Department of Education

가정 학습
5 학년

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버전 2

Learn at Home: Grade 5
New York City Department of Education
T&I-11301 (Korean)

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Day 1 Schedule

Subject	Minutes Per Day (At Least!)	Assignments	What Did I Learn Today?
English Language Arts	45	• Learn new vocabulary words from the Vocabulary List • Activity 1: Read a story • Activity 2: Write a letter	•
Mathematics	45	Complete: • Activity 1: Number of the Day • Activity 2: Guess If You Can	•
Science	30	• A Real Cold Fish (English or Spanish)	•
Fitness and Health	30	• Exercise for 30 minutes. Choose from the Activity Calendars at the back of this packet	•
Arts	30	• Choose one or two activities from the Arts Activities at the back of this packet	•
TV Shows and Websites	30	• Choose TV shows and websites to further your learning at home	•

Day 1 English Language Arts

Vocabulary

Learn new vocabulary words from the Vocabulary List at the back of this packet.

Use the Graphic Organizer below to help you with the new word(s) you are learning:

Vocabulary Word	Picture
What is the definition?	This is how you say this word in my native language:

Activity 1: *Reading*

- Read a story of your own choosing. After you read, pretend you will need to tell someone else what you have read so far.

Activity 2: *Writing*

- Write a letter to a friend or your teacher that includes the following:

A short summary of what you read, how you feel about what you read, and
4 questions you have that you hope will be answered by further reading.

To prepare for Activity Two, ask yourself the following questions. You do not need to write down your answers.

- What is the story about?
- Who are the main characters?
- Do the characters have a problem? What is it?
- What questions do you have about this story?

Day 1 English Language Arts (continued)

Dear _____,

Today I read _____ by _____. So far, this story is about

_____

_____

_____

_____

_____

_____I think this book is _____ because _____

_____

After reading this book, I still have a lot of questions. First, _____

_____

_____

_____ Second, _____

_____ Also, _____

Last, _____

_____

Sincerely,

_____

Day 1 Mathematics

Vocabulary

Learn the new math vocabulary words below. You will use these vocabulary words in the activities today.

- **Equation**: A math statement showing that two things are equal. (Same thing as an equality.)
- **Fraction**: A fraction is a way to count part of something - like part of a pizza instead of the whole thing.
- **Decimal**: Decimal numbers are like fractions because they count PART of something.

Activity 1: *Number of the Day*

For each number of the day, try to find as many different ways to make the number as you can.

Activity 2: *Guess If You Can*

Follow the instructions on the attached sheet. Discuss what is meant by trial and error.

If you need Spanish activities for the concept of operations with numbers, please follow the steps below.

1. Go to tutorial site: http://destination.nycenet.edu

2. Login with the following user ID and PW:
   - User: studentnyc
   - Password: student

3. Click on the Exploration Icon to access the tutorial

4. Scroll down to Mastering Skills & Concepts: Course II – Spanish

5. Select the skill/concept to review:
   - Activity 1: 2.1.1 - Sums Less than 100

Notebook:

In your notebook, please answer the following question:

- How many different ways could the number of the day be made?

Additional Activity

Do you have more time? If so, please complete the following activity.

- Junk mail (a mini project)

These activities are from:
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect1.pdf
http://www.math.com/parents/articles/funmath.html

1

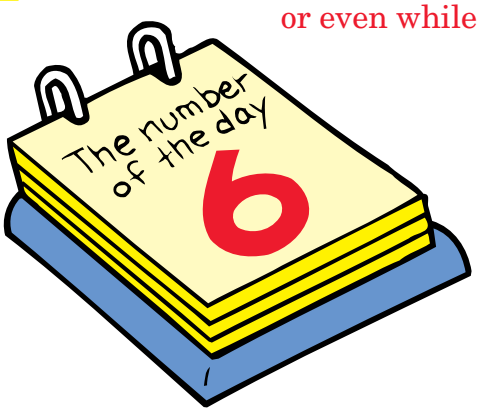
Number of the day

Materials

Paper and pencil (optional)

"The number of the day was 6. Sarita made 1 + 2 + 3. I did 24 ÷ 4. Dad's was 20 – 15 + 1, and Grandma said 4 x 25 – 80 – 14. She had to explain that one!"

You can use this activity to give your children lots of computation practice. Try it just about anywhere—on the bus, in the kitchen, or even while folding laundry.



Before you begin

Choose a number that you will call the "number of the day." The first time you do this activity, choose a number under 15.

1. Find one way to make the number of the day

Ask your children to think up different ways to make the number of the day, using equations.

"Let's all try to come up with different ways to make 11. Here's one way: 8 + 2 + 1 = 11. Can you find a different way?"

2. Collect everyone's equations

- If your children know how to write equations, they list their ideas and take turns reading them.
- When you're in the car, or if younger children need help, appoint one person "record keeper." As people give their ideas, the record keeper writes them down in equation form.
- When everyone's hands are busy making dinner, folding laundry, or pulling weeds, just take turns telling each other how you made the number—no writing is needed.

3. Find more ways to make the number

See how many different ways everyone can find to make the number of the day. You can offer specific challenges to give children practice with something they're doing in school, or just for variety.

For ages 5–7, try using ...

Addition with three numbers
1 + 3 + 7 = 11
Subtraction
13 - 2 = 11
Addition and subtraction
6 + 6 - 1 = 11
Coin values
2 nickels and 1 penny is 11 cents

For ages 7–9, try using ...

Pairs of the same number
2 + 2 + 3 + 3 + 1 = 11
Multiplication
4 x 5 - 9 = 11
Multiples of 5 and 10
25 + 15 - 30 + 1 = 11
The number 100
100 - (3 x 25) - 14 = 11

For ages 9–11, try using ...

A fraction or decimal
22 x .5 = 11

All four operations in one equation
(150 ÷ 10) x 3 - 40 + 6 = 11

Only one numeral
(33 - 3) ÷ 3 + (3 ÷ 3) = 11

The year you were born
1991 - 1900 - 80 = 11

Note: When an equation has parentheses, do the parts in parentheses first. To solve 100 - (3 x 25), first do 3 x 25, then subtract the result from 100.

When you repeat this activity

Family members can take turns choosing the number of the day. If you have young children, keep the number under 15. Otherwise, try a variety of numbers, including large ones (such as 312 and 50,429) and small ones (such as the day of the month, a child's age, or a fraction or decimal less than 1). Small numbers can be just as challenging as large ones.

Every now and then, ask children to explain their thinking: "How did you come up with 27 - 18 = 9? What was going through your head?" Be sure to explain your own thinking sometimes, too.

Talking about thinking is also a good way to handle mistakes. Children may notice and correct a mistake as they talk about how they arrived at the answer. If not, try to use their explanations as a basis for helping. For example, suppose a child says, "7 + 3 = 9 because 7, 8, 9—that's 3." You might respond, "Counting is a good way to do it. What's 1 more than 7? … OK, 8. What's 2 more?"

Variations

Use a starting number (ages 7–11)
Everyone's equations must start with the same number. For example, suppose the number of the day is 57 and you pick 10 as the starting number. Here are two possible equations:

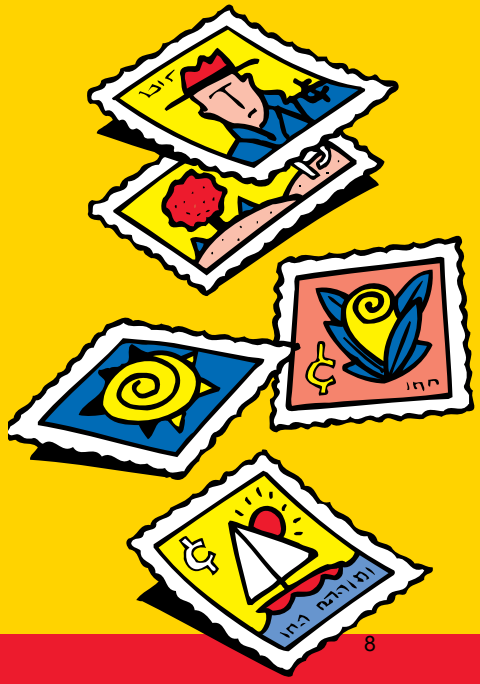
10 + 40 + 7 = 57

10 x 5 + 7 = 57

Stories about the number of the day (ages 5–11)
Make up story problems with the number of the day for the answer. For example, for the number 27:

"When we went for a walk yesterday, Ebony found 12 pretty stones. Bryce found 9, and I found 6. How many stones did we find in all?"

"I bought 4 books of postage stamps. Each one had 10 stamps. I used 13 stamps to mail party invitations. How many stamps did I have left?"



Guess If You Can

What to do

1. Let your child think of a number between a stated range of numbers while you try to guess the number by asking questions. Here is a sample conversation.
   Child: I am thinking of a number between 1 and 100.
   Parent: Is it more than 50?
   Child: No.
   Parent: Is it an even number?
   Child: No.
   Parent: Is it more than 20 but less than 40?
   Child: Yes.
   Parent: Can you reach it by starting at zero and counting by 3's?
   Child: Yes.
   (At this stage, your child could be thinking of 21, 27, 33, or 39.)

2. Figure out the answers to your own questions.
3. After you have guessed your child's number, let your child guess a number from you by asking similar questions.

Parent Pointer	
!	It is important to help children develop an understanding of the characteristics and meanings of numbers.

10 Junk mail (a mini project)

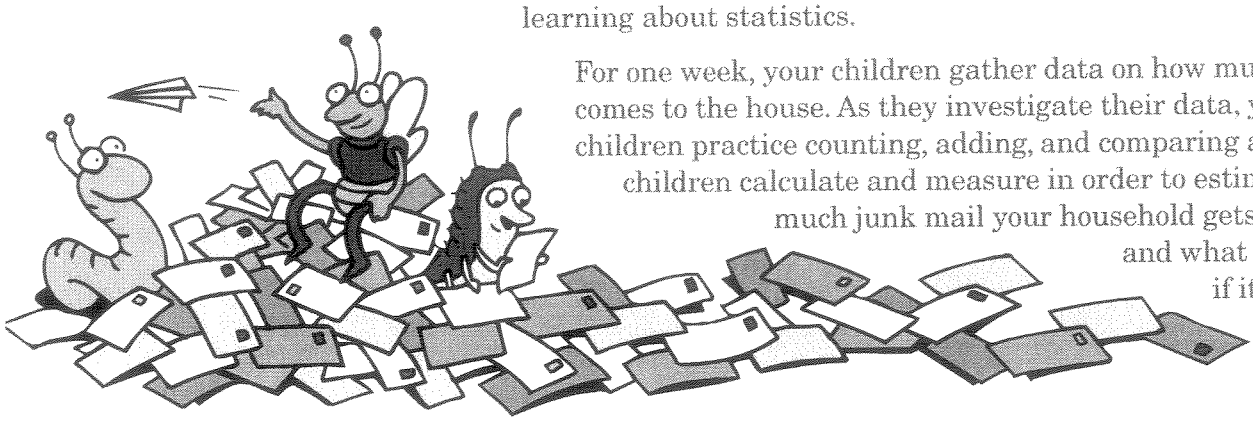
Materials

Your daily mail

"Lots of ads in the mail again—what a waste of paper! I wonder how much of this junk mail we get in a week? How much do we get in a whole year?"

Many children are interested in recycling and saving resources. In this activity, children investigate paper use (and paper waste) while learning about statistics.

For one week, your children gather data on how much junk mail comes to the house. As they investigate their data, younger children practice counting, adding, and comparing amounts. Older children calculate and measure in order to estimate just how much junk mail your household gets in a year—and what would happen if it all piled up!



Before you begin

Set the stage for the project by sorting today's mail and talking about junk mail.

"Let's sort today's mail. We'll put regular mail in one pile, junk mail in another. How much mail do you think we throw out every week without even reading it?"

Encourage your children to make some predictions.

Decide with your children what will count as junk mail: Will you count catalogs? Sweepstakes announcements? Coupons? Other advertisements? You may not be able to make all your decisions in advance, but it's important that everyone generally agrees what to count as "junk."

1. Count and keep track

Every day for a week, your children help sort the mail into two piles: junk mail and regular mail. After counting the number of pieces in each pile, they record the date, how much regular mail, how much junk mail, and the day's total. When they're done, they add the junk mail to the junk mail pile for the week.

Your children can record their data with a chart, graph, tally, or some other way. They can use something they learned in school, or they can come up with their own ways. With young children, it's fine for you to help with recording.

2. Investigate the data

Throughout the week, ask questions about the data your children are collecting. As the week goes on and the totals get larger, younger children may need help finding some of their answers.

"Is there more junk mail or regular mail today? How much more?"

"How much junk mail did we get so far this week? Did we get more junk mail or regular mail so far?"

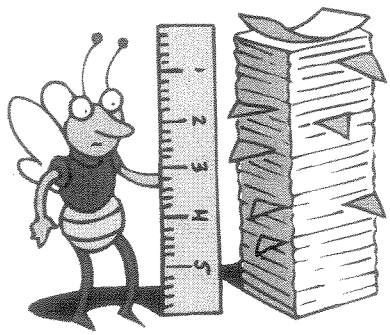
"How many pieces of mail did we get in all today? How many so far this week?"

Additional challenges for ages 7–11

"If we get the same amount of junk mail each week, how much will we have in a month? A year?"

"What fraction of the mail is junk mail? Is it more than half?"

Age range 5–11



"Measure the height of the pile of junk mail at the end of the week. If we let it stack up, how high would our pile of junk mail be in a month? In a year? Would the pile be taller than you are? Up to the ceiling? Taller than the building we live in?"

"If every house on our block (or every apartment in our building) got the same amount of junk mail as we did this week, how high would the pile of junk mail be?"

When you repeat this activity

Save the data you collected this week, then repeat the activity, perhaps at a different time of year. Compare your data.

"Do we get more junk mail during holiday seasons? At the start of the school year? Do we get more on certain days of the week? Why do you think so?"

Variations

More kinds of mail (ages 5–11)
Each day, sort the mail into several categories. You could try one of these ways:

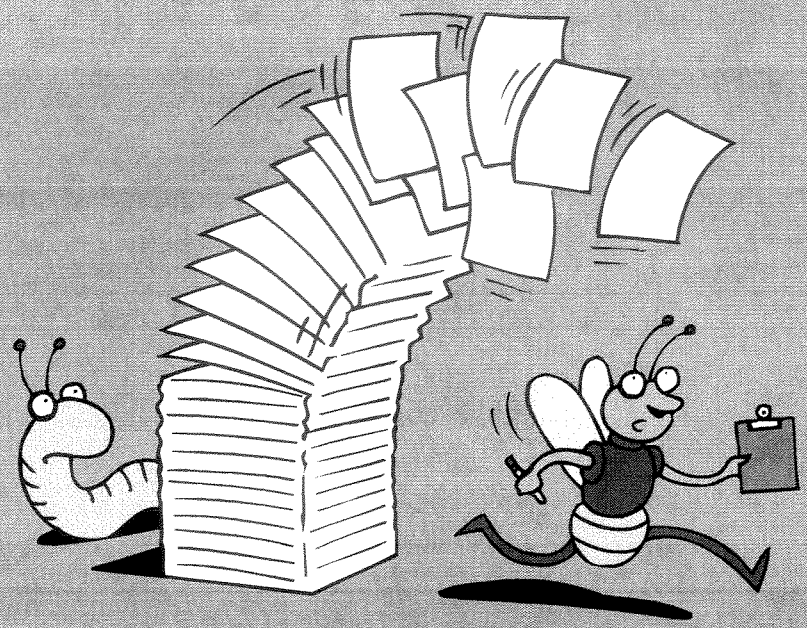
- Name it's addressed to (family member, "occupant" or "resident," former residents of your home)
- Where it's from (country, state, or region of the U.S.)
- Type of mail (bills, letters, magazines, junk mail)

Keep track of how many pieces you get in each category for a week. Then investigate your data.

"Who gets the most mail in the house?"

"About how far away does most of our mail come from—less than 50 miles away? Between 50 and 100? Between 100 and 1000? Over 1000 miles away?"

"Besides junk mail, what's the most common kind of mail we get? What percent of the total mail is this?"



Day 1 Science

Vocabulary

Learn the new vocabulary words below. You will use these vocabulary words in today's activity.

- **Abundant:** (adjective) Present in large amounts
- **Alteration:** (noun) A change or difference resulting from change
- **Gene:** (noun) The part of an animal or plant cell that says what the animal or plant looks like and how it will act. Genes are made up of DNA.
- **Tissue:** (noun) A group of cells that work together in a body, such as muscle cells and brain cells

Activity: *A Real Cold Fish (English or Spanish)*

- Read the article below and answer the questions that follow.
- Para Espanol, prime aquí: http://SCHOOLS.NYC.GOV/Documents/teachandlearn/LearnatHome/ELL/5day1sp.pdf

SPRINGFIELD, Illinois (Achieve3000, December 18, 2008). Just about everything in the icy waters off the coast of Antarctica is in the same state: frozen. Yet one type of fish, called notothenioids, remarkably does not freeze in that cold environment. In a recent study, scientists examined notothenioids. They were able to better understand a genetic alteration in the fish. This alteration allows notothenioids to live in such a severe environment. As it turns out, Antarctic notothenioids produce a special material. The material acts as antifreeze.

Christina Cheng is a professor at the University of Illinois (UI). She ran the study. Cheng already knew some things about notothenioids: They include eight families of fish. Three of these families live in warm-water environments. The other five inhabit the Southern Ocean. This ice-cold sea surrounds the Antarctic continent. The ability of these cold-water fish families to live in such cold temperatures is quite unusual. It is so unusual, in fact, that they have the icy waters of the Antarctic region practically to themselves. They make up most of the fish life of the Southern Ocean.

Arthur DeVries is a professor at UI. In the late 1960s, DeVries discovered part of the fish's secret to success: antifreeze. Antifreeze is a term familiar to car owners. It is a liquid that is put into cars. This liquid keeps the water inside an automobile from freezing. Notothenioids, DeVries found, manufacture their own "antifreeze proteins." These proteins lock on to ice crystals in their blood. In this way, they prevent the fish from freezing.

