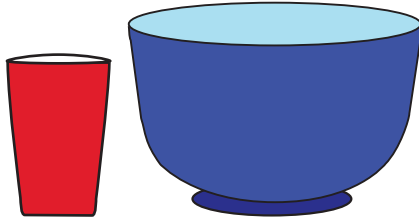
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# Fill It or Spill It

Fill up the bowl with water, one cup at a time.

## 1 Compare sizes

Pass around the cup and the bowl.



**Easy.** Which is wider, the cup or the bowl? Which is taller? Which could hold more water?



**Medium.** Which do you think can hold more water: the cup or bowl? Why do you think so?

**Hard.** How many cups of water do you predict will fill the bowl?

### Materials

#### Per group

large bowl

cup sized so that:

**Easy.** Up to 4 cups of liquid fill the bowl.

**Medium.** Up to 6 cups of liquid fill the bowl.

**Hard.** Up to 12 cups of liquid fill the bowl.

water source (e.g., faucet or bucket of water)

## 2 Fill and count

Take turns adding a cup of water to the bowl. Keep going until it's full.

**Easy.** One cup ... two cups ... what number comes next? Is the bowl full yet?



**Medium.** Do you think we have room for another cupful? ... two more cupsful?

**Hard.** We filled the bowl with nine cups. Is that more or less than you predicted?

### Variations

**Mix it up (Easy, Medium, Hard).** For experience with different sizes and shapes, use varied containers (e.g., tall and thin, short and wide) instead of a cup and bowl.

**Fill it a different way (Easy, Medium, Hard).** Fill with sand, rice, or beans instead of water.

**Count around (Hard).** Try this with at least two people. Gather in a circle. On your turn, pour a cupful into the bowl and say the next number in the sequence. For extra challenge, pour two cups and count around by 2s.



**Levels:** Easy, Medium, Hard

**Group size:** 2 per order  
(1 server and  
1 to be served)

# Snack Station

Let me take your order. How many do you want?

## Materials

### Per pair

food to count out,  
such as baby carrots or  
crackers



## 1 Set the limit

Decide on the maximum amount per order.

**Easy.** Up to 4 items.

**Medium.** Up to 6 items.

**Hard.** Up to 12 items.

## 2 Pair up

Decide who will serve first and who will order first.

## 3 Order your snack

Say how many items you want.



*How hungry are you? Do you think you could eat just one cracker? Could you eat five?*

The server counts out your order.

## 4 Switch roles.

If you ordered last time, this time you serve.



## Variations

**Small, medium, large (Hard).** Decide together how many items in a "small" serving, a "medium" serving, and a "large" serving. Then, one person orders a small, medium, or large, and the other counts it out.



**Fantasy feast (Easy, Medium, Hard).** "Feed" toy animals, dolls, or vehicles as many items as they request.

**Pour it (Hard).** You'll need food that can be poured (e.g., cereal, yoghurt), a measuring cup, bowls, and spoons. Decide on measurements for each serving size. For instance, small is  $\frac{1}{4}$  cup, medium is  $\frac{1}{2}$  cup, and large is  $\frac{3}{4}$  cup. Order and serve.

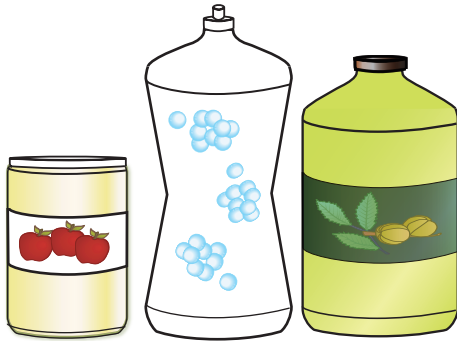


# Water Wonders

Which holds more water: the tall, thin container or the short, wide one? Compare to find out.

## 1 Predict which holds the most

Put the containers in order from the one you think holds the least to the one you think holds the most.



*Why do you think this short, thin container holds the least?*

## 2 Fill and pour

Fill the container you think is the smallest. Then pour the water into another container. If it's really the smallest, the water won't completely fill up any other container.



*Does the water fill up the container? Is there a lot of room left?  
Does the tallest container hold the most water?*

### Materials

#### Per group

plastic containers, cups, or bowls of different shapes and sizes (e.g., short and round, cone-shaped, tall and thin)



**Easy.** 2 containers.

**Medium.** 3 containers

**Hard.** 4-5 containers.

water source (e.g., faucet or bucket of water)

## Variations

**Fill it a different way (Easy, Medium, Hard).**  
Fill with sand, rice, or beans instead of water.

**One dimension at a time (Easy, Medium).**  
Line up the containers from shortest to tallest. Then line them up from narrowest to widest. What other ways can you find to line them up?

**Cereal box lineup (Easy, Medium, Hard).**  
Instead of containers, use cracker, tea, or cereal boxes. Line them up by height, width, or another characteristic (e.g., number of "A"s on the front of the box).



