1A. Stack a Skyscraper

Where's the Math?

Math vocabulary

- Bottom
- Box
- Flat
- Round
- Top
- Tube
- Large
- Medium
- Small

Math topic

Geometry

- Identify positions such as top and bottom
- Recognize 3-D shapes such as box and tube
- Identify shape properties such as round and flat

Measurement

- Recognize sizes such as small and large

What You Need

To share

- About 20 varied small boxes
- A few of each: yogurt cups, paper cups, toilet paper tubes

What to Do

① Build a skyscraper

Talk About

Easy. You put a **large, flat box** at the **bottom**.

Medium. What would happen if you put a **tube** at the **bottom**?

Hard. Why did you put a **large, flat box** at the **bottom**?

② Talk about your skyscraper

Talk About

Describe one of the **boxes** in your skyscraper, and I'll try to find it.

Try this at home

High rise at home. Build a high rise apartment building with boxes, yogurt cups, and toilet paper tubes.

1B. My Size Tower

Where's the Math?

Math vocabulary

- Bottom
- Box
- Top
- Tube
- Short
- Shorter
- Tall
- Taller

Math topic

Geometry

- Identify positions such as top and bottom
- Recognize simple 3-D shapes such as box and tube

Measurement

- Compare two objects to find the taller or shorter

What You Need

To share

- About 20 varied small boxes
- A few of each: yogurt cups, paper cups, toilet paper tubes

What to Do

① **Build a tower as tall as you are**

Talk About

Easy. Let's add another cup to make this **taller.**

Medium. How can you make the tower **taller**?

Hard. How can you make the tower just a little **shorter**?

② **Tall as you?**

Talk About

Let's see if you're as **tall** as the tower.

Try this at home

Family towers. Use boxes, yogurt cups, and toilet paper tubes. to make a tower as tall as each family member.

2A. Build a Cardboard Bridge

Where's the Math?

Math vocabulary

- Bottom
- Top
- Under
- Up
- Flat
- Round

Math topic

Geometry

- Identify positions such as under and up
- Recognize shape properties such as round and flat

What You Need

To share

- Cardboard sheets cut from cereal boxes, enough so each child can choose a few
- Paper cups, several per child
- Roll of masking tape
- A few small toy vehicles and animals
- Scissors (for adult)

What to Do

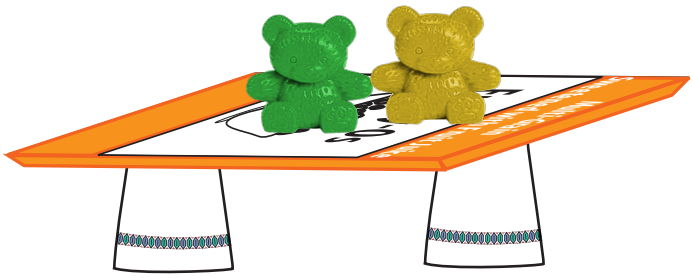
① Build a bridge that can hold up a few toys

Talk About

Easy. Let's put these cups **under** the cardboard to hold it **up**.

Medium. What happens if you put more toys on the bridge?

Hard. Describe your bridge so I can make one just like it.



② Challenge (optional)

Build a bridge with just cardboard—no tubes or cups.

Try this at home

Under the bridge. Use cardboard, paper cups, and toilet paper rolls to make a bridge that a toy car can drive under.

2B. Build a Folded Bridge

Where's the Math?

Math vocabulary

- Bottom
- Top
- Under
- Up
- Flat
- Folded

Math topic

Geometry

- Identify positions such as under and up
- Recognize shape properties such as flat and folded

What You Need

To share

- Colored copy paper, enough for a few sheets per child
- Paper cups, several per child
- Roll of masking tape
- A few small toy vehicles and animals

What to Do

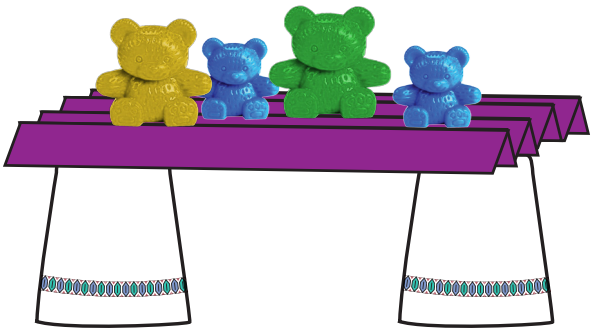
① **Build a folded paper bridge that can hold up a few toys**

Talk About

Easy. Let's **fold** the paper a few times to make the top of the bridge.

Medium. Why do you think **folding** makes the bridge stronger?

Hard. Describe your bridge to me so I can make one just like it.



② **Challenge (optional)**

Build a folded paper bridge without using tape.

Try this at home

Penny bridge. Make folded paper bridge that holds up at least 20 pennies!

3A. 3-D House

Where's the Math?

Math vocabulary

- Cube
- Rectangle
- Square
- Triangle
- Bottom
- Side
- Top

Math topic

Geometry

- Build and recognize 2-D and 3-D shapes, such as square, triangle, and cube
- Identify positions such as top and bottom

What You Need

Per child

- About 50 plastic straws, full and half size, or uncooked spaghetti cut in half and thirds
- About 25 marshmallows
- Two paper plates (for taking home creations)

To share

- A few toy people or animals

What to Do

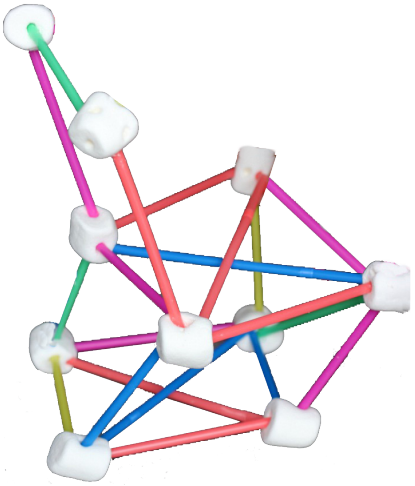
① Explore and build

Talk About

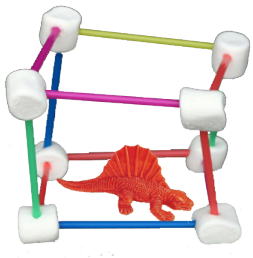
Easy. I see a **triangle** on the **side** of your house.