Christina Cheng and other scientists wanted to know more about these proteins. They already knew that proteins are produced by genes. The scientists therefore determined that Antarctic notothenioids must have special genes. But which genes are responsible for the antifreeze protein? Where in the fish's body are those genes located? Those are the questions the study sought to answer for the first time.

"This is the first study that does that," Cheng said.

Cheng's team first studied the way in which genes turn information into proteins. They looked at the genes in the Antarctic toothfish. The toothfish is one kind of cold-water notothenioid. The scientists examined the tissues

of the fish's brain and other organs. They found that just a few genes were responsible for creating most of the proteins found in the tissues.

Cheng explained that each tissue's DNA helps make proteins. They do this by sending messages. These messages go to various parts of cells. The messages contain the necessary codes for creating the proteins. The scientists found that a small group of genes controls the sending of codes to make the antifreeze protein.

The scientists then noted which genes were abundant in the Antarctic toothfish. They sought to determine whether the same genes could also be found in warm-water fish. The team found that warm-water fish had these genes. But they did not have as many. This led scientists to determine that these genes are important to notothenioids. The genes, scientists determined, must help the fish to live in cold temperatures. These are the genes that create the antifreeze proteins. The warm-water species did not have large amounts of these special proteins. They did not need them.

The scientists wanted to know still more. They compared the Antarctic toothfish's genes to the genes of its three warm-water notothenioid cousins. The scientists found that the fish families had many similar genes. However, the cold-water toothfish had more copies of the genes that create antifreeze proteins. The toothfish also had higher levels of the antifreeze proteins than its warm-water relatives.

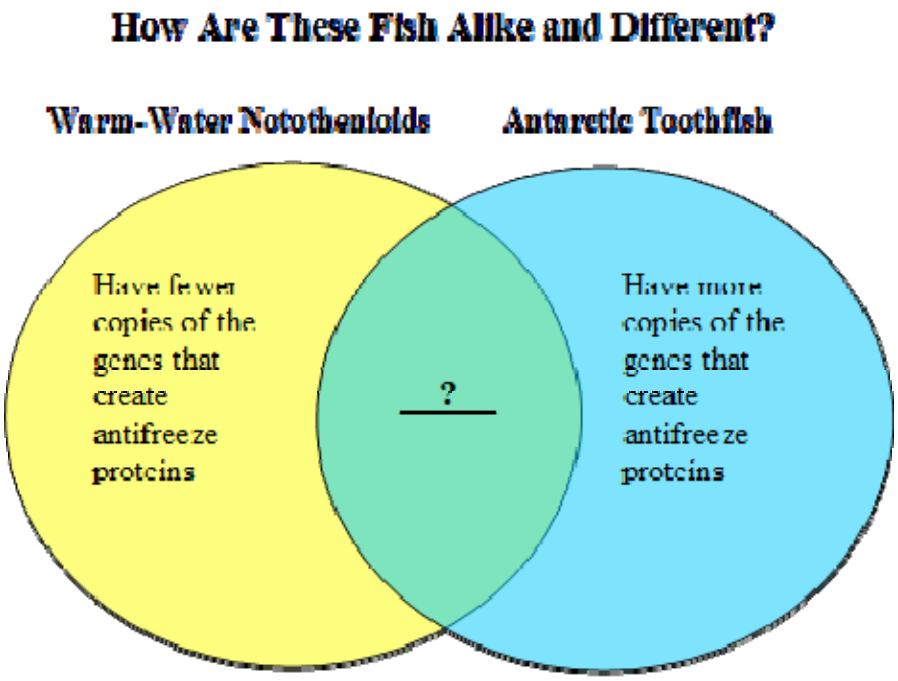
"The many more copies of these genes… provide more of the needed proteins," Cheng said.

According to Cheng, studying notothenioids and their unusual genes could help scientists. It could help them better understand how global climate change will affect these cold-water fish.

"[Let's say] you have a [large] rise in the water temperature. We don't know how well the Antarctic fish will adapt, whether they will die out or not," Cheng said. "And if they do, then the whole Antarctic food web will be… affected."

The Associated Press contributed to this story.

Day 1 Science (continued)



Question 1:
Which best replaces the question mark on the line above?
1. Have many similar genes
2. Were studied by professor DeVries in the late 1960s
3. Make up the entire Antarctic food web
4. Can live in the ice-cold waters off the coast of Antarctica

Question 2:
According to the article, what is one benefit of studying notothenioids?
1. It could help scientists understand how climate change will affect the fish.
2. It could help scientists understand how many notothenioids live in cold water.
3. It could help scientists determine which other fish also produce antifreeze proteins.
4. It could help scientists determine which notothenioids live in warm water.

Question 3:
Which is the closest antonym for the word abundant?
1. Scarce
2. Sincere
3. Slight
4. Shrill

Day 1 Science (continued)

Question 4:
Which of these is an opinion?
1. Christina Cheng should also study other fish that make antifreeze proteins.
2. Antarctic notothenioids make a special material that acts as antifreeze.
3. The Southern Ocean is the ice-cold sea that surrounds the Antarctic continent.
4. Arthur DeVries and Christina Cheng are both professors at the University of Illinois.

Question 5:
Suppose you were writing a summary of the article. Which of these would not be important to put in the summary?
1. Arthur DeVries did studies in the late 1960s.
2. Antarctic notothenioids produce antifreeze proteins.
3. Scientists examined a genetic alteration in notothenioids.
4. Special antifreeze proteins save notothenioids from freezing.

Question 6:
Which two words from the article are the closest synonyms?
1. Manufacture and create
2. Studying and adapt
3. Discovered and inhabit
4. Understand and produce

Question 7:
The article states: Notothenioids, DeVries found, manufacture their own "antifreeze proteins." These proteins lock on to ice crystals in their blood. In this way, they prevent the fish from freezing.
The author uses these sentences mostly to help the reader _____.
1. Understand how notothenioids can survive in extreme environments
2. Know how antifreeze proteins form in the blood of notothenioids
3. Explain how ice crystals can form inside the bodies of some fish
4. Know some of the ways that scientists prevent fish from freezing

Question 8:
Which question is not answered by the article?
1. What is the name of one type of warm-water notothenioid?
2. Why are some notothenioids able to live in cold water?
3. Why does Cheng believe that studying notothenioids is important?
4. What is one of the fish organs Cheng's team examined during the study?

Day 1 Science (continued)

Additional Question

Compare Antarctic notothenioids with those living in warm waters. How are these fish the same? How are they different? Why might this information be important? Use ideas from the article, as well as your own ideas, in your answer.

Write your answer below.

Achieve3000 (www.teenbiz3000.com)

Day 2 Schedule

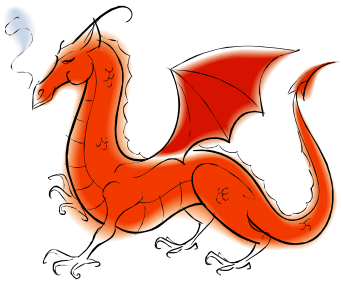
Subject	Minutes Per Day (At Least!)	Assignments	What Did I Learn Today?
English Language Arts	45	• Learn new vocabulary words from the Vocabulary List • Activity 1: Read a story • Activity 2: Review a story	•
Mathematics	45	Complete: • Activity 1: What's Fair? • Activity 2: Taking Turns	•
Science	30	• No Land, No Problem (English or Spanish)	•
Fitness and Health	30	• Exercise for 30 minutes. Choose from the Activity Calendars at the back of this packet	•
Arts	30	• Choose one or two activities from the Arts Activities at the back of this packet	•
TV Shows and Websites	30	• Choose TV shows and websites to further your learning at home	•

Day 2 English Language Arts

Vocabulary

- Learn new vocabulary words from the key vocabulary list below and the Vocabulary List at the back of this packet.

Key Vocabulary



New Word: Dragon
Definition: An imaginary animal that flies and breathes fire.

From the story:
The children knew it was a **dragon**.
The grownups knew it was a **dragon**.
The dogs and cats and birds knew it was a **dragon**.
But nobody was scared because it never, ever moved.

New Word: Clamber

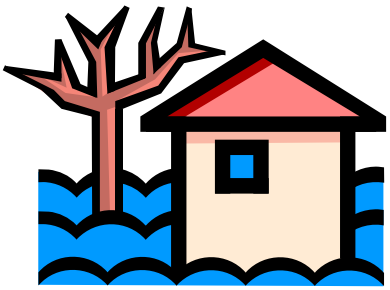
Definition: climb using hands and feet

From the story:
The boys and girls would **clamber** all over it (dragon), poking sticks at it and hanging wet gumboots on its ears…

New word: Searing
Definition: Very hot
From the story: The **searing** heat made them dizzy and fuzzy and finally they all fell…

New word: Blast
Definition: An explosion, usually loud and strong, can break something
From the story:
The second **blast** split open the dry earth, sending explosions of soil and tree roots high into the sky…

Day 2 English Language Arts (continued)



New word: Flood
Definition: very large quantity of water, water can cover land that was dry
From the story: When the **flood** sent pools of water out towards the golf course…

Activity 1: *Reading*

- Read the story a couple of times

- First Reading: Read the story. Write any questions or comments that you have as you are reading on the paper.
- Second Reading: Underline words that describe where the story takes place (setting).
- Third Reading: Decide if you think the story should be included in an anthology (collection of stories) for kids.

The Dragon Rock, by Ellena Ashley

This story begins with Once Upon A Time, because the best stories do, of course.

So, Once Upon A Time, and imagine if you can, a steep sided valley cluttered with giant, spiky green pine trees and thick, green grass that reaches to the top of your socks so that when you run, you have to bring your knees up high, like running through water. Wildflowers spread their sweet heady perfume along the gentle breezes and bees hum musically to themselves as they cheerily collect flower pollen.

People are very happy here and they work hard, keeping their houses spick and span and their children's faces clean.

This particular summer had been very hot and dry, making the lean farm dogs sleepy and still. Farmers whistled lazily to themselves and would stand and stare into the distance, trying to remember what it was that they were supposed to be doing. By two o'clock in the afternoon, the town would be in a haze of slumber, with grandmas nodding off over their knitting and farmers snoozing in the haystacks. It was very, very hot.

No matter how hot the day, however, the children would always play in the gentle, rolling meadows. With wide brimmed hats and skin slippery with sun block, they chittered and chattered like sparrows, as they frolicked in their favorite spot.

Now, their favorite spot is very important to this story because in this particular spot is a large, long, scaly rock that looks amazingly similar to a sleeping dragon.
The children knew it was a dragon.

Day 2 English Language Arts (continued)

The grown ups knew it was a dragon.
The dogs and cats and birds knew it was a dragon.
But nobody was scared because it never, ever moved.

The boys and girls would clamber all over it, poking sticks at it and hanging wet gumboots on its ears but it didn't mind in the least. The men folk would sometimes chop firewood on its zigzagged tail because it was just the right height and the Ladies Weaving Group often spun sheep fleece on its spikes.

Often on a cool night, when the stars were twinkling brightly in a velvet sky and the children peacefully asleep, the grown ups would settle for the evening with a mug of steaming cocoa in a soft cushioned armchair. Then the stories about How The Dragon Got There began. Nobody knew for sure, there were many different versions depending on which family told the tale, but one thing that everybody agreed on, was this:

In Times of Trouble
The Dragon will Wake
And Free the Village
By making a Lake

This little poem was etched into everybody's minds and sometimes appeared on tea towels and grandma's embroidery.

The days went by slowly, quietly and most importantly, without any rain. There had been no rain in the valley for as long as the children could remember. The wells were starting to bring up muddy brown water and clothes had to be washed in yesterday's dishwater. The lawns had faded to a crisp biscuit color and the flowers drooped their beautiful heads. Even the trees seemed to hang their branches like weary arms. The valley turned browner and drier and thirstier, every hot, baking day.

The townsfolk grew worried and would murmur to each other when passing with much shaking of heads and tut-tuts. They would look upwards searching for rain clouds in the blue, clear sky, but none ever came.

"The tale of the Dragon cannot be true," said old Mrs. Greywhistle, the shopkeeper.
"It hasn't moved an inch, I swear," replied her customer, tapping an angry foot.

It was now too hot for the children to play out in the direct sun and they would gather under the shade of the trees, digging holes in the dust and snapping brittle twigs.
"The Dragon will help us soon," said one child.
"He must do something," agreed another.
"I'm sure he will."
They all nodded in agreement.

A week went by with no change, the people struggling along as best they could. Some were getting cross at the Dragon and would cast angry, sideways looks at it when passing. The villagers were becoming skinny eyed and sullen.

Meanwhile, the children had a plan.
Quickly and quietly, they moved invisibly around town, picking and plucking at the fading flowers. With outstretched arms and bouquets up to their chins, they rustled over to where the giant rock lay, as still as ever.

Day 2 English Language Arts (continued)

The boys and girls placed bunches of flowers around the Dragon in a big circle. They scattered petals around its head and over its nose, then danced around and around it, skipping and chanting the rhyme that they all knew so well.

In Times of Trouble
The Dragon Will Wake

And Save the Village
By making a Lake.

The searing heat made them dizzy and fuzzy and finally they all fell in a sprawling heap at the bottom of the mound. They looked up at the rock.

Nothing happened.

A dry wind lazily picked up some flower heads and swirled them around. The air was thick with pollen and perfume. A stony grey nostril twitched.
"I saw something," cried the youngest boy.
They stared intently.
An ear swiveled like a periscope.
The ground began to rumble.
"Look out! Run! Run!"

The children scampered in all directions, shrieking and squealing, arms pumping with excitement.
The rumbling grew and grew.
The Dragon raised its sleepy head. It got onto its front feet and sat like a dog. It stood up and stretched, arching its long scaly back like a sleek tabby cat. It blinked and looked around with big kind, long lashed eyes.
And then its nostrils twitched and quivered again.
The older folk were alerted by the screams and shrieks. The ladies held up their long skirts to run and the men rolled their sleeves up and soon the whole town stood together in a tight huddle at the foot of the hill, staring up at the large beast with mouths held open.
"AHHHHH AAHHHHHHHHH!!"
The noise erupted from the Dragon.
"AHHHHH AAHHHHHHHHHHHHHH!!"
The families gripped each other tighter and shut their eyes.
"AHHHHH CHOOOOOOOOO!!"
The sneeze blasted from the Dragon like a rocket, throwing it back fifty paces, causing a whirlwind of dust and dirt.
"AHHHHH CHOOOOOOOOOOOOO!!"

The second blast split open the dry earth, sending explosions of soil and tree roots high into the sky like missiles, and something else too ...

The people heard the sound but couldn't recognize it at first for it had been such a long time since their ears had heard such tinkling melody. As their eyes widened in wonder, their smiles turned into grins and then yahoos and hoorahs.

Day 2 English Language Arts (continued)

Water, cold, clear spring water, oozed, then trickled, then roared out of the hole, down the hillside and along the valley floor.

The torrent knocked over a farmer's haystack, but he didn't care.
The river carried away the schoolteacher's bike shed but she cared not a jot. It even demolished the Ladies Bowling Club changing rooms but they howled with laughter and slapped their thighs. When the flood sent pools of water out towards the golf course, filling up sixteen of the nineteen holes, the men just hooted and whistled and threw their caps up in the air.

What used to be a dirty, brown dust bowl, now gleamed and glistened in the sunlight, sending playful waves and ripples across the lake and inviting all to share.

"HMMMMM," sighed the Dragon sleepily, and showing his perfect movie star teeth. "Seeing as I'm awake ..." And he lumbered forward with surprising grace and style and disappeared into the cool dark water with a small wave of a claw and flick of his tail.

They never saw him again.

After the families had restored and rebuilt the village, and set up sailing clubs for the children, and scuba diving for the grandparents, they erected a bandstand and monument in the spot where the Dragon used to lay. Every year to mark the occasion, they would bring garlands of flowers and herbs and arrange them in a big circle. The children would have the day off school, for it was known as 'Water Dragon Day' and wearing the dragon masks that they had been working on all week, would skip and clap and sing.

The Dragon helped Us
As We said He would Do
Hooray for The Dragon
Achoo, Achoo, ACHOOOO!

And that is the end of the story.

Day 2 English Language Arts (continued)

Activity 2: *Writing*

Pretend you must make a recommendation for whether or not this story should be included in an anthology for students. Write a review of the story. Argue whether or not the story should be included in the anthology. Be sure to support your opinion. Use a separate piece of paper or the back of this sheet to write your story.

Use the frame to write a review of the story.

I think The Dragon Rock by Ellena Ashley (should/should not) _____ be included in an anthology. This story is about

_____

_____

_____

There are a few reasons why I think this short story (should/should not) be included in the anthology. First,

_____

_____

Also,_____

_____

Finally,_____

_____

Day 2 Mathematics

Vocabulary

Learn the new math vocabulary words below. You will use these vocabulary words in the activities today.

- **Division**: A way to find out how many times one number is contained in another.
- **Remainder**: The remainder is what might be "left over" when you are doing a division problem.
- **Multiple**: A multiple is a number that is the product of a given number and some other number.

Activity 1: *What's Fair?*

Follow the instructions on the attached sheet. Discuss what is meant by "fair share".

Activity 2: *Taking Turns*

Follow the instructions on the attached sheet. What are some times when people need to take turns?

If you need Spanish activities for the concept of operations with numbers, please follow the steps below.

1. Go to tutorial site: http://destination.nycenet.edu

2. Login with the following user ID and PW:
   - User: studentnyc
   - Password: student

3. Click on the Exploration Icon to access the tutorial

4. Scroll down to Mastering Skills & Concepts: Course II – Spanish

5. Select the skill/concept to review:
   - Activity 1: 2.1.2 - Estimating and Finding Sums less than 1,000

Notebook:

In your notebook, please answer the following question:

- Why would it be important to share fairly and to take turns?

Additional Activity

Do you have more time? If so, please complete the following activity.