**Levels:** Easy, Medium, Hard

**Group size:** 2  
(see Variations  
for more)

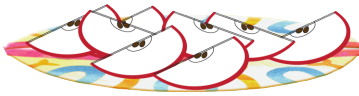
# One for You, One for Me

Snack time? Deal out the food to make sure everyone gets an equal share.

## Materials

### Per pair

food that comes in pieces, such as baby carrots or apple slices, arranged on a plate so everyone can see how many



**Easy.** 3-4 pieces.

**Medium.** 5-6 pieces.

**Hard.** 7-12 pieces.

## 1 Predict



*Are there more people or more carrots?  
Could each person have one? How do you know?  
Could each person have two?*

## 2 Each one takes one

Each person takes one item from the plate.



*Are there any left over?  
Can everyone have another?*

## 3 Keep taking one

Repeat step 2 until the plate is empty or only one item remains.



*Do you both have the same amount?  
How do you know?*

Nino has two but I only got one.



## 4 Eat!

If there is an extra left on the plate, divide it in half or save it for another time.

## Variations

**Feed a group (Medium, Hard).** Try this with three, four, or five people sharing food.

**Place settings (Easy, Medium).** Set out a pile of plates, forks, and napkins. Predict if you have enough for everyone and then lay the table to check.

**Feed your toys (Easy, Medium, Hard).** "Help" two or more toy animals, dolls, or vehicles share out food so each one gets the same amount.



# Pretend Picnic

What are you taking to the picnic? Remember what everyone else is bringing too.

## 1 Start with a 'one'

The first person announces one thing to bring on a pretend picnic.

### Materials

none

## 2 Contribute a 'two'

The next person repeats what the first is bringing and contributes two more.

## 3 Keep going as long as you can!

Easy. Up to 3.

Medium. Up to 5.

Hard. Up to about 10.



What are we taking two of?  
What number comes after four?



## Variations

**Picture picnic (Easy, Medium, Hard).** Use pictures, stickers, or real or toy food to help you remember what you're bringing on the picnic. You might reach a higher count that way!

**Alphabet picnic (Hard).** Follow the alphabet and the counting sequence as you decide what to bring on your picnic.

I'm bringing 1 apple,  
2 bananas, 3 carrots.



**Backwards picnic (Hard).** Start with six items and count back each turn. For extra challenge, start at ten.



**Picnic in time (Hard).** Follow the clock as you tell what you did on the picnic. For instance, "At 1:00 in the afternoon, I saw 1 butterfly. At 2:00, I saw 2 frogs. ..."



**Levels:** Medium, Hard (Easy)

**Group size:** small enough so everyone has a chance to predict and count

# What's Inside?

How many seeds in this apple? Predict, count, and eat!

## Before beginning

Cut open the fruit so that the seeds are visible.

### Materials

#### Per group

**Medium.** Fruit with up to 10 seeds (e.g., apple, orange).

**Hard.** Fruit with up to 15 seeds (e.g., pear, melon slice).

**For an adult**  
knife



## 1 Predict the number of seeds



*Are there more than two seeds?  
Are there more seeds than you have fingers on one hand?*

## 2 Count

Remove, arrange, and count the seeds.



*Let's count together to find how many seeds.*

## 3 Compare estimate and count



*Were there fewer or more than you predicted?*

## 4 Eat!



## Variations

**Count together (Easy).** Divide up the seeds so everyone counts 2-4. An adult helps find the total.

**Section selection (Medium, Hard).** Predict how many sections in an orange. Then peel, count, and eat.

**Peas in a pod (Medium, Hard).** Try this with different kinds of peas or green beans. Make a prediction, then open the pod or hold it up to the light to count.

**Edible explorations (Medium, Hard).** Gather several types of fruit. Predict how many seeds in each, then an adult cuts. Do the larger fruits always have more seeds?

**Apple graph (Hard).** Track and chart how many seeds in each apple you eat for a month.

Number of Apple Seeds						
	X	X			X	
	X	X		X	X	
less than 5	5	6	7	8	9	10 more than 10



# In the Bag

What's in the bag? Try to identify objects by shape.

## Before beginning

Secretly hide the fruit or vegetable in the bag.

### 1 Take turns feeling the bag

Describe what you can feel through the bag. Don't put your hand inside the bag.



**Easy.** *I feel something big and round. Let's feel it together.*

**Medium.** *Is it round? long? pointy?*

**Hard.** *How can you describe the shape?*

## Materials

### Per group

familiar fruit

opaque, cloth bag large enough to hold the fruit or vegetable

### For an adult

knife

### 2 What could it be?

Everyone makes a prediction.

### 3 Remove the food

Take out the fruit or vegetable and pass it around.



*When this mango was in the bag, we noticed that it had a wide part and a narrow part. Show us the wide part.*

It's round and smooth. I think it's an orange.