Medium. The orange straw is the **bottom** of a **triangle** and the **side** of a **square.**

Hard. How is the **top** of your house different from the **bottom**?



② Build a house for your toys



Try this at home

Build a school. If you don't have straws and marshmallows, use toothpicks, pretzel sticks, cut-up dry spaghetti, and grapes or play dough.

3B. 3-D Garage

Where's the Math?

Math vocabulary

- Cube
- Rectangle
- Square
- Triangle
- Bottom
- Side
- Top

Math topic

Geometry

- Build and recognize 2-D and 3-D shapes, such as square, triangle, and cube
- Identify positions such as top and bottom

What You Need

Per child

- About 50 plastic straws, full and half size, or uncooked spaghetti cut in half and thirds
- About 25 marshmallows
- Two paper plates (for taking home creations)

To share

- A few toy vehicles

What to Do

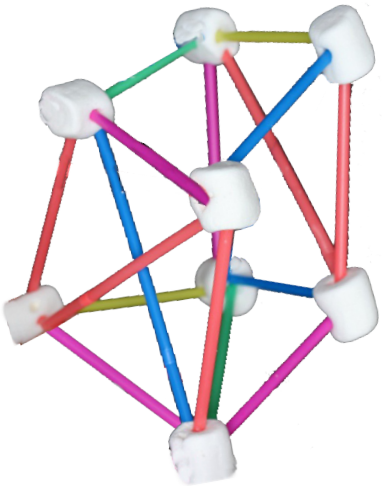
① Explore and build

Talk About

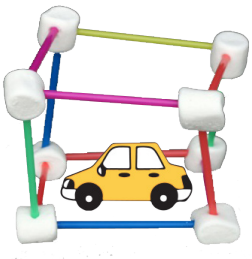
Easy. I see a **rectangle** on the **side** of your garage.

Medium. The red straw is the **bottom** of a **triangle** and the **top** of a **rectangle.**

Hard. How is the **top** of your garage different from the **bottom**?



② Build a garage for your toys



Try this at home

Build a bridge. Use toothpicks, pretzel sticks, or cut-up dry spaghetti. If you don't have marshmallows, use grapes or play dough.

4A. Market Match: Fruit

Where's the Math?

Math vocabulary

- Ball
- Long
- Round
- Thin

Math topic

Geometry

- Recognize 3-D shapes such as ball
- Recognize shape properties such as round and thin

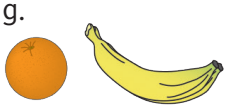
What You Need

To share

- Pair of similar oranges (or other round fruits)
- Pair of similar bananas (or other fruits)
- 2 cloth grocery bags

Get ready

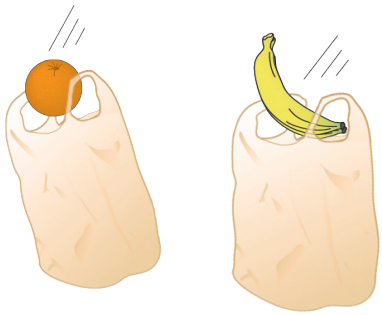
- Hide one of each pair in a grocery bag.
- Leave the other in the pair out for children to see.



What to Do

① Choose a bag—no peeking!

An adult explains that it contains another orange or banana.



Talk About

Easy. I feel something **round**.

Medium. Feel if it is **round** everywhere, like a **ball**.

Hard. Describe the shape to me.

② Take turns feeling and describing

③ Predict

Talk About

Why do you think it is an orange?

④ Take a look!

Try this at home

What's in the bag? Hide a familiar object in a cloth bag. See if your child can identify it by feel.

4B. Market Match: Vegetables

Where's the Math?

Math vocabulary

- Ball
- Long
- Round
- Thin

Math topic

Geometry

- Recognize 3-D shapes such as ball
- Recognize shape properties such as round and thin

What You Need

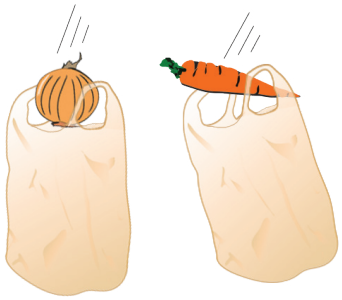
To share

- Pair of similar onions (or other round vegetables)
- Pair of similar carrots (or other long vegetables)
- 2 cloth grocery bags

Get ready

- Hide one of each pair in a grocery bag.
- Leave the other in the pair out for children to see.

What to Do



① **Choose a bag—no peeking!**

An adult explains that it contains another onion or carrot.

Talk About

Easy. I feel something **long** and **thin**.

Medium. Feel if it is **thinner** at one end.

Hard. Describe the shape to me.

② **Take turns feeling and describing**

③ **Predict**

Talk About

Why do you think it is a carrot?

④ **Take a look!**

Try this at home

What's in the bag? Hide a familiar object in a cloth bag. See if your child can identify it by feel.