- Squash that Box

These activities are from:
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect3.pdf
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect4.pdf

3

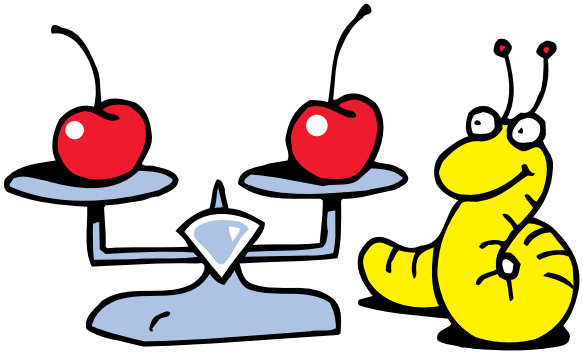
What's fair?

Materials

Between about 5 and 50 "countable" foods, like pancakes, crackers, or strawberries

"Cherries—yum! I want the exact same amount as Tulani!"

When it comes to favorite foods, everyone wants a "fair share." When your children ask you to "make it fair," ask them to figure out how to divide up the food so everyone gets the same amount. This involves using division, as well as counting, adding, subtracting, and multiplying—and sometimes even working with fractions.



1. Count to find how much food

Put the food to be shared on a plate so everyone can see it. If there are more than a few items, ask your children to make an estimate first:

"About how many cherries do you think we have? Let's count and see."

If necessary, help young children with the counting as the numbers get large.

2. Divide the total into equal parts

Remind your children of the number of items and the number of people to share them.

"So, there are 17 cherries and 3 of us. How many cherries should we give each person?"

For ages 5–7

Young children learn about division by working with actual things. Try asking them to deal out the food and count how many each person gets.

For ages 7–11

If your children need help, work with them in one of these ways.

Add up. *"What if we gave everyone 2 cherries? How many would that be? … What if we gave everyone 3 cherries? … 5 cherries? How many would be left over?"*

Subtract. *"If everyone gets 1 cherry, how many are left? … What if everyone gets 2 cherries? … 5 cherries? Can we give out 6 cherries to everyone?"*

Use multiplication or division facts. *"What if there were 15 cherries, how could you divide them into 3 equal shares? What's 15 ÷ 3? … Yes, everyone would get 5. That takes care of 15 of the cherries. How many are left over?"*

3. Decide what to do with the extras (optional)

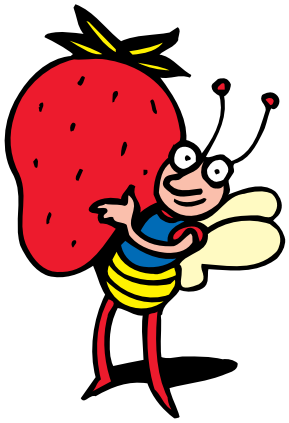
If there are any extras, discuss what to do with them: leave them for someone else? Break them into pieces and share the pieces?

If it makes sense to divide the extras into equal parts, you can do this as a way to bring up fractions. No one wants to divide that extra cherry into three equal parts, but you could easily divide other kinds of foods.

"How can we divide these two brownies up among the three of us?"

"There are seven pancakes left. How can we divide them up among the five of us?"

If your children aren't sure how to start, suggest dividing each extra item into equal parts for everyone. For example, to share two brownies among three people, cut each brownie into three equal parts, or thirds. How many of these thirds are there? How can they be shared?



4. Distribute the food

(This step won't be necessary if children dealt out the food as part of step 2.)

Ask your children to count out the actual items for each person. This is an ideal job for a young child if the numbers are small. If it's necessary, help them cut or break up the extras into equal parts. Before everyone eats, make sure there's agreement that the distribution of food is fair. If there's any disagreement, talk with them about what they think would be fair and why.

When you repeat this activity

Try different numbers of food items, and different numbers of people sharing. For more challenge, use larger amounts, and amounts that give you "extras." Encourage children to explain how they got their answers, and to check their work by finding the solution in a different way.

Variations

Working together (ages 5–11)

If there are two or more children, you can divide up this activity so each child is doing a different part: counting the items to be shared; checking the count; figuring out how many each person gets; and then counting out the equal shares.

Equal shares for some (ages 5-11)

Sometimes, people don't want the exact same amount. A younger child might not eat quite as much, or someone might not be very hungry.

Tell your children how much one or two people get, and ask them to figure out how to share the rest fairly among everyone else.

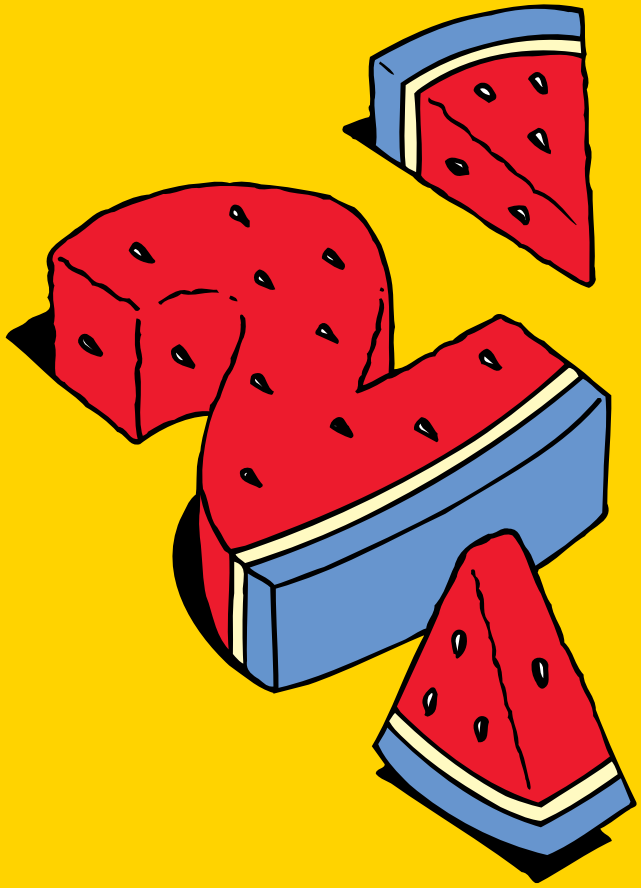
"There are 12 pancakes and 5 of us. Malia eats just one and Dad only wants two. How many will each of the rest of us get?"

Challenge older children with clues about uneven sharing.

"We have 10 crackers. Let's share them so that I get 2 less than you do. How many does each of us get?"

"There are 6 strawberries left. What if I get half as many as you do? How many will we each get?"

These problems can be difficult. Try one when there are just a small number of things to share.



4

Taking turns

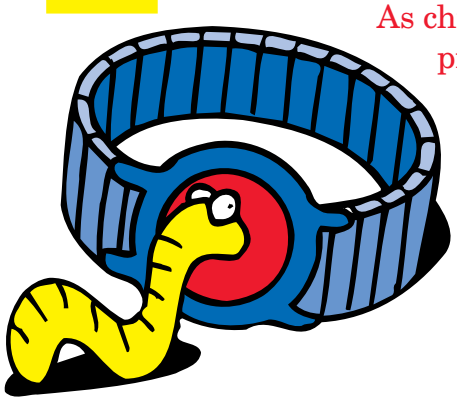
Materials

Clock or watch that displays minutes

"When will it be my turn to see that magazine? You said we could each take 10-minute turns!"

Taking turns is a big part of family life. Even if there's only one child in the family, adults sometimes need to take turns, too.

As children figure out when their turn begins, they get lots of practice with addition and time sense. They also have something to do when it's not their turn. You can do this activity just about anywhere—in the kitchen, waiting at the doctor's office, or on the bus.



Before you begin

Decide how long turns will be. Here are some ideas for children of different ages.

For ages 5–7

- take 1- to 3-minute turns, or
- take 10-minute turns and start turns on a multiple of 10 minutes (10:10 or 7:30).

For ages 7–9

- take turns of any number up to 10 minutes, or
- take turns of any multiple of 5 minutes (15, 20, 35).

For ages 9–11

- take turns that are not multiples of 5 or 10 minutes. Try turns of 13 minutes, 19 minutes, or 37 minutes.

1. Talk through the turn taking

Make sure your children know

- how long each turn is,
- what order they'll take turns in, and
- what time turn taking begins

"You all want to use stencils to make your pictures, but we can only find one stencil. So, each of you gets a 5-minute turn with it. Let's go around the table—Malique, you start. Tania's next, then Camille. Tania, keep an eye on the clock. It's 2:19 now—let us know when it's time for your turn!"

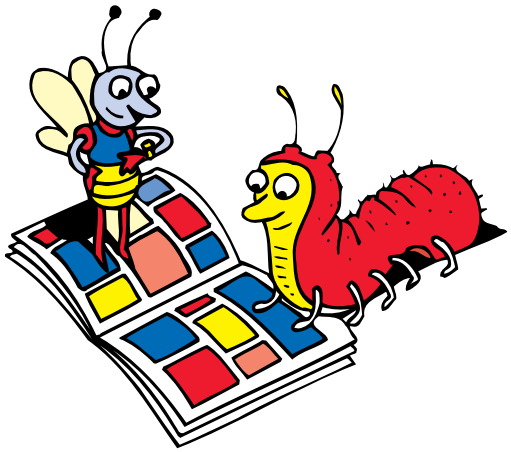
2. Figure out when the next turn begins

If your children need help, work with them in one of these ways:

Count up the minutes. One minute after 2:19 is 2:20, 2 minutes after is 2:21, … 5 minutes after is 2:24.

Round to a "familiar" time, then adjust. The last turn began at 2:19, so you can round up to 2:20. The next turn would begin 5 minutes later, at 2:25. Since the turn really began 1 minute earlier—at 2:19, the next turn begins 1 minute earlier, too—at 2:24.

Talk through your own solution. Children who aren't sure what to do, but know their turns are approaching fast, may not be eager to work out the math themselves. Explain how you know when the next turn begins. Even if your children can't



understand everything, they'll appreciate that you're doing math to find out something important to them. Next time, try a turn length that you think will be easier. You can even make it "too easy," to give a feeling of success so children will be ready to try more challenge another time.

When you repeat this activity

Vary the turn length and starting time. Try turns of a few minutes and turns of a half hour or more. Try starting the first turn on the hour, at half-past, and at any old time. As you learn what your children can figure out easily, choose times that offer just a little challenge.

Variations

How long until our turn? (ages 7–11)

Waiting in line can be unpredictable. When we're in a check-out line, at the bank, or at the post office, we don't know how long each person's turn with the cashier or clerk will be. Try this to pass the time when you're waiting.

If you have a watch, time the turns of three or four people ahead of you and find an average. Or, just estimate the length of an average turn. Then, use this average to predict how long until your turn.

Exploring patterns (ages 5–11)

Write down when each person's turn will start, continuing for at least 12 or 15 turns. (It's OK if no one really gets that many turns.) Then, look for patterns in the numbers.

For example, suppose the starting time is 4:12 and you have 5-minute turns.

4:12	4:37	5:02
4:17	4:42	5:07
4:22	4:47	5:12
4:27	4:52	5:17
4:32	4:57	

Some patterns: the "ones" digits in the minutes are all 2 and 7; the "tens" digits appear twice and then increase by 1.

Here's another example: the starting time is 1:00, with 3-minute turns.

1:00	1:15	1:30
1:03	1:18	1:33
1:06	1:21	1:36
1:09	1:24	1:39
1:12	1:27	

Some patterns: the minutes are multiples of 3; they alternate even and odd; the "ones" digit repeats every 10th number.

Squash That Box

Ever notice what happens when you flatten cereal boxes, tin cans, or other 3-dimensional shapes for recycling? Or do you ever wonder how they design and make all those interesting containers you find in the department store? Mathematicians call the flat, unfolded designs of 3-dimensional shapes "nets."

What you'll need

Small cardboard boxes, aluminum cans, and cardboard tubes from toilet paper or paper towels

What to do

1. Explain to your child that when we recycle materials, we need to flatten them. Ask him or her why (to save space). Ask your child to imagine what shapes will be created when you flatten the boxes or cans. Some people crush cans, which is not the same as flattening. When you take apart a cylinder, you have two circles for the ends and the flat cylinder makes a rectangle. Cut a cardboard tube lengthwise. What shape do you see (a rectangle)? What will a cereal box look like if you carefully unfold it and cut along the edges?
2. Unfold a cardboard box, without showing your child the original box. Ask your child to imagine what the original box looked like. What shape will it be when it is put back together? How will the ends look?
3. Have your child trace all the faces of a box or other 3-dimensional shapes by laying every side and top and bottom on the paper to be traced. Ask the child the names of the drawn 2-dimensional shapes.
4. Have your child study a box. Then see if your child can draw a net (the unfolded version) of the box. Unfold the box to see how closely the drawn net corresponds to the actual net. What would the net of a pyramid look like? What would the net of a cube look like?

Here is the net of a cube.

Here is the net of a cylinder.

Parent Pointer
! Recognizing 2-dimensional shapes in 3-dimensional objects and visualizing shapes are essential skills in fields as varied as architecture, manufacturing, medicine, and design.

Day 2 Science

Vocabulary

Learn the new science vocabulary words below. You will use these vocabulary words in today's activity.

- **Guarantee:** (noun) Promise
- **Nutrient solution:** (noun) A liquid that supplies many of the things that plants need to grow
- **Sustain:** (verb) To keep alive
- **Vertical:** (adjective) Standing, pointing, or going straight up

Activity: *No Land? No Problem! (English or Spanish)*

- Read the article below and answer the questions that follow.
- Para Español clique aquí: http://SCHOOLS.NYC.GOV/Documents/teachandlearn/LearnatHome/ELL/5day2sp.pdf

POMONA, California (Achieve3000, December 29, 2008). It's not easy to get fruits and vegetables to cities. That's why scientists have been exploring hydroponics. Hydroponics is a way to grow plants in a nutrient solution instead of soil. Scientists are hoping that hydroponics will bring farming into cities, where most people live.

Hydroponics will have cities to grow crops.

I wonder why this has not been done before?

Hydroponic farming uses less land and less water than field farming. It has its beginning in the space program. NASA scientists developed it to sustain astronauts. They had to deal with having no soil during space missions. The roots of hydroponically grown fruits and vegetables dangle in nutrient-rich water. Hydroponics is generally used for fast-growing crops such as lettuce and tomatoes. These can be produced year-round in heated greenhouses.

Scientists say that hydroponic farming could be great for cities. Many cities have no open plots of land. But they are packed with apartment buildings, rooftops, and empty lots that could support greenery.

"The goal here is to look at growing food crops in small spaces," said Terry Fujimoto. Fujimoto is an agriculture professor at California State Polytechnic University.

In their California greenhouse, Fujimoto's students are growing lettuce, bok choy, and basil. Each plant sits in its own hole. The roots reach down into a thin stream of water. The water is supplied automatically by a high-tech system.

Supporters of hydroponics say that it is not practical to use traditional farming to supply cities with produce. For one thing, bacteria can develop during the long journey to city supermarkets. In addition, there is a heavy environmental cost to haul produce from farms to cities. There is also the matter of land. As the world population grows, farmers are sacrificing more wilderness to grow crops.

Day 2 Science (continued)

Yet some people argue against the development of hydroponics. They say that it is expensive to set up high-tech hydroponic farms on pricey city land. Also, there is no guarantee that there will be enough heat and light in the shadows of tall buildings.

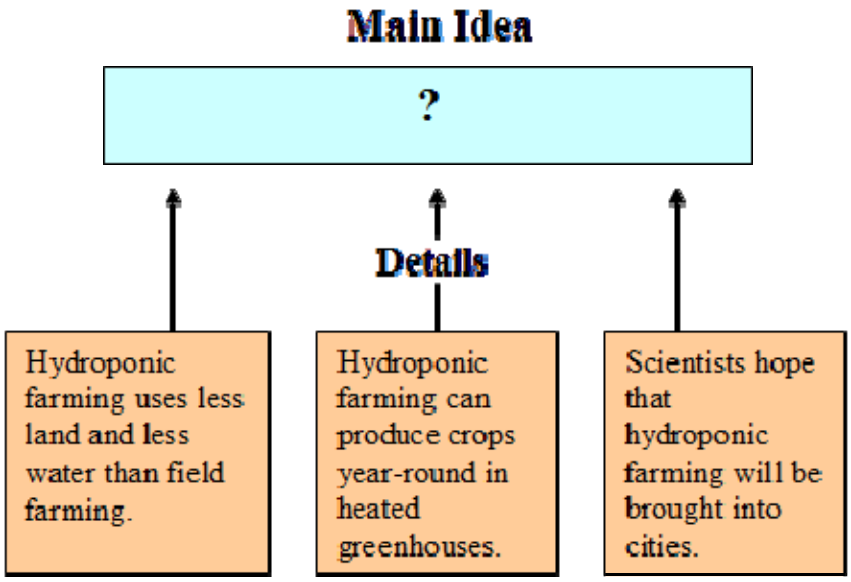
But hydroponics is already being used in many places. It is used in the dry southwestern U.S., where saving water is important. Hydroponics is also used in the northeastern U.S. There, heated hydroponic greenhouses can operate even through cold winters. Hydroponics is being used in a New York City schools program. Students grow hundreds of heads of lettuce a week on a school rooftop.

Success like this has some scientists imagining a hydroponic future. They believe that hydroponic farming could produce enough crops to feed entire cities. Dickson Despommier is an environmental health science professor. He champions the idea in his Vertical Farm Project. Despommier imagines multistory indoor farms and is already consulting with engineers who might make a plan to build one. Farming in tall buildings is not only possible, he says. It's practical.

"Most of us live in cities," Despommier said. "As long as you're going to live there, you might as well grow your food there."

The Associated Press contributed to this story.

Day 2 Science (continued)



Question 1: Based on the article, which best replaces the question mark in the diagram above?
1. Scientists have created a way to grow crops in water instead of soil.
2. Hydroponics is being used in a New York City schools program.
3. NASA scientists developed hydroponics for space missions.
4. Some people say it is too expensive to set up hydroponics.

Question 2:
According to the article, what is one benefit of hydroponic farming?
1. Hydroponic farming can be done in cities.
2. Hydroponic farming is good for slow-growing crops.
3. Hydroponic farming can be done without any light.
4. Hydroponic farming costs very little money.