### 4 Cut and eat



*We noticed a prickly, pointy part of the pineapple. Do we eat that part? Why or why not?*

## Variations

**Numbers in the bag (Easy, Medium, Hard).**  
One person puts several objects in the bag.  
Others say how many they think are inside.

**Shapes in the bag (Easy, Medium, Hard).**  
One person puts an object with a geometric shape (e.g., ball, small box) in the bag.  
Others describe what they feel and predict the shape.

**Ask about it (Medium, Hard).** One person puts an object in the bag. Others pass around the bag, and take turns asking yes-or-no questions to figure out what it is.

Can you eat it?  
Is it red?





# My Height in Boxes

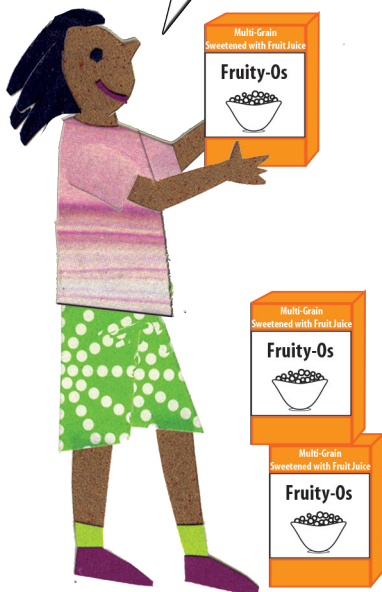
How tall are you in cereal boxes? in juice boxes? Save them, stack them, and measure yourself!

## Materials

### Per child

enough identical boxes to make a stack to measure height

How many cereal boxes tall am I?



## 1 Predict

Take a look at the boxes and compare them to your size:

**Easy.** Are you taller than this cereal box?

**Medium.** If we put two cereal boxes on top of each other, would they be as tall as you are?

**Hard.** If you stack up cereal boxes, how many would you need to make a tower as high as you are?



## 2 Stack

Stack up the boxes to about your height. They might end up a little shorter or taller than you are.

Is the stack taller than you are? How do you know?

Are all the boxes turned in the same way, so they're as tall as they can be?



## 3 Count

About how many boxes tall are you? How does that compare with your prediction?

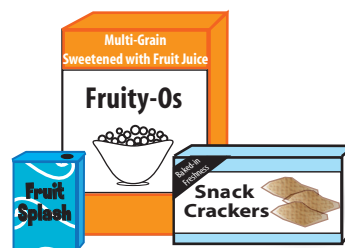


## Variations

**Measure around the room (Easy, Medium, Hard).** Measure in cereal boxes: the height of a chair or small table (Easy), the width of the room (Medium for a small room), or the length of a hallway or large room (Hard).

**Find something (Hard).** Everyone gets a cereal box, a juice box, and a cracker box. Find something in the room that is as wide as each box and something in the room that is as tall as each box.

**Compare measurements (Hard).** Predict: if you measure yourself using smaller boxes (e.g., juice or cracker boxes) will you need more or fewer than the number of cereal boxes? Try it and see.



# The Counting Chef

Get everyone measuring and mixing to make trail mix, bubble soap, playdough, or lemonade.

## 1 Talk through the measures and ingredients



Which one is the cup measure?  
Show me the tablespoon.

### Playdough

2 cups flour  
2 cups warm water  
1 cup salt  
2 T vegetable oil  
2 T cream of tartar  
food coloring, optional

### Materials

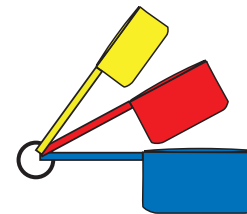
a recipe calling for whole  
number amounts

**Easy.** Up to 2 "scoops" per  
ingredient.

**Medium.** Up to 4 "scoops"  
per ingredient.

**Hard.** Choose an "Easy"  
or "Medium" recipe to  
double.

individual measures  
(e.g., cup scoops or dry  
measuring cups)



related ingredients and  
supplies

## 2 Measure it out

**Easy.** We need two cups of flour. Let's  
count out one cup at a time.



**Medium.** Can you measure out two cups of  
water?

**Hard.** The recipe calls for two tablespoons  
of vegetable oil. We're making twice  
the recipe. How many  
tablespoons do we need?



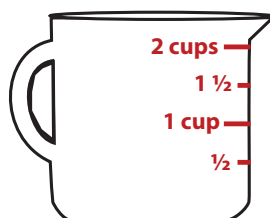
## 3 Make the recipe

Enjoy the results!

### Variations

**Measure up (Hard).** Use  
a measuring cup instead  
of individual  
cup measures.

**Include halves (Hard).**  
Try a recipe that involves  
 $\frac{1}{2}$  cup or  $1 \frac{1}{2}$  cups.



**Smoothie cookbook (Medium, Hard).** Each  
day, mix up a different combination of juice,  
fruit, and yogurt. Write down each recipe  
with stickers, pictures, or words. Put the best  
results in a cookbook.