Question 3:
Which of these is an opinion?
1. Hydroponics is a better way for farmers to grow crops than using land.
2. Hydroponic farming uses less land and less water than field farming.
3. Hydroponic farming was developed by scientists for the space program.
4. Hydroponics is mostly used for fast-growing crops such as tomatoes.

Day 2 Science (continued)

Question 4:
Think about the following words: scientist, artist, finalist, dentist
Which must be the correct meaning of the suffix -ist?
1. A person who
2. The way something is done
3. To be alone or lonely
4. What makes something happen

Question 5:
Based on information in the article, in what way is hydroponic farming the same as regular farming?
1. Both types of farming can grow vegetables such as lettuce and tomatoes.
2. Both types of farming dangle the roots of fruits in nutrient-rich water.
3. Both types of farming can easily be done on small areas of city land.
4. Both types of farming have been used during NASA space missions.

Question 6:
The article states:
But hydroponics is already being used in many places. It is used in the dry southwestern U.S., where saving water is important. Hydroponics is also used in the northeastern U.S. There, heated hydroponic greenhouses can operate even through cold winters. Hydroponics is being used in a New York City school program. Students grow hundreds of heads of lettuce a week on a school rooftop.

The author uses this paragraph mostly to _____.
1. Describe a number of ways that hydroponic farming is currently being done
2. Explain how to set up hydroponic farms in small towns across the U.S.
3. Show why hydroponic farming is becoming less popular in some places
4. Demonstrate that hydroponic crops are better tasting than regular crops

Question 7:
Which is the closest synonym for the word sustain, as it is used in this article?
1. Feed
2. Deny
3. Urge
4. Equal

Question 8:
This article is placed in a group of news called "Across the U.S." In which other group would this article fit best?
1. Technology
2. Politics
3. Education
4. Sports

Day 2 Science (continued)

Additional Question

The title of today's article is "No Land? No Problem!" Suggest another title for this article and explain why you think your new title would work.

Support your answer with details from the article.

Write your answer in the box below.

Achieve3000 (www.teenbiz3000.com)

Day 3 Schedule

Subject	Minutes Per Day (At Least!)	Assignments	What Did I Learn Today?
English Language Arts	45	• Learn new vocabulary words from the Vocabulary List • Activity 1: Quickwrite • Activity 2: Read non-fiction • Activity 3: Respond to non-fiction	•
Mathematics	45	Complete • Activity 1: How Much Longer? • Activity 2: When Should We Leave?	•
Science	30	• Helping Animals Helps Bay (English or Spanish)	•
Fitness and Health	30	• Exercise for 30 minutes. Choose from the Activity Calendars at the back of this packet	•
Arts	30	• Choose one or two activities from the Arts Activities at the back of this packet	•
TV Shows and Websites	30	• Choose TV shows and websites to further your learning at home	•

Day 3 English Language Arts

Vocabulary

- Learn new key vocabulary words from the list below and the Vocabulary List at the back of this packet

Key Vocabulary

New word: Orphanage
Definition: a place where children who do not have parents live
From the story: …just several weeks or maybe a month before the **orphanage** turned me into a man.

New phrase: House parent
Definition: an adult who supervised the children in the orphanage
From the story: After breakfast one Saturday morning I returned to the dormitory and saw the **house parent** chasing the beautiful monarch butterflies that lived by the hundred in the azalea bushes…

New word: Cruel*
Definition: mean, cause pain or sadness
From the story: How **cruel** it was to kill something of such beauty.
* This word is the same in Spanish.

New word: Quivered
Definition: to shake
From the story: Finally its wing broke off and the butterfly fell to the ground and just **quivered**.

Activity 1: *Writing*

- **Quickwrite**: Spend three minutes responding to the following questions. Think of something in nature that you feel is beautiful. What is it? How do you keep it in your memory?

_____

_____

_____

_____

Day 3 English Language Arts (continued)

Activity 2: *Reading*

- Read the following non-fiction passage.

Butterflies, by Roger Dean Kiser

There was a time in my life when beauty meant something special to me. I guess that would have been when I was about six or seven years old, just several weeks or maybe a month before the orphanage turned me into an old man.

I would get up every morning at the orphanage, make my bed just like the little soldier that I had become and then I would get into one of the two straight lines and march to breakfast with the other twenty or thirty boys who also lived in my dormitory.

After breakfast one Saturday morning I returned to the dormitory and saw the house parent chasing the beautiful monarch butterflies that lived by the hundreds in the azalea bushes strewn around the orphanage.

I carefully watched as he caught these beautiful creatures, one after the other, and then took them from the net and then stuck straight pins through their head and wings, pinning them onto a heavy cardboard sheet.

How cruel it was to kill something of such beauty. I had walked many times out into the bushes, all by myself, just so the butterflies could land on my head, face and hands so I could look at them up close.

When the telephone rang the house parent laid the large cardboard paper down on the back cement step and went inside to answer the phone. I walked up to the cardboard and looked at the one butterfly who he had just pinned to the large paper. It was still moving about so I reached down and touched it on the wing causing one of the pins to fall out. It started flying around and around trying to get away but it was still pinned by the one wing with the other straight pin. Finally its wing broke off and the butterfly fell to the ground and just quivered.

I picked up the torn wing and the butterfly and I spat on its wing and tried to get it to stick back on so it could fly away and be free before the house parent came back. But it would not stay on him.

The next thing I knew the house parent came walking back out of the back door by the garbage room and started yelling at me. I told him that I did not do anything but he did not believe me. He picked up the cardboard paper and started hitting me on the top of the head. There were all kinds of butterfly pieces going everywhere. He threw the cardboard down on the ground and told me to pick it up and put it in the garbage can inside the back room of the dormitory and then he left.
I sat there in the dirt, by that big old tree, for the longest time trying to fit all the butterfly pieces back together so I could bury them whole, but it was too hard to do. So I prayed for them and then I put them in an old torn up

shoe box and I buried them in the bottom of the fort that I had built in the ground, out by the large bamboos, near the blackberry bushes.

Every year when the butterflies would return to the orphanage and try to land on me I would try and shoo them away because they did not know that the orphanage was a bad place to live and a very bad place to die.

Activity 3: *Writing*

- Complete this graphic organizer to describe the actions that takes place in the orphanage on Saturday.

Story Title:

Beginning	Middle	End

Use your graphic organizer and Quickwrite to prepare to write the letter. Use the following frame to help guide your letter:

Dear Mr. Kiser,

When I read your story I felt _____ because _____

_____

_____

_____

_____

_____

Day 3 English Language Arts (continued)

There was a time when I (add your connection to nature here)

_____

_____

_____

_____

(Ask the author a question about his experience)

_____

_____

_____

_____

Sincerely,

_____

Day 3 Mathematics

Vocabulary

Learn the new math vocabulary words below. You will use these vocabulary words in the activities today.

- **Calculate**: To find the value of something, usually by using arithmetic, like adding or multiplying.
- **Rounding**: To express something in a way that is about the same, but in a form that is easier to use.
- **Solution**: The answer to a problem.

Activity 1: *How Much Longer?*

Follow the instructions on the attached sheet. Why would this question always have different answers?

Activity 2: *When Should We Leave?*

Follow the instructions on the attached sheet. Why would it be important to calculate when to leave?

If you need Spanish activities for the concept of operations with numbers**,** please follow the steps below.

1. Go to tutorial site: http://destination.nycenet.edu

2. Login with the following user ID and PW:
   - User: studentnyc
   - Password: student

3. Click on the Exploration Icon to access the tutorial

4. Scroll down to Mastering Skills & Concepts: Course II – Spanish

5. Select the skill/concept to review:
   - Activity 1: 2.1.3 - Differences within 100

Notebook:

In your notebook, please answer the following question:

- Why is it sometimes easier to round off to the nearest quarter- or half-hour?

Additional Activity

Do you have more time? If so, please complete the following activity.

- What are the Coins?

These activities are from:
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect5.pdf
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect6.pdf

5

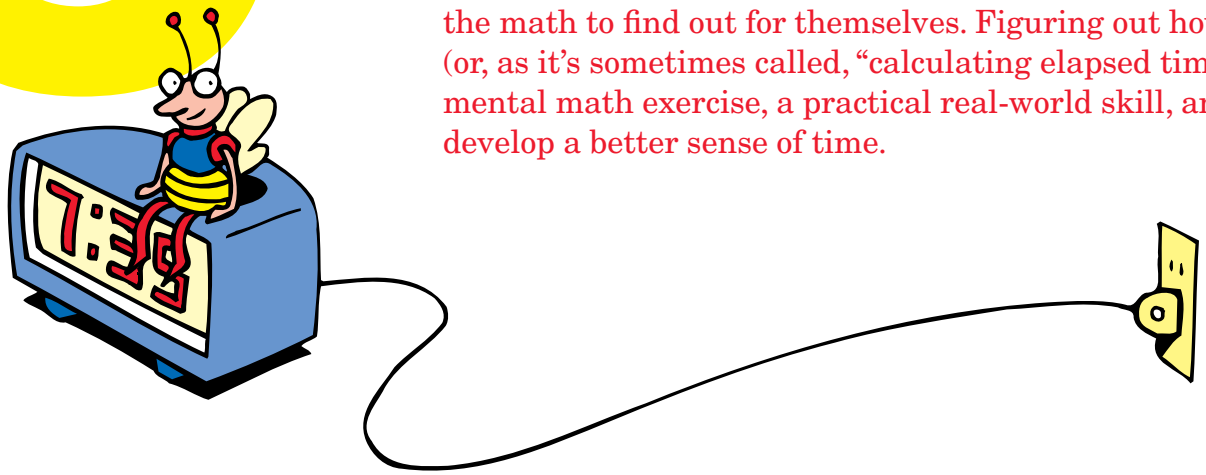
How much longer?

Materials

Clock or watch that displays minutes

"How much longer until the soccer game begins? … How long until we eat? … How much longer before the movie starts?"

Next time your children ask you "How much longer?" ask them to do the math to find out for themselves. Figuring out how much longer (or, as it's sometimes called, "calculating elapsed time") is a great mental math exercise, a practical real-world skill, and a way to develop a better sense of time.



1. Talk through the problem

Make sure your children know what time it is now and the time of the event they're waiting for.

Child: *"How long until we eat?"*

Parent: *"It's 5:18. Dinner's at 6. How many minutes until 6?"*

For ages 5–7, simplify the problem by rounding times to the nearest half hour (5:30 in this example), quarter hour (5:15), or 10 minutes (5:20).

2. Figure out how much longer

If your children need help, work with them to solve the problem in one of these ways:

Break the problem into parts. For instance, from 5:18 to 5:20 is 2 minutes, then it's 10 more minutes to 5:30, and another 30 to 6:00—42 minutes in all.

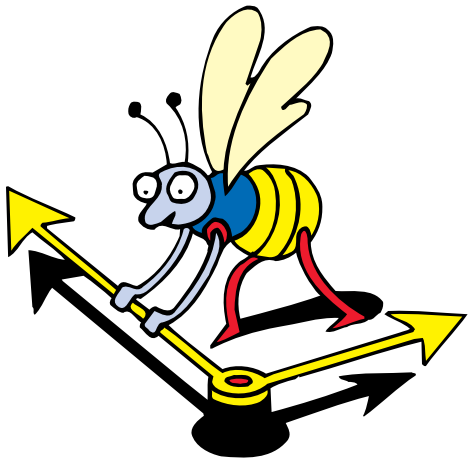
Round to a time that's easier to work with and then adjust. It's 45 minutes from 5:15 to 6:00, so it's 3 less than that—42 minutes—from 5:18 to 6:00.

Count up by ten-minute intervals. From 5:18 to 5:28 is 10 minutes. From 5:18 to 5:38 is 20 minutes, to 5:48 is 30, to 5:58 is 40, plus 2 minutes takes us to 6:00. So it's 42 minutes in all.

3. Explain solutions

If your children solved the problem without help, ask how they got their answers.

If you notice any incorrect calculations, encourage your children to explain their thinking further. They may fix their mistakes as they talk about how they got the answer. If they don't, try to help them correct their solution methods, rather than showing a new way to solve the problem.



4. What could you do in the remaining time? (optional)

To help develop a "real-life" understanding of time, ask about what could be done in the time that's left.

"So, you have about 40 minutes left until dinner. Is that enough time to clean your desk? Your whole room? Your whole room and still have some time left to play?"

When you repeat this activity

Try this when "How much longer?" is a few minutes, close to an hour, or several hours. Ask your children to explain their thinking from time to time—both when they make mistakes and when they arrive at the right answer. Otherwise, they will come to think that "How did you get your answer?" really means, "You're wrong."

Variations

Predict how much longer (ages 5–11)

Sometimes we don't have an answer for "How much longer?" We're not sure when the waitress will take our order, or when the food will arrive. We don't know how long we'll be in the check-out line, or when we'll get home if we're stuck in traffic. In situations like these, ask everyone to predict how much longer, and to explain why they think their predictions are reasonable. Write down (or remember) your predictions, and assign someone to keep track of the time. Which prediction comes closest?

For more challenge, after children make their predictions, suggest they calculate what time that will be.

"It's 3:32, and you guess it will take 45 minutes to get home. What time will it be then?"

When the wait is prolonged, ask if anyone wants to revise their predictions.

"We predicted we'd be through the check-out line in 5 minutes, but 3 minutes have passed and the person ahead of us hasn't unloaded everything from her cart yet. Do you still think we'll be through in 5 minutes, or do you want to change your predictions?"

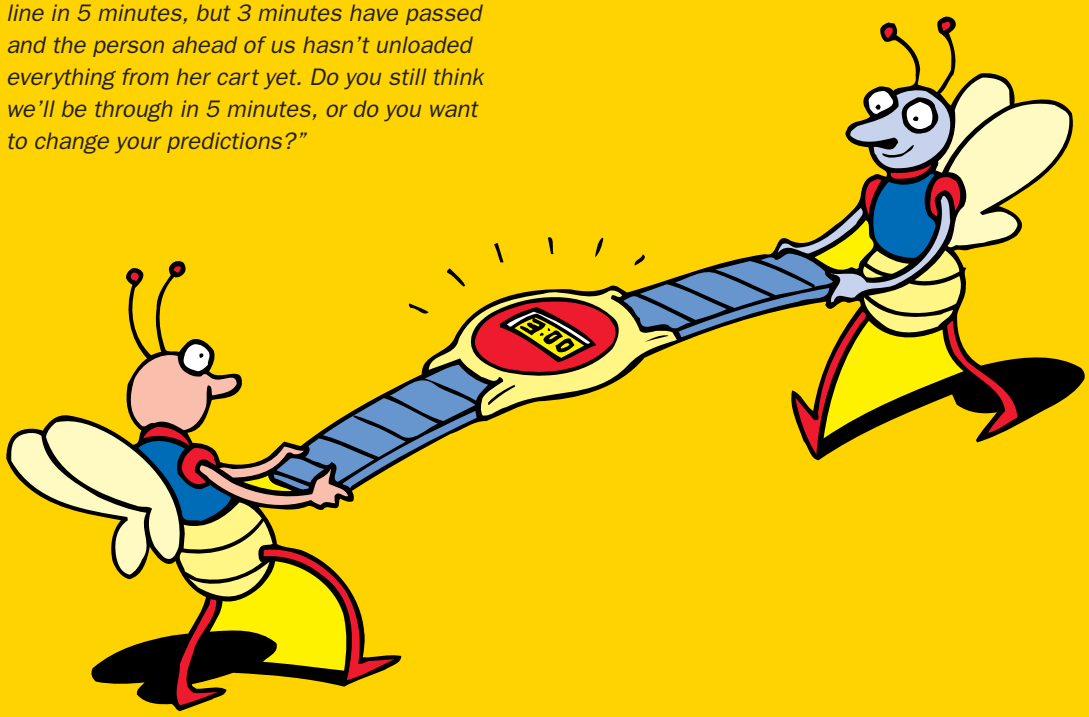
When it seems like forever (ages 5–11)

When there's an exciting event coming up soon, ask your children to find out "how much longer" in weeks, days, or hours. Younger children can use a calendar to count how many days (or weeks). Older children can calculate how many hours until the event, and then explore questions like these:

What is the halfway point? *"When will it be halfway between now and your birthday? What will you be doing then?"*

How many minutes? *"So, you figured out that it's 63 hours until your school play. Do you think that's more than 1000 minutes from now? More than 10,000? How can you find out?"*

How long ago? *"The big soccer game is in 32 hours, and it seems like you have to wait forever! What were you doing 32 hours ago? Does it seem like that long ago?"*



6

When should we leave?

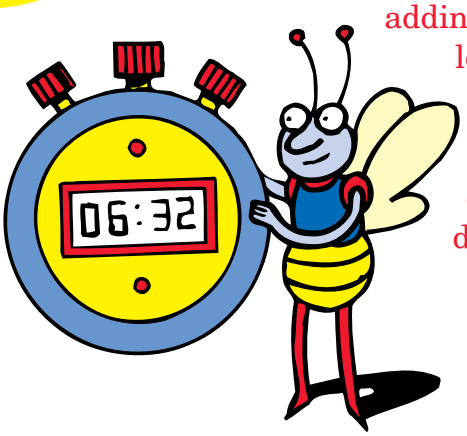
Materials

- Clock or watch that displays minutes
- Pencil and paper (optional)

"Oh no, it's almost 12:35! We'll never get to the soccer field by 1:00!"

Some days it seems that everyone is rushing off somewhere—to school, to work, to appointments. As we plan the day, we need to decide when to leave in order to get places on time—even if we don't always quite make it. Deciding when to leave requires lots of math: adding and subtracting times, using time sense to estimate how long it takes to go places, and using timetables.

In this activity, as children figure out when to leave, they learn about the role math plays in scheduling the day. Finding when to leave also gives them something to do while they're waiting around to go!



1. Talk through the trip

Make sure your children know

- the time you need to arrive at your destination.
- the parts of the trip—will you walk directly there? Walk to the bus stop, wait, ride the bus, and then walk the rest of the way?
- how long each part of the trip takes. It's OK to round times to the nearest 10 or 15 minutes.

"We're driving Ana to school. It's a 15-minute ride to Ana's house, and then it takes about 20 minutes to get to school. We need to be there for the 8:10 bell. When should we leave?"

For ages 5–7

Ask about trips with just one part.

"It takes half an hour to walk to Grandma's house. We need to be there at 3:00. When should we leave?"

Or, combine parts of the trip, so children have fewer things to keep track of.

"It will take about 35 minutes to get to school. When should we leave?"

2. Figure out when to leave

If your children get stuck, work with them in one of these ways:

Calculate how long the trip is, then subtract the travel time from your intended arrival time. The trip takes 15 + 20, or 35 minutes. Thirty-five minutes before 8:10 is 7:35.

Work backwards, one step at a time. To get to school at 8:10, we need to leave Ana's house 20 minutes earlier. That's 7:50. So, we should leave home 15 minutes before then—at 7:35.

Pick a time when you might start, and then adjust. Some children find it easier to work with a specific starting time.

"What if we left at 7:45—when would we get there? … Should we leave earlier or later than that? … How much earlier (or later)?"

Keep the focus on the goal. Sometimes when we get bogged down in calculations, we lose sight of what we're trying to figure out. Remind children of the basic question as needed.

"So you figured out that it will take us about 35 minutes in all. When should we leave so that we get there at 8:10?"

Take off the pressure if it's getting to be time to go. You can spend a bit of travel time explaining how you figured out when to leave. Next time, ask your children to figure out, "When should we leave?" when the trip is simpler.

When you repeat this activity

Try this with a variety of trips—trips under half an hour, and trips of 2 hours or longer; trips involving several stops, bus changes, or errands; and trips involving different methods of transportation. For more challenge, involve your children in planning ahead for possible traffic or other delays.

"We have to take two buses. Each ride could take anywhere from 15 to 30 minutes, depending on traffic, and we could wait up to 10 minutes when we change buses. How much time should we allow, in case there's a lot of traffic and a long wait? What's the earliest we could get there? If we're early, will there be enough time to get ice cream on the way?"

Variations

Use timetables (ages 7–11)

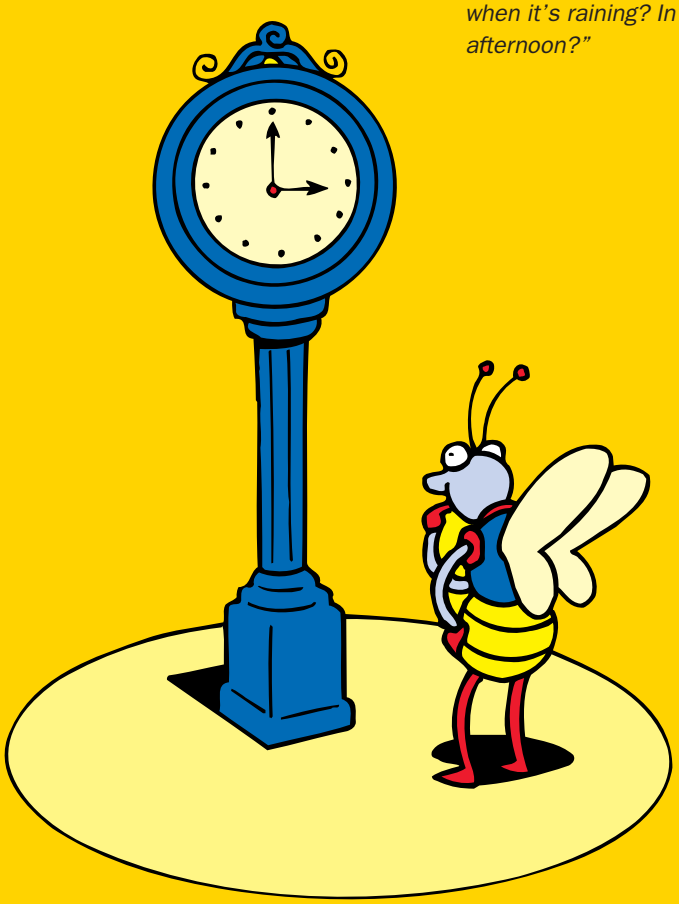
Sometimes, figuring out when to leave involves choosing which bus (or train, or ferry) to take. Work with your child to use a timetable to plan your trip.

"We have to be at the doctor's at 4:00. The bus stops at North Square just around the corner from the doctor's office. Let's look at the schedule to find a bus that gets there by 3:50. OK, the 3:02 from the Oak Street stop should get us in by 3:43. What time do we need to leave home to catch the 3:02 bus at Oak Street?"

How long did it take? (ages 7–11)

Find a trip that your children take on a regular basis—perhaps a drive to the grocery store, a bus to the library, or a trip by foot and subway to Grandma's house. Each time they take this same trip (for at least a few trips), ask them to use a watch or timer to find how long it takes. Provide a notebook or special paper where they can record how long the trip took, along with the date and day of the week, the time of day, the weather, and any circumstances they think affected the length of the trip (such as delays for road construction). They can use these data to help make decisions about when to leave on future trips.

"How much time should we allow for the trip when it's raining? In rush hour? On Sunday afternoon?"



What Are the Coins?

What you'll need

Some coins

What to do

Ask your child the following questions:

1. I have three coins in my pocket. They are worth 7 cents. What do I have? (a nickel and 2 pennies)
2. I have three coins in my pocket. They are worth 16 cents. What do I have? (a dime, a nickel, a penny)
3. I have three coins in my pocket. They are worth 11 cents. What do I have? (2 nickels and 1 penny)
4. I have three coins in my pockets. They are worth 30 cents. What do I have? (3 dimes)
5. I have six coins in my pocket. They are worth 30 cents. What could I have? (1 quarter and 5 pennies or 6 nickels). This problem has more than one answer. It is challenging for children to experience problems like this.
6. I have coins in my pocket, which have a value of 11 cents. How many coins could I have?

You get the idea! Give your child a few coins to figure out the answers.

Parent Pointer	
!	Use this activity to help your child develop an understanding of patterns and variables (the unknown) to solve a problem. This is critical to understanding algebra.

Day 3 Science

Vocabulary

Learn the new math vocabulary words below. You will use these vocabulary words in the activities today.

- **Amateur:** (adjective) Having to do with taking part in something for fun, not as a job
- **Conservationist:** (noun) A person who works to save animal populations and other parts of the environment
- **Marine:** (adjective) Having to do with water, often sea water
- **Recover:** (verb) To return to the same condition as before
- **Reef:** (noun) A ridge of rock or coral

Activity 1: *Helping Animals Helps Bay (English or Spanish)*

- Read the article below and answer the questions that follow.
- Para Español clique aquí: http://SCHOOLS.NYC.GOV/Documents/teachandlearn/LearnatHome/ELL/5day3sp.pdf

ANNAPOLIS, Maryland (Achieve3000, June 5, 2008). Oysters in Chesapeake Bay, off the coast of Maryland and Virginia, have been nearly wiped out. But hundreds of amateur conservationists want to help the struggling shellfish to recover. To do this, they are eagerly taking up the hobby of growing oysters at home.

Chesapeake Bay is the largest bay in the United States. It once supported vast amounts of marine life. But the bay has become an unfriendly habitat for the oysters. This is mainly due to water pollution. Since the 1970s, the bay has been a marine "dead zone." The water quality in the bay is so poor that many species can no longer live there. The oyster population has decreased to a great degree. Oysters are filter-feeders. This means that they eat by straining food out of the water. This behavior usually helps clean the water. But oysters are struggling with the poor water quality. They are less and less able to filter-feed. This makes the pollution worse.

In addition to pollution, heavy runoff of earth and sand into the bay has caused the drop in oyster populations. Some point to the muddy water as the main cause of the loss of oysters in Chesapeake Bay. Covered in the muck, the oysters can't breathe.

The state of Maryland has grown millions of oysters every year. The Chesapeake Bay Foundation (CBF) is an environmental group. Scientists at the CBF recognized that they needed more help saving the oysters and the bay.

In 1997, the CBF established a program to help the oysters recover. The CBF finds volunteers. These volunteers agree to grow oysters under their home docks for nine months. After that, the oysters are returned for "planting" on Chesapeake reefs.

Here's how the program works: Volunteers pay $75 for four oyster cages. They also get a lesson on how to raise the oysters. In the fall, volunteers receive several thousand "spat." Spat are fingernail-length baby oysters. Volunteers place the spat into the wire cages. Then, they tie the cages to docks. The cages hang just a few inches below the water. This helps protect the oysters from the muck. Twice a month or so, volunteers haul the cages out of the water to rinse the spat. Rinsing the spat keeps the muck off. This allows the oysters to breathe.

Day 3 Science (continued)

In late spring, the volunteers return the oysters (now about an inch long) to the CBF. The group plants the oysters on reefs. After the first year, gardeners can return for a new crop of oysters without paying the $75.

The CBF says the program has sent out thousands of wire cages since it began. They also say the program is growing increasingly popular.

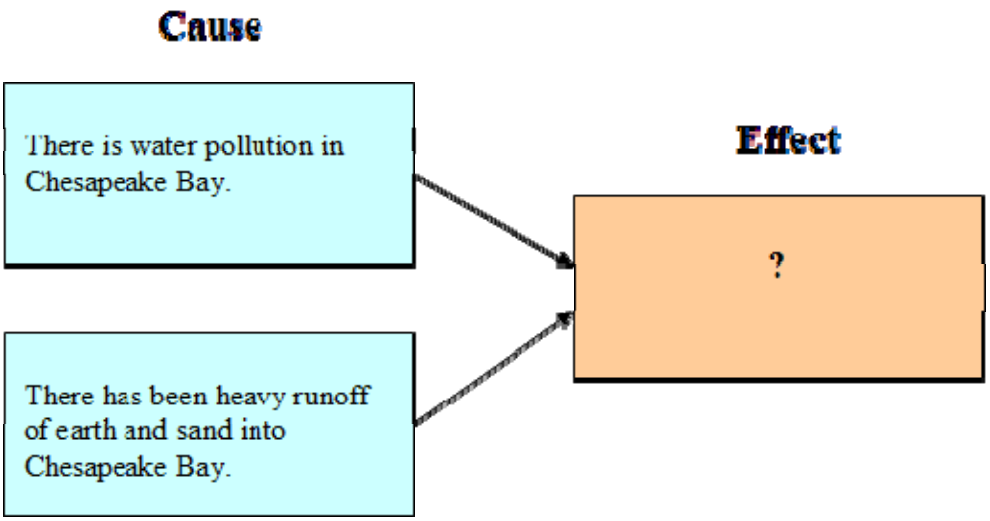
"We add people every year, and we don't have a lot of dropouts. People who have docks always say, 'Oh, I'd like to do that,'" said Stephen Gauss. Gauss is a home oyster gardener.

Scientists with the CBF are uncertain whether the effort will improve the bay environment in the end. Scientists are also unsure if the program will help the oysters to fully recover. However, there has been progress. In the last decade, CBF and its volunteers have planted roughly seven million oysters on Chesapeake reefs. If nothing else, the program is a success in that it has educated citizens about the need to clean the bay. It has also provided them the opportunity to take part in that effort.

"It's a lot of fun," said volunteer Stephen Gauss. "It's also something you can see right away helping out the bay."

The Associated Press contributed to this story.

Day 3 Science (continued)



Question 1: Which best replaces the question mark in the box above?
1. Citizens have stopped polluting the Chesapeake Bay.
2. Oysters in the bay have been nearly wiped out.
3. The bay supports a vast amount of marine life.
4. The state of Maryland blamed the state of Virginia.

Question 2:
The article states: Scientists are also unsure if the program will help the oysters to fully recover. However, there has been progress. Which is the closest synonym for the word progress?
1. Improvement
2. Refreshment
3. Astonishment
4. Entertainment

Question 3:
Which question is not answered by the article?
1. Where do volunteers hang their oyster cages?
2. Why are oysters unable to breathe in Chesapeake Bay?
3. What caused the water pollution in Chesapeake Bay?
4. When do volunteers return the oysters to the CBF?

Question 4:
Let's suppose that this article could have a different title. The best one would be _____.
1. Chesapeake Bay: An Important Place in History
2. Volunteers Hope To Help Chesapeake Bay's Oysters
3. Volunteers Eat Oysters Meant for Chesapeake's Reef
4. Chesapeake Bay: Largest "Dead Zone" in the U.S.

Day 3 Science (continued)

Question 5:
Suppose you were writing a summary of the article. Which of these would not be important to put in the summary?
1. The time of year volunteers return their oysters to the CBF
2. The progress that has been made in the effort to save the oysters
3. The reasons there are now fewer oysters in Chesapeake Bay
4. The steps the CBF is taking to help the oysters recover

Question 6:
The article states:

To do this, they are eagerly taking up the hobby of growing oysters at home.
Which would be the closest synonym for the word eagerly?
1. Excitedly
2. Recently
3. Arguably
4. Properly

Question 7:
Which of these is a statement of opinion?
1. The oyster gardener volunteers receive several thousand spat.
2. The oyster gardener volunteers should pay more for oyster cages.
3. The CBF established a program in 1997 to help the oysters recover.
4. The CBF has sent out thousands of wire cages to volunteers.

Question 8:
Which of these happens before volunteers put spat into their oyster cages?
1. Volunteers return the oysters to the CBF.
2. Volunteers rinse the spat twice a month.
3. Volunteers tie the cages to their docks.
4. Volunteers receive four oyster cages.

Day 3 Science (continued)

Additional Question

Think about the program to help the oysters recover. Write instructions for new volunteers. List and describe the steps required to join the program. Use information from the article, as well as your own ideas, in your answer. Write your answer in the box below.

Achieve3000 (www.teenbiz3000.com)

Day 4 Schedule

Subject	Minutes Per Day (At Least!)	Assignments	What Did I Learn Today?
English Language Arts	45	• Learn new vocabulary words from the Vocabulary List • Activity 1: Read a story • Activity 2: Write your own story	•
Mathematics	45	Complete: • Activity 1: How Much Do We Save? • Activity 2: Wish List	•
Science	30	• A Car That Swims (English or Spanish)	•
Fitness and Health	30	• Exercise for 30 minutes. Choose from the Activity Calendars at the back of this packet	•
Arts	30	• Choose one or two activities from the Arts Activities at the back of this packet	•
TV Shows and Websites	30	• Choose TV shows and websites to further your learning at home	•

Day 4 English Language Arts

Vocabulary

- Learn new vocabulary words from the key vocabulary below and Vocabulary List at the back of this packet.

Key Vocabulary

New Word: foe
Definition: enemy, not a friend
From the story: "Kids, you are growing now, you should be able to differentiate between a friend and a **foe**."

New word: wise
Definition: able to make a smart decision, has good judgment
From the story: "…Now I can leave you alone as you have grown **wise**."

New word: wicked
Definition: very bad, without morals
From the story: "You **wicked** Hyena, you are our enemy, you want to eat us to satisfy your hunger. We will never get down."

New word: obey
Definition: follow the rules, do what you are told
From the story: "All right then, I will wait. All young children should **obey** their mothers,"

Activity 1: *Reading*

- Read the following animal story.

In a thick bamboo jungle, two young pandas had started their new life. Both of them were very cute and chubby. They were born only a few days ago. Their mother had lovingly christened them Jackie and Mickey.

Jackie and Mickey were pretty young and weak. They were not even big enough to take care of themselves. Therefore their mother said, "Kids, you are growing now, you should be able to differentiate between a friend and a foe."

"Mother, who are friends and foes?" asked Jackie and Mickey.

"One who helps us and stands by us in all our odds is our friend. And one who harms us, kills innocent animals and birds, is our enemy. Do you understand anything?" asked their mother.

"Yes mother, we do understand. We will maintain a safe distance from our enemies and not even let them come near us, "Jackie and Mickey assured their mother. "Good, my children. I was expecting the same understanding from both of you. Now I can leave you alone as

Day 4 English Language Arts (continued)

you have grown wise, "said their mother and she gave her children a hug.

The next day Mother Panda went to visit her sister. She left Jackie and Mickey alone and went away.

All this while a Hyena was keeping an evil eye on Jackie and Mickey. He was looking for a right opportunity for the past few days. The Hyena's mouth watered when he saw the young and chubby pandas. With their mother away, the Hyena found that much-awaited opportunity.

The Hyena came near the bamboo and said, "Hello friends, what are you doing on the bamboo. Come near me, I will sing you a song and take you both for a jungle-ride."

The pandas were surprised to hear the Hyena. On seeing the dangerous -looking Hyena down-below, Jackie whispered, "This cannot be our friend. He has big teeth. Our mother had asked us to stay away from enemies. We have to be careful and don't have to go near the Hyena.

On hearing what Jackie had to say, Mickey cried aloud, "You wicked Hyena ,you are our enemy, you want to eat us to satisfy your hunger. We will never get down."

"Are you out of your mind? Believe me I am not your enemy, I am your friend, "the Hyena tried to convince the young pandas.

Mickey heard the Hyena and understood clearly that his intentions were not correct. He thought, "This devil will not leave us peacefully. We have to think about some other trick to get rid of him for some time."

Suddenly his eyes fell on the bamboo and he said, "Our mother had advised us not to make friends with anybody till flowers bloomed on the bamboo. So you will have to wait till the bamboo flowers."

"All right then, I will wait. All the young children should obey their mothers, "said the crooked Hyena grimacing.

The Hyena realized that his luring the young pandas had back-fired. Totally dejected, he went away. Jackie and Mickey heaved a sigh of relief as the Hyena went away. They once again got busy eating fresh soft leaves of bamboo.

The flowers bloomed on the bamboo within a week's time.

The Hyena's happiness knew no bounds and he said aloud to himself, "Wonderful, flowers on the bamboo have brought me good luck. Now both the young pandas have to be friends with me. I will lure them away and feast on them."

The Hyena once again came to the pandas and said, "Now the flowers have bloomed on the bamboo. Hurry up and get down to shake hands with me."

Mickey was very upset and was at his wit's end as to how to get rid of the beast this time. Jackie however, was least afraid of the Hyena. He was busy sharpening a thick bamboo pointed at both its ends. When the bamboo became pointed, he hurled it towards the Hyena.

He pointed towards the pointed bamboo and said, "We can become friends only when you put the bamboo in

your mouth and jump from that cliff."

The flabbergasted Hyena asked, "But why should I jump with bamboo in my mouth? Can't we become friends without this exercise?"

"Absolutely not. Our mother had said that if the Hyena does not jump with the bamboo in his mouth ,we should not be friends with him. If you have to be our friend then you have to do as I say", said Jackie very seriously.

The Hyena became thoughtful. He was thoroughly trapped in Jackey's trap. If he refused to do what was being told, he had to retreat. Finally, under compulsion he decided to jump with the bamboo in his mouth.

Despite his reluctance, the Hyena inserted the pointed end of the bamboo in his mouth and climbed the cliff and jumped.

The moment he landed on the ground, the Hyena shouted loudly in pain, "Oh my God! I am dead. The bamboo has pierced through my neck."

The panda brothers jumped with joy. Meanwhile the Mother Panda had also returned after visiting her sister. She saw the Hyena writhing in pain. Jackey and Mickey told her everything. When she came to know everything, she applauded her sons and said, "Well done, you have proved that both of you are brave and intelligent and can defend yourself from prying enemies."

The Hyena, with the bamboo stuck in his mouth, was in a really bad shape. He ran away as fast as he could and was never seen in the jungle again.

Activity 2: *Writing*

- Write your own short story with animal characters. Use a separate sheet of paper or the back of this sheet to do your writing.

Directions: Before you write your story, use this graphic organizer to plan.

Characters

Setting

Problem

Events
1)
2)
3)
4)
5)

Solution

Day 4 Mathematics

Vocabulary

Learn the new math vocabulary words below. You will use these vocabulary words in the activities today.

- **Estimate**: When you estimate the answer to a problem it means that you give a pretty good guess at what the answer will be.
- **Combine**: To join two or more things together in order to make one thing.
- **Triple**: To multiply something by three.

Activity 1: *How Much Do We Save?*

Follow the instructions on the attached sheet. What are some reasons that people use grocery and store coupons?

Activity 2: W*ish List*

Follow the instructions on the attached sheet. What sort of things do people buy through catalogs?

If you need Spanish activities for the concept of measurement**,** please follow the steps below.

1. Go to tutorial site: http://destination.nycenet.edu

2. Login with the following user ID and PW:
   - User: studentnyc
   - Password: student

3. Click on the Exploration Icon to access the tutorial

4. Scroll down to Mastering Skills & Concepts: Course II – Spanish

5. Select the skill/concept to review:
   - Activity 1: 3.2.2 - Money

Notebook:

In your notebook, please answer the following question:

- Can you think of any other ways that your family can save money?

Additional Activity

Do you have more time? If so, please complete the following activity.

- Let's Play Store

These activities are from:
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect7.pdf
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect8.pdf

7

How much do we save?

Materials

- Grocery advertisements with coupons
- Scissors
- Pencil and paper (optional)

"Look—here's a coupon for $1.00 off on juice bars, and here's one for 60¢ off my favorite brand of chunky peanut butter! There's a bunch of others we can use, too. I wonder how much we'll save."

Everyone wants to save money! With coupons, children can learn about math and about saving. In this activity, as children figure out coupon savings, they practice adding, multiplying, and estimating with dollars and cents. You can do this activity even if you don't use coupons when you shop.

Before you begin

Alone or with your child, go through grocery advertisements and cut out about 20 coupons. If you use coupons, pick ones you think you'll use on your next trip to the store.

1. Talk about grocery coupons and store savings

If your children are unfamiliar with coupons, explain how people use them. Point out the important information on several coupons—the product, how many you have to buy, the amount of savings, and when the offer expires.

Ask your children to make a quick prediction about how much your family generally spends on groceries each week, and how much you could save with coupons. Some children will have no idea of these amounts. As you repeat this activity, they'll develop a better understanding.

2. Find out the savings

Ask your children to find the total value of all the coupons in the set.

If they need help getting started, ask them to begin by sorting coupons worth the same amount into separate piles—a pile of 25¢ coupons, a pile of 50¢ coupons, and so on. Here are some other things you can suggest:

Combine coupons to make dollars. Suggest finding and grouping coupons that add up to $1.00, such as 40¢ + 60¢, or 25¢ + 25¢ + 50¢. Your children can also make groups that total $2.00, other whole-dollar amounts, or amounts like 50¢ that are easy to work with.

Count up to add coupons worth the same amount. For example, your children could count a group of 25¢ coupons this way: 25¢, 50¢, 75¢…. If your children need help after the first few coupons, you can count along.

Keep track of the coupons already added and those still left to add. Your children can make a special place to set aside coupons after figuring them into the total.

If your children need help finding the total of all the coupons, talk through how you would do it yourself.

3. Explain solutions

Listen to your children as they explain how they added the coupon amounts. Encourage them to check the total by adding the coupons in a different way—for example, by regrouping them into different "dollar" combinations, or adding them up in a different order.

Age range 7–11 (for ages 5–7, see Variations)

When you repeat this activity

Try this with coupons for the pharmacy or hardware store, or with coupons your children choose for their own "pretend" grocery shopping lists. If you use coupons, you can make this activity a regular part of your grocery shopping routine.

For more challenge, if your market doubles or triples the value of any coupons, explain how this works. Children can find the total value of the coupons with this information in mind.

Variations

Use a calculator (ages 7–11)

After your children do this activity with a calculator, ask them to check their results with a mental estimate. For example, they can round coupon values to the nearest 25¢ (round 45¢ to 50¢ or 99¢ to $1.00) and then figure the approximate total. Ask children to talk about times when it makes sense to use a calculator and times when it's just as easy or easier to find the total using common sense.

Do we have enough to save $5.00? (ages 5–7)

Provide about 10 coupons worth different amounts. Choose coupons worth 25¢, 50¢, or whole-dollar amounts. This is the challenge: Find out if there are enough coupons to save your family at least $5.00. (If you have a lot of coupons worth whole-dollar amounts, choose a larger total.) Ask your children to explain how they found the answer.

How can you sort the coupons? (ages 5–7)

This activity can help children work on sorting, logical thinking, and numbers. Provide 20 or more coupons for your children to sort into groups. They can decide what the groups will be. They might form categories like junk food, healthy food, things you can eat, things only pets can eat, or things you use to clean with. When they have finished sorting, ask number questions about their coupon groups:

"Which group has the most coupons? Which group has the fewest? Which coupon lets us save the most? The least?"

8

Wish list

Materials

- A mail-order catalog or advertising supplement likely to contain items of interest to your child. If your child's school sends home book club order forms, you can use those.
- Pencil and paper
- Stick-on notes (optional)

"There are so many great things in this catalog. If I had $50 to spend, what would I buy?"

Mail-order catalogs and advertising supplements can be a temptation, a convenience, and an annoyance. They can also be an opportunity for lots of math! In this activity, children pretend they have a certain amount of money to spend. They use a catalog or an advertising supplement to make a "wish list" of items they can buy for their spending limit. As they make their choices, they practice addition, subtraction, and estimation with dollars and cents. They also learn about working within a budget.

This activity can be a great way to keep children occupied—and doing math—on long trips, at the kitchen table while you're making dinner, or on rainy days.

Before you begin

Pick a spending limit for your child's wish list. The limit need not be realistic, since this is just a wish list.

For children ages 7–9 try a limit between about $25 and $50 the first time you do the activity.

1. What would you get?

Provide a catalog or advertising supplement for your child to look through and suggest making a wish list.

"That easel and paint set would be fun to have. They're not in our price range, but let's pretend we could get some things from this catalog. What would you get if you had $100 to spend?"

Explain that your child can't go over the spending limit, although it's OK to spend a little less.

2. Make a wish list

Your child can record items and prices, or use stick-on notes to mark pages that have items of interest.

If your child needs ideas for getting started, suggest one of these first steps:

Start with one item. Subtract the cost of that item from the spending limit. How much is left to spend?

Start with two items and find out how much they cost together. Are you past the spending limit yet? If so, exchange at least one item for a cheaper one. If not, choose another item.

Round any "dollars and cents" prices to the nearest dollar. If an item is $5.95, call it $6. If it's $5.25, call it $5. Use the whole-dollar prices to do some quick calculations or estimates. Once you get close to your spending limit, figure out the exact amounts to make sure you're not over.

Some children will try several (or many) combinations of items before they settle on a list that is within the spending limit.

If some of the calculations are too challenging, talk through how you would do them yourself. Next time, choose a lower spending limit.

3. Discuss everyone's choices

Listen to your children tell how they made their choices. If they don't mention any calculations, encourage them to tell you about this, too.

"You chose some great things! How did you keep track of all the prices to make sure you stayed under your limit? … Did you come up with any combinations of things you wanted that were over your limit? … So, then what did you do?"

If you notice errors in calculating, encourage your children to explain their thinking further.

"So, you added 18 and 14, and got 31. How did you get that?"

Children may notice and correct mistakes as they talk about how they got their answers. If not, help them work through their own approach again. For example, suppose your child says, "First I added 10 to 18, that's 28. Then I added 4 more—28, 29, 30, 31." Let your child know what was successful, then talk through the trouble spot.

"That's a good way to do it—tens first, then ones. So you have 28 and you want to add 4. What's 28 and 1 more? … OK, 29. What's 28 and 2 more? … 3 more? … 4 more?"

When you repeat this activity

Use different catalogs and advertising supplements, and vary the spending limits. Ask your children to explain some of the calculations they are doing as they make their wish lists, and encourage them to check their work by doing the calculations in a different way.

Variations

Use a calculator (ages 7–11)

Many adults use calculators when doing routine calculations at home and at work, so it's important that children have a chance to learn what calculators can do. As children are making their choices and checking to see if they've reached the limit, ask them to tell you how they're using the calculator.

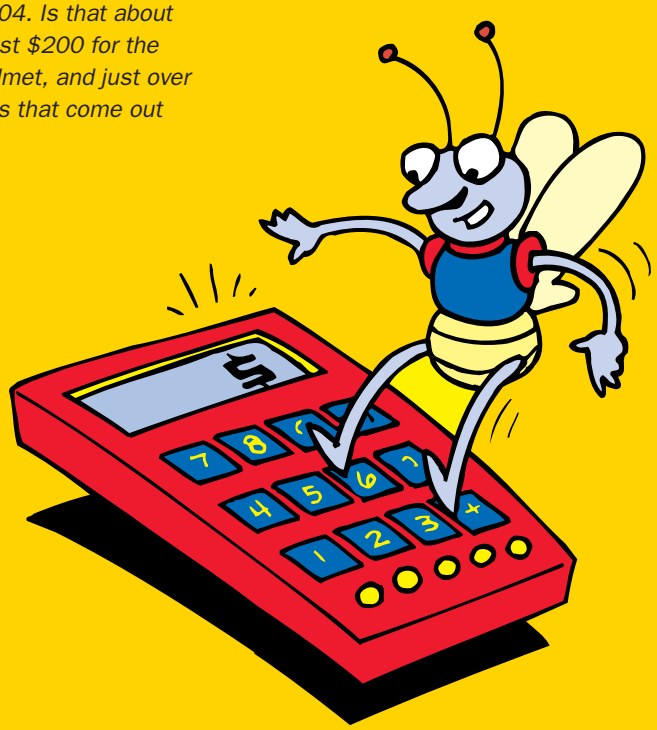
"So, what did you enter? … Did you add or subtract? … That number on the calculator display—what's that the total of?"

Let children know that when they use calculators, it's important to make sure they've entered correct calculations. Encourage them to check their results with a mental estimate.

"So the total for the bicycle, helmet, and sneakers comes out to $304. Is that about right? Let's see—it's almost $200 for the bike, about $40 for the helmet, and just over $50 for the sneakers. Does that come out close to $300?"

What do we save? (ages 7–11)

Sometimes mail-order companies put out "sale" catalogs in which some or all of the items are reduced in price. Usually, both the original price and the sale price are given. Ask your children to decide what they would buy for a given spending limit, and also to calculate how much they would save from the original prices.



Let's Play Store

What you'll need

Empty containers (cartons or boxes), old magazines, books, newspapers, calculator, pencil or crayon, and paper

What to do

1. Help your child collect empty containers so that you can play as if you were shopping at the grocery store. Gather the items and put them on a table.
2. Help your child think of a price for each item. Mark the prices on the containers. You can even mark some items on sale.
3. Pretend to be the customer while your child is the cashier.
4. Teach your child the difference between the math symbols (+, -, ÷, x, and =) and how they are used when using the calculator. Help your child add the prices of each item on the calculator and total the amount using the (=) symbol. Have your child write the total on a piece of paper, which will be your receipt.
5. While you and your child play store, you can ask questions likehow much would it cost to buy three cartons of eggs? How much does 1 box of soap cost, if they are 2 for $5.00? How much is my bill, if I don't buy the cereal? How much more will it cost if I buy this magazine? Have your child estimate the amounts of the items you are buying. Check to see if the estimation is correct on the calculator.

Parent Pointer
! Learning to use the calculator will help your child understand and apply estimation and reasoning skills, as well as learn addition, subtraction, division, and multiplication.

Day 4 Science

Vocabulary

Learn the new science vocabulary words below. You will use these vocabulary words in today's activity.

- **Convertible:** (noun) A car with a soft roof that can be folded back
- **Outrageous:** (adjective) Bold or shocking
- **Submarine:** (noun) A ship that can go underwater
- **Submerged:** (adjective) Under the water
- **Submersible:** (adjective) Able to go underwater

Activity: *A Car That Swims (English or Spanish)*

- Read the article below and answer the questions that follow.
- Para Español clique aquí: http://SCHOOLS.NYC.GOV/Documents/teachandlearn/LearnatHome/ELL/5day4sp.pdf

GENEVA, Switzerland (Achieve3000, March 19, 2008). A Swiss company has invented a car that runs on land and underwater. It's called the "sQuba."

"We always want to do cars that are outrageous, which nobody has done before. So we thought, 'Let's make a car dive,'" said Frank Rinderknecht. Rinderknecht is head of Swiss designer Rinspeed Inc.

In designing the sQuba, Rinderknecht was reminded of the famous movie spy James Bond. Bond once drove a car that could travel on land and, when needed, plunge into water, becoming an airtight submarine. Rinderknecht said that he has been waiting 30 years to recreate the car that he saw Bond drive under the water.

Rinspeed calls the sQuba the first real submersible car. It travels like a submarine—either on the surface of the water or submerged. The sQuba has a top land speed of about 77 miles an hour. It slows down to about 3 miles an hour on the surface of the water. Underwater, it runs at 1.8 miles an hour. The car is able to run underwater because of the design of its motors. To make the car, Rinspeed started with a sports car that had a regular car engine. The company replaced it with several electrical motors. Three of the motors are in the rear of the car. One provides power on land. The other two provide power underwater. As a result, the sQuba can plow through the water at a depth of 30 feet.

Drivers and passengers might want to wear wetsuits, however. The car is a convertible.

"For safety reasons, we have built the vehicle as an open car so that the [passengers] can get out quickly in an emergency," said Rinderknecht. He added that the car has tanks of air, much like those used in scuba diving. The tanks allow passengers to breathe underwater.

Auto experts are thrilled with the sQuba. However, they're not so sure it's practical.

"Other than some kind of a movie situation, for Bond-like stuff…, I can't imagine [the sQuba] will have any practical value," said John Cabaniss. He works with a group that represents automakers. "Maybe people will

need [a car] to go from land to water, and [cross] a body of water—but underwater? Especially as it gets your suit wet."

Still, Cabaniss said that some things in the car might be used in future vehicles. For example, the sQuba's electric motors are powered by lithium-ion batteries. These are small, light, and powerful. They can help cars use less fuel. Other automakers are just beginning to work with lithium-ion batteries. Now, Rinspeed has demonstrated one example of their use.

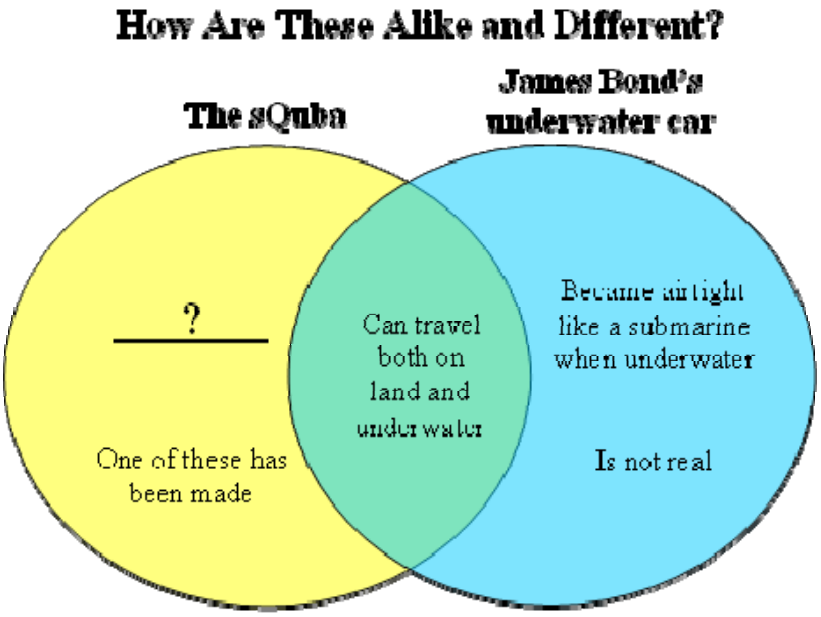
Is there any chance that the sQuba will become available to customers? According to Rinderknecht, the car still presents several challenges. It cost more than $1.5 million to make just one sQuba. And, it was difficult to make a car that could be controlled underwater.

"The real challenge . . . was to create a submersible car that moves like a fish in water," Rinderknecht said. Still, Rinspeed is talking with automakers about making a limited number of the cars. The sticker price for the sQuba would be high, which means that only a few people would be able to buy one.

"They might sell as toys for rich people, perhaps," said Rinderknecht.

The Associated Press contributed to this story.

Day 4 Science (continued)



Question 1: Based on the article, which best replaces the question mark on the line above? Was first sold in Switzerland 30 years ago

1. Is open, so passengers get wet underwater
2. Can travel 1.8 miles an hour on land
3. Has three regular car engines

Question 2:
What is this article mainly about?
1. A new car was tested in Switzerland.
2. A new car uses electric motors.
3. A new car can go underwater.
4. A new car is a convertible.

Question 3:
The reader can tell from the article that _____.
1. Driving underwater in the sQuba is probably different from any other car experience.
2. Rinspeed Inc. is probably planning to lower the sticker price of the sQuba.
3. Driving underwater in the sQuba will probably not use any fuel at all.
4. Rinspeed Inc. is probably planning on designing a flying car next.

Question 4:
Which of these is an opinion?
1. Frank Rinderknecht waited 30 years to make the sQuba.
2. Rinspeed Inc. should design an inexpensive underwater car.
3. Frank Rinderknecht is the CEO of Swiss designer Rinspeed Inc.
4. Rinspeed Inc. is talking to automakers about making more sQubas.

Day 4 Science (continued)

Question 5:
Which is the closest antonym for the word outrageous?
1. Practical
2. Physical
3. Prompt
4. Plump

Question 6:
Suppose you were writing a summary of the article. Which of these would be most important to put in the summary?
1. The sQuba travels at 3 miles an hour on the surface of the water.
2. Frank Rinderknecht wanted to make a car no one had made before.
3. The sQuba can travel on land, on the water's surface, or underwater.
4. John Cabaniss doesn't think the sQuba will have any practical value.

Question 7:
The article states: Is there any chance that the sQuba will become available to customers? According to Rinderknecht, the car still presents several challenges. It cost more than $1.5 million to make just one sQuba. And, it was difficult to make a car that could be controlled underwater.
Which would be the closest synonym for the word challenges?
1. Semesters
2. Strategies
3. Societies
4. Struggles

Question 8:
Which information is not in the article?
1. How much it cost to make the sQuba
2. The kind of batteries used in the sQuba
3. How many sQubas will be made for customers
4. The reason Rinderknecht wanted to build the sQuba

Day 4 Science (continued)

Additional Question

Plan a television ad for the sQuba. Describe your ad. What will you say and show to convince people that they want a sQuba? What kind of music or sound effects will your ad use? Use information from the article, and your own ideas, in your answer. Write your answer in the box below.

Achieve3000 (www.teenbiz3000.com)

Day 5 Schedule

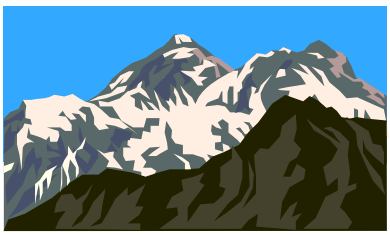
Subject	Minutes Per Day (At Least!)	Assignments	What Did I Learn Today?
English Language Arts	45	• Learn new vocabulary words from the Vocabulary List • Activity 1: Quickwrite • Activity 2: Read a critical essay • Activity 3: Write a response	•
Mathematics	45	Complete: • Activity 1: Which Holds the Most? • Activity 2: How Much is on the Floor?	•
Science	30	• Live From the Ocean Floor (English or Spanish)	•
Fitness and Health	30	• Exercise for 30 minutes. Choose from the Activity Calendars at the back of this packet	•
Arts	30	• Choose one or two activities from the Arts Activities at the back of this packet	•
TV Shows and Websites	30	• Choose TV shows and websites to further your learning at home	•

Day 5 English Language Arts

Vocabulary

- Learn new vocabulary words from the key vocabulary below and from Vocabulary List at the back of this packet.

Key Vocabulary



New Word: Mt. Everest
Definition: highest mountain on earth
From the story: In May of 1953, Sir Edmund Hillary and Tenzing Norgay became the first two people to climb the highest peak in the world: Mt. Everest.

New Word: attempt
Definition: try to do something
From the reading: George Mallory – who was one of the first people to attempt to climb it (Mt. Everest).

New Word: expedition
Definition: a group of travelers going on a journey (trip)
From the reading: He was a member of two more expeditions to the peak of Everest, the last of which took place in June of 1924.

New word: evidence
Definition: Something that can support an opinion or fact
From the reading: First, there is simply no hard evidence that it is true.

New Word: summit
Definition: top or highest point (of a mountain)
From the reading: …Mallory and Irvine weren't successful in reaching the summit…

Day 5 English Language Arts (continued)

Activity 1: *Writing*

- **Quickwrite**: Spend three minutes responding to the following question. When you are arguing for what you believe to be true, how do you get others to agree with you?

_____

_____

_____

_____

Activity 2: *Reading*

- Read the following persuasive essay by Rachel McMillan.

As you read the essay by Rachel McMillan, complete the following T-chart:

Why does the author believe Hillary and Norgay should be considered the first to successfully climb Mt. Everest? (Your own words)	How does she support her opinion? (Quote from the text)
1)	1)
2)	2)
3)	3)

Day 5 English Language Arts (continued)

In May of 1953, Sir Edmund Hillary and Tenzing Norgay became the first two people to climb the highest peak in the world: Mt. Everest. They were not merely the first to climb it successfully but the first to climb it, period.

I stress this because there seems to be some disagreement on the issue. Today, Hillary and Norgay top the list of people most associated with Mt. Everest. Before them, however, another name was the first to come up in discussions of the mountain – George Mallory – who was one of the first people to attempt to climb it. He lost his life on his third journey up the slope.

Along with Guy Bullock, his climbing partner, Mallory reached the first record height on Mt. Everest, 7,000 feet, on May 21, 1921.

He was a key member of two more expeditions to the peak of Everest, the last of which took place in June of 1924. It was on this last attempt to reach the summit of the mountain that Mallory died, as did his partner, Andrew Irvine. They appear to have been roped together at the time of a fall, most likely before they successfully reached the top.

However, to this day, there are people who would like to make the case that Mallory actually did succeed in being the first person to see the world from the top of Mt. Everest. They are wrong for several reasons.

First, there is simply no hard evidence that it is true. Those who would argue that Mallory and Irvine reached the summit rely mostly on the fact that it is possible, not on actual proof. There are a couple of details about Mallory's gear that seem to suggest he was on the way down the mountain when he died, but they are easily explained in other ways. The bulk of what evidence there is shows that it is not likely that they made it all the way to the top. Furthermore, most of their fellow mountaineers agree that it probably did not happen.

But, for the sake of argument, let's say that Mallory and Irvine were on their way back down the mountain when they perished. Does this change the fact that the distinction of being the first to climb Mt. Everest should go to Hillary and Norgay? Shouldn't the people who get to claim that honor actually have lived to tell about it? This may sound callous, but the fact is that making it to the top of the mountain is only half of the climb.

Furthermore, it takes away from everyone's legacy – Mallory's and Irvine's, and Hillary's and Norgay's – to suggest that the earlier expedition actually succeeded in reaching the top of the mountain. This is because discussions on the matter, which almost always end with people agreeing that Mallory and Irvine weren't successful in reaching the summit, highlight what those great explorers didn't do instead of their many accomplishments.

These conversations also cast a shadow of doubt over the amazing achievement of Hillary and Norgay. Without evidence to the contrary, they deserve to claim that they were the first to reach the top of Mt. Everest without needing to add "successfully" or "that we know of."

Day 5 English Language Arts (continued)

Activity 3: *Writing*

- Write a critical response about this argumentative essay. Tell why you do or do not believe the writer's argument. Use facts from the essay to support your opinion. Write your response on a separate sheet of paper or on the back of this sheet.

Use the following frame to guide your critical response. Use your graphic organizer to support your opinion.

I (agree/disagree) _____ with Rachel McMillan. I can support my opinion with the following information.

First, _____

_____

_____

_____

Second, _____

_____

Finally, _____

_____

In conclusion, Rachel McMillan is _____

_____

Day 5 Mathematics

Vocabulary

Learn the new math vocabulary words below. You will use these vocabulary words in the activities today.

- **Geometry**: Geometry is the science that studies the size and shape of things.
- **Dimension**: Refers to the length, width and height of an object. Each of these is one dimension of the object.
- **Volume**: Volume is the amount of space inside of something like a cube. Volume is always measured using linear measurements (like inches and centimeters) cubed to represent three dimensions.

Activity 1: *Which Holds the Most?*

Follow the instructions on the attached sheet. How do you know how much a container can hold?

Activity 2: *How Much is on the Floor?*

Follow the instructions on the attached sheet. To make an estimate would you just guess or use some strategy?

If you need Spanish activities for the concept of measurement**,** please follow the steps below.

1. Go to tutorial site: http://destination.nycenet.edu

2. Login with the following user ID and PW:
   - User: studentnyc
   - Password: student

3. Click on the Exploration Icon to access the tutorial

4. Scroll down to Mastering Skills & Concepts: Course II – Spanish

5. Select the skill/concept to review:
   - Activity 1: 3.2.1 - Time

Notebook:

In your notebook, please answer the following question:
How close were your estimates or predictions to the actual results? Did you get better as you got more practice?

These activities are from:
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect9.pdf
http://athomewithmath.terc.edu/english_PDF/math_ENG_sect2.pdf

9

Which holds the most?

Materials

- A variety of plastic containers and bottles (see "Before you begin")
- Large waterproof container or mat for catching any spills when you pour water (optional)
- Funnel or pitcher for pouring (optional)

"I thought this tall container would hold everything, but it doesn't! I'll try this other one—it's shorter, but much wider."

Estimating how much can fit in a container, box, or suitcase is a practical skill that involves the math of geometry and measurement. In this activity, children work on this important math as they look for the container that holds the most water. They learn about length, width, and height—the three "dimensions" of three-dimensional shapes. They also learn that it's important to consider all three dimensions when you're trying to figure out what's the biggest.

Try this activity when you have a few extra minutes and are near a water source (the kitchen tap, the bathtub, an outdoor hose, or the beach).

Before you begin

Gather a few empty plastic containers in different sizes and shapes. You can use storage containers, toy bottles or pails, or containers that once held safe household products such as dish soap, syrup, or juice. (Clean them, and if possible, take the labels off.) Try to include some containers that hold about the same amount but look very different.

1. Predict which can hold the most

Ask your children to predict which container would hold the most if all the containers were full.

"What if we filled these empty containers all the way up with water—which one do you think would hold the most water?"

Some children may look at measures on container labels (such as "16 fl. oz." or "295 ml") to find which container holds the most. If this happens, suggest that just for fun, everyone should try predicting without looking at the labels.

2. Explain the predictions

Ask your children to give reasons for their predictions.

"Why do you think this one will hold the most?"

If they say, "It just looks bigger," encourage them to think about size and shape.

"Is the one you think will hold the most the tallest? Widest? Roundest?"

3. Test the predictions

Start with a container that someone thinks will hold the most. Fill it with water. If it's really the largest, there should be some extra when you pour the water into any of the other containers.

Choose another container and pour the water into it. (A funnel or pitcher can make the pouring easier.) Is there any water left over?

Keep trying this with different containers until you're sure which one holds the most.

4. Discuss whether the predictions matched the results

If your children were surprised about which held the most, encourage them to consider size and shape:

"We both predicted that this tall, thin shaving lotion bottle would hold the most, but this round shampoo bottle held the most. I wonder why. Do you think it's something about how wide it is?"

When you repeat this activity

Try some different containers—larger or smaller ones, a variety of sizes and shapes. Encourage younger children to use more "size and shape" words (such as wide, long, tall) as they talk about the containers. Challenge older children to find containers in the house that hold about the same amount but are shaped very differently.

Variations

How many times larger? (ages 7–11)

Gather a variety of empty containers. Include a small one (such as a spice jar) to "measure" the others with. Then, make some predictions:

"Let's say we want to fill up this big syrup bottle with water. We're going to do it by filling this little jar with water. Then, we'll pour the water from the little jar into the syrup bottle. How many times do you think we'd need to do that in order to fill the syrup bottle all the way up?"

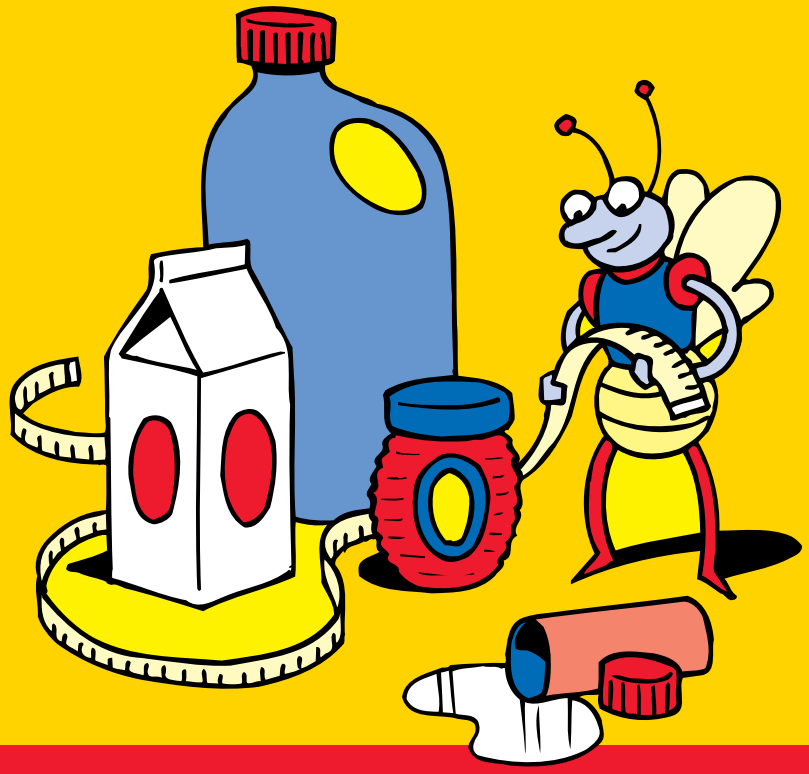
Check predictions by filling the containers with the small one you are using to measure with. Keep track of how many times you pour. If the containers are marked with how much they hold, challenge older children to verify their predictions with calculations based on these capacity measurements, too.

Check with measurements (ages 7–11)

Try this when you're unpacking groceries, organizing shelves, cleaning out the refrigerator, or searching for a container to store leftovers. The containers you use can be empty, full, or partly full.

Choose containers that are marked with how much they hold. Look for this measure on the labels of liquid products (such as honey, liquid detergents, and juice). Some plastic storage containers have this measure on the bottom. This measure is often given in both fluid ounces (fl. oz.) and milliliters (ml). You may also see liters (L), cups (c.), pints (pt.), quarts (qt.), or gallons (gal.). For this activity, use containers marked with the same units.

Ask your children to predict which would hold the most if they were all full. After children make their predictions, show them where one container is marked with how much it holds. Help them find a similar marking on each container, and then ask which number is largest.



2

How much is on the floor?

Materials

Ordinary household clutter

"Oh, Mom! Do I really have to clean up everything?"

Sometimes a little math can make chores more interesting. In this activity, children estimate how many things are scattered on the floor (or in some other cluttered place) and then count the things as they put them away.

Before you begin

Choose something your child can count and put away, such as crayons scattered on a table or toys on the floor. When you can't be available to help your younger children count, choose an area with limited clutter so that they'll be able to do the counting themselves. (Many 5- and 6-year-olds can count only 10 to 20 items accurately, even if they can recite the "counting numbers" much higher.)

1. Estimate how many things there are to put away

Ask your child to make an estimate—or to guess the number of items to be picked up.

"About how many things are we looking at here—about 10? About 50? Closer to 100 or 1000?"

Some children's estimates will be on the high side. They might say there are a thousand or even a million things on a messy floor. Over time, as they practice counting and estimating, their ability to judge amounts will improve.

2. Count the things as they are put away

Suggest that your children count each item that they put away. If you are supervising, you can help younger ones count as the numbers get larger.

3. Compare the actual count with the estimate

Part way through cleanup, give your child a chance to revise the original estimate.

"You predicted that there were about 1000 books on the floor. So far, you put away 29, and there are just a few left. Do you still think there are about 1000? Do you want to change your prediction?"

When the chore is done, compare the actual count to the latest estimate. If the estimate was "way off," assure your child that an estimate is just a guess, and that learning to make close estimates can take a long time.

When you repeat this activity

To give children lots of practice judging amounts, try this activity in different situations: when there are small things like beads or buttons to put away, larger items like clothing or shoes, or items of all different sizes. If you've been helping young children count, see if they can do more of the counting themselves.

Variations

Would that be enough? (ages 5–9)

Decide on a particular number of things for your children to put away. Before they begin, ask them to predict whether that amount is "enough" to clear all the clutter. Vary the task for children of different ages.

For ages 5–7: Give the children a total number of items. *"Look at all these toys on the floor! If we put away 15 toys, do you think we'd get the floor clean? Or would there still be some left on the floor?"*

For ages 7–9: Specify an amount for each of several people to pick up. *"There are three of us here to unload the dishwasher. What if we each put away 14 things? Would that be enough to empty the dishwasher? Let's try it and see."*

What's the most? (ages 5–9)

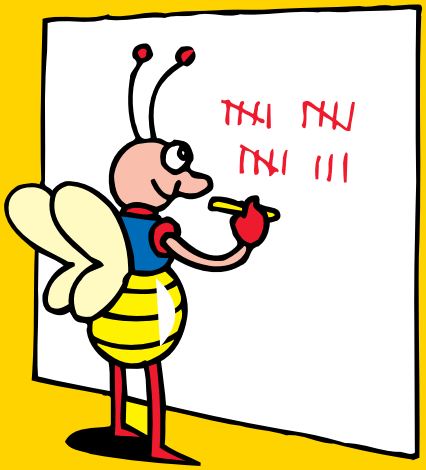
Try this when there are different kinds of things to put away—for instance, when you're sorting clean laundry that includes different kinds of clothes, or when there are different types of art supplies (markers, crayons, sheets of paper) on the table. First, make an estimate. Then count as you sort and put away.

"Let's take everything out of the clothes dryer. Do you think there are more socks, shirts, or towels in this load of laundry?"

"Who do you think has the most clothes in this load of clean laundry—you, Tony, Marco, me, or Mom? Let's sort the laundry to see!"

How many can you put away in a minute? (ages 5–9)

This works well when there are lots of little things scattered around. First, everyone estimates how much they can put away in exactly one minute (or some other amount of time). Then an older child or adult is the timer while everyone else picks up and counts. When the time is up, compare your estimates with your actual counts.



Day 5 Science

Vocabulary

Learn the new science vocabulary words below. You will use these vocabulary words in today's activity.

- **Ambulance:** (noun) A van that brings people to a hospital
- **Communicate:** (verb) To share information
- **Remote:** (adjective) Controlled from far away
- **Research:** (noun) Close, careful study

Activity 1: *Live From the Ocean Floor (English or Spanish)*

- Read the article below and answer the questions that follow.
- Para Español clique aquí: http://SCHOOLS.NYC.GOV/Documents/teachandlearn/LearnatHome/ELL/5day5sp.pdf

WASHINGTON, D.C. (Achieve3000, September 19, 2007). Undersea explorer Robert Ballard sits aboard the Alliance. It is a vessel that does research in the Black Sea, near Ukraine. Ballard is looking at screens above his desk. There, he can see images being sent from a remote camera. The camera is scanning the sea floor. No human has ever before seen this area, the deepest part of the sea. Using the Internet, officials in the U.S. study the images as they are being taken.

The images are being sent from a new vessel, the Okeanos Explorer. Ballard is testing the ship's equipment. The ship will be the first government vessel dedicated to exploring new parts of the ocean, particularly its deepest areas.

"Its mission . . . is to go where no one has gone before on planet Earth," Ballard said.

Scientists are in charge of Okeanos Explorer. However, they did not name the vessel—students did. Two years ago, the government set up a contest. It challenged students across the country to come up with a name. Over 400 entries were received. Okeanos Explorer was chosen as the winner. The name was suggested by students from Woodstock High School in Woodstock, Illinois. The name seemed to fit. Okeanos is the ancient Greek word for ocean.

The Okeanos Explorer will use the Internet to communicate with universities and science centers across the country. This will allow dozens or hundreds of scientists to take part in Okeanos Explorer's studies. The scientists will not have to leave their homes or universities.

Since the Okeanos is studying the unknown, scientists do not know what they will find. Based on their discoveries, they may need to call on scientific experts. Ballard compares the situation to a hospital emergency room.

"An emergency room has no idea what the ambulance is going to deliver," Ballard explained. "[Emergency room workers] don't know if it's going to be a head injury, a mother having a baby, a heart attack, or whatever." Therefore, the hospital has a system for many types of doctors to be on call. "Now we're doing the same sort of thing."

Day 5 Science (continued)

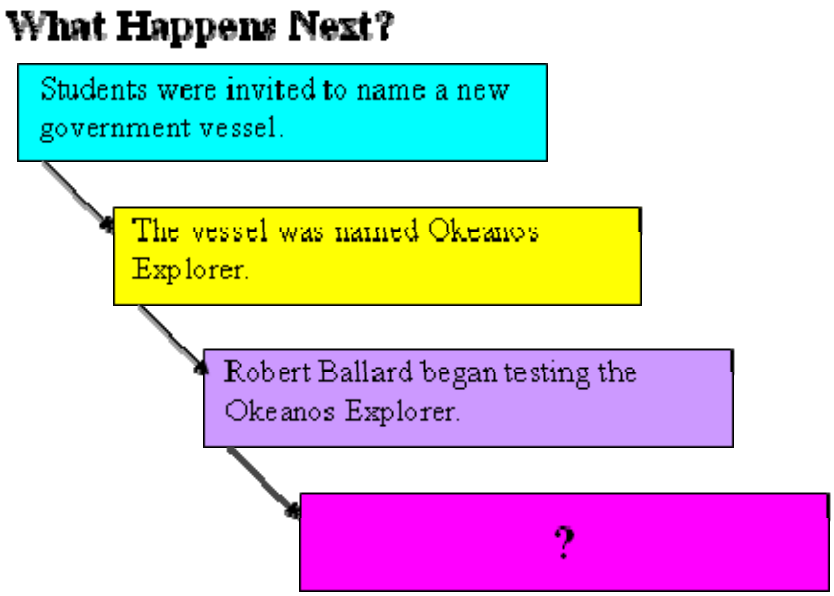
Communications between the vessel and the scientists will go through a center in Rhode Island. The center will operate like the NASA space center. How? The space center is always in contact with astronauts in outer space. In the same way, Rhode Island will be in contact with the scientists at sea.

For now, though, Ballard is still testing the equipment. During one test, an underwater camera moved across the floor of the Black Sea. It came across what appeared to be the remains of a shipwreck. It's not the first shipwreck that Ballard has found in the Black Sea. The deepest parts of the sea contain no oxygen. Therefore, there are no sea worms to eat the wood of ancient vessels. Off the coast of Turkey, Ballard found a sunken vessel so complete that even the 1,000-year-old masts still rose upward. Wreck sites are often littered with containers once used for wine, oil, honey, and other trade goods. Ballard is most interested in this type of underwater study because it's what he knows most about.

Testing should be finished next year. When it is complete, students and teachers will also be able to watch research as it happens. What will they be able to see? No one knows what may be discovered—not even the experts.

The Associated Press contributed to this story.

Day 5 Science (continued)



Question 1: Which best replaces the question mark in the diagram above?

1. Robert Ballard will discover his very first shipwreck.
2. The Okeanos Explorer will begin to be used next year.
3. Robert Ballard will find the sunken ship with 1,000-year-old masts.
4. The Okeanos Explorer will be built for use far out at sea.

Question 2:
What is this article mainly about?
1. Designing undersea communication devices for NOAA
2. Finding creatures in the Black Sea with a new vessel
3. Being in charge of a NOAA center in Rhode Island
4. Exploring new parts of the ocean floor with a new vessel

Question 3:
According to the article, why will Okeanos Explorer use the Internet?
1. To look for students from different high schools to help explain discoveries
2. To prevent ships from sinking to the deepest parts of the Black Sea
3. To send images to scientists so they can participate in the exploration
4. To save the animals that live on the ocean floor

Question 4:
The reader can tell from the article that _____.
1. Scientists must think that students want to watch scientific research.
2. Okeanos Explorer will probably be used by NASA.
3. Scientists must think that students don't know how to use the Internet.
4. Okeanos Explorer will probably be run by teachers.

Day 5 Science (continued)

Question 5:
Which is the closest synonym for the word remote?
Hint: A synonym is a word with the same meaning. Sick and ill are synonyms.
1. Divided
2. Dizzy
3. Different
4. Distant

Question 6:
Which information is not in the article?
1. What the Okeanos Explorer runs on
2. Who named the NOAA's new vessel
3. What kind of discoveries could be made
4. Who is testing the NOAA's new vessel

Question 7:
The article states:
The center will operate like the NASA space center. How? The space center is always in contact with astronauts in outer space. In the same way, Rhode Island will be in contact with the scientists at sea.
Which would be the closest synonym for in contact? Hint: A synonym is a word with the same meaning. Sick and ill are synonyms.
1. Patient
2. In touch
3. Popular
4. In case

Question 8:
Which of these is an opinion?
1. Robert Ballard is testing the Okeanos Explorer in the Black Sea.
2. The Okeanos Explorer can send images from a camera.
3. Robert Ballard has already found shipwrecks in the Black Sea.
4. The Okeanos Explorer needs better equipment.

Day 5 Science (continued)

Additional Question

What could kids learn by studying information from the Okeanos Explorer? How would this information be helpful to scientists?

Use ideas from the article, as well as your own ideas, to help write your answer.

Write your answer in the box below.

Achieve3000 (www.teenbiz3000.com)

Vocabulary List: Grades 4 and 5

ELA	Science	Math	Social Studies	Non-Content Specific
abbreviate	aerodynamic	2-dimensional shape	abolitionist	ability
acrostic	ascend	3-dimensional shape	agriculture	accomplishment
adjective	beneficial relationships	acute angle	Algonquian	accurate
adverb	buoyancy	angle	alliance	achievement
annotate	capacity	area	annexation	acquire
antonym	catapult	bar graph	aqueduct	adapt
article	circuit	centimeter	architect	address
associate	classification scheme	certainty (probability)	architecture	adequate
autobiography	condensation	circumference	artifact	adjust
biography	conductor	cluster	assembly line	adopt
brainstorm	consumer	common denominator	biography	advantage
category	controlled experiment	concave	bodies of water	affect
characteristic	current	concentric	caste system	analyze
chronological order	cycle	congruent	century	apply
citation	data	constant	charter	approach
climax	decomposer	convex	chronology	appropriate
community	dependent variable	cube	citizenship	approximate
composition	deposition	cylinder	civil rights	argument
conclusion	depth	data	climate	arrive
conflict	descend	decimal	colonist	article
conjunction	distance	diagram	colony	aspect
dialect	earthquake	dividend	communism	assess
dialogue	ecosystem	divisibility	compass	associate
dilemma	electromagnet	division	conquest	attach
draft	erosion	endpoint	constitution	attitude
edit	evaporation	equation	continent	attract
editorial	experiment	equilateral triangles	convent	audience
example	factor	equivalent forms	corruption	average
excerpt	fires	estimation	court	aware
explanation	floods	even numbers	craft	balance
expository	food	factors	credibility	below
fable	food chain	fraction	culture	bold
fantasy	food pyramid	gram	custom	brainstorm
fiction	food supply	greatest common factor	debt	brief
first person	food web	horizontal axis	diplomacy	categorize
flashback	growth	improper fraction	discovery	category
genre	harmful relationships	inequality	document	cause
grammar	heat energy	intersect	Dutch	challenges
graphic organizer	hurricanes	isosceles triangle	Dutch West India Company	change
hero	hypothesize	least common multiple	Eastern Woodland Region	character
heroine	igneous	line	economic system	characteristic
homophones	independent variable	line graph	emancipation	chart
imagery	insulator	line segment	employment	clarify
inference	land form	mass	environment	classify
interjection	magnetic field	mean	era	coherent
introduction	magnetism	measurement	expedition	communicate
literal	mass	median	explorer	community

ELA	Science	Math	Social Studies	Non-Content Specific
literary device	measure	meter	export	compare
literature	metamorphic	metric system	factory	complete
memoir	minerals	midpoint	famine	comprehend
metaphor	Mohr's scale	mixed numbers	features	concept
mood	natural disasters	mode	food production	conclude
moral	natural processes	multiple	foreign policy	connect
motivation	nutrition	multiplication	freedom of expression	connection
myth	pendulum	negative number	freedom of religion	consequence
narrative	picture graph	number sentences	freedom of speech	construct
narrator	plot	obtuse angle	frontier	context
nature	precipitation	obtuse angle quadrangle	governor	contrast
noun	producer	odd numbers	historian	contribute
novel	propeller	order of operations	hunter-gatherer confederacy	cooperation
palindrome	recycle	parallel	immigrate	create
paragraph	repair	parallelogram	indigenous people	critical
paraphrase	rocks	percent	inhabitant	culture
participate	sedimentary	perimeter	institution	decide
plot	sequence of events	perpendicular	Iroquois	decrease
point of view	standard	perpendicular lines	justice	define
potential	substance	pie chart	key	demonstrate
prediction	system	point	kingdom	dependence
prefix	topography	polygon	labor	dependent
primary	tornadoes	positive number	landform	describe
prior	trajectory	prime number	landowner	design
pronoun	trial	prism	law	determine
prose	tsunami	probability	league	diagram
punctuation	two-coordinate graph	process of elimination	Lenape	difference
quality	variable	product	local resource	different
quotation	volcanoes	proof	log	differentiate
quote	volume	pyramid	longhouse	discovery
relevant	vortex	quotient	manufacturing	discuss
report	water cycle	radius	mass production	display
requirement	water displacement	ray	media	distinguish
research	weathering	rectangular prism	merchant	effect
resolution	x-axis	remainder	middle class	element
revise	y-axis	rhombus	migrant	emotion
rhyme		right angle	mill	emphasize
rhythm		right angle	missionary	enhance
root		rotation	modernization	essential
scene		rounding	mother country	establish
sequence		ruler	motive	estimate
setting		scale	mountain	evaluate
simile		sphere	Muslim	event
society		survey	native	evidence
stanza		trial and error	natural resource	examine
suffix		variability	navigation	expect
summarize		vertex	New Netherlands	explain
support		vertical axis	occupation	explanation
syllable		volume measurement	ordinance	explore

ELA	Science	Math	Social Studies	Non-Content Specific
synonym thesis statement third person tone trait transition verb verse			overseas trade patriot peasant people pilgrim plague plantation point of view population poverty primary source production protest raw materials reconstruction reform sachem scale settlement slave slogan societal roles tax tenant territory tobacco tolerance topography trade tradition unification	express fact factor feature focus formulate fragment frame function generalize generate graph height horizontal idea identify illustrate imagination implement implicit include increase independent indicate infer information interaction interpret interview investigate issue journal judge judgment justify key knowledge label likely literal locate model objective observe occur opinion opportunity organize pattern perspective position predict

ELA	Science	Math	Social Studies	Non-Content Specific
				prepare primary probably problem procedure process quote react reason recognize record reflect reflection relate relationship relevant represent resource restate resulted in results review revise role sample scale separate sequence several similar solve source statement strategy structure summarize support synthesize system theory trait transfer valid variable verify vertical

Fitness and Health Activities

Participate in **30 or more minutes** of daily physical activity. Choose **at least three (3) activities** from the options below and the following calendars. There is something for everyone! Each one takes about 10 minutes. Increase your heart rate, improve flexibility, and build muscle strength!

If you have access to the Internet, you can track your physical activity by going to http://www.bam.gov/sub_physicalactivity/cal_index.asp, where you can create a customized physical activity calendar.

GRADES 3-5

- Activity Calendar– online at
  - http://www.aahperd.org/naspe/Toolbox/pdf_files/May09/Calendar_Elem_Eng.pdf (English)
  - http://www.aahperd.org/naspe/Toolbox/pdf_files/May09/Calendar_Elem_Span.pdf (Spanish)
- Small Space Energizers – online at
  - http://www.ncpe4me.com/pdf_files/K-5-Energizers.pdf
- "10 at a Time" Activity Calendar – online at
  - http://www.aahperd.org/naspe/Toolbox/pdf_files/May09/Ten.pdf
- Get up and Move Game from "Lazy Town" – online only
  - http://www.noggin.com/games/lazytown/lazy_getup/
- Muscle Strengthening Routine at Home – online only
  - http://cdc.gov/physicalactivity/everyone/videos/index.html

May 2009
Elementary Physical Activity Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Duplicated with permission from the National Association for Sport and Physical Education (NASPE). To assess whether your child is receiving a quality physical education program, visit www.naspeinfo.org/observePE for an observation assessment tool.				**1** *Find a big target and throw as hard as you can at it. Step right at the target with your opposite foot.*	**2** *Rainbow game-play with a friend. Name a color- both of you run and touch 3 things of that color. Run fast!*
3 *Log rolls outside in the grass.*	**4** *Play opposite-run fast, run slow, skip high, skip low, march soft, march hard.*	**5** *Play catch with a friend- eyes on the ball, reach, and pull it in to catch it. Coach each other. Can you catch 100 times?*	**6** *Make a hopscotch court and play with family or friends. For ideas, go to: http://www.streetplay.com/rulesheets/pdf/hopscotchsheet.pdf*	**7** *Go outside and run-try different pathways- straight, zigzag, and curved; change speed-fast, slow.*	**8** *Spring cleaning- pick up sticks and grass clippings in the yard.*	**9** *Animal walks-move like a monkey, a rabbit, chicken, a dog, a snake, and a kangaroo.*
10 *Play jacks with a friend. No jacks? Use a little ball and some small stones. Go to: http://www.ehow.com/how_2964_play-jacks.html*	**11** *Can you throw a Frisbee®? Practice with a friend. How many catches can you make? Can you hit a target?*	**12** *Practice dribbling a ball with your feet today.*	**13** *Play statue. Hold a position for 10 seconds, and then try another pose.*	**14** *Balance on four body parts. Then try three. Then balance on two. Can you make different body parts be your base?*	**15** *Try doing cartwheels outside. Remember to start and land with your body sideways.*	**16** *Baseball season is here-practice striking a soft ball off a tee or from a pitch.*
17 *Climb on something today. Plan where to put your hands before you reach.*	**18** *Practice volleying with a friend-use a racquet or paddle. No paddle? Use a Frisbee® to strike.*	**19** *Race your friend today in the playground during recess.*	**20** *Set up bowling on your sidewalk or deck using empty water bottles filled with sand or water.*	**21** *Jump rope today. No rope? Pretend!*	**22** *Go on a neighborhood hike today with a friend- count how many things you see that can be used for physical activity.*	**23** *Practice skipping, skip everywhere you go today. Remember to step hop, step hop, over and over.*
24 *Find some stairs-run up and down the stairs ten times today.*	**25** *Do some sit ups - can you do 25 sit ups?*	**26** *List all the active words you know-do the activities ten times each today.*	**27** *List all the different things you can do with a ball and practice them.*	**28** *Play balloon volleyball over a chair with a friend. Can you keep it up?*	**29** *Do some push-ups outside with your hands on a railing or wall.*	**30** *Go to your local park and play on the playground equipment.*

May 2009
Ten At A Time Physical Activity Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Need help remembering exercises? Go to http://www.shapefit.com/training.html#8 for demos of exercises.	***Duplicated with permission from the National Association for Sport and Physical Education (NASPE). To assess whether your child is receiving a quality physical education program, visit www.naspeinfo.org/observePE for an observation assessment tool.***			*Each day lists one exercise that can be executed "10 at a time". Keep track of each set of 10 reps you accomplish throughout the day, or for cardio, ten minutes of the activity.*	***1 Squats w/ hands behind your head.***	***2 Power-walk 10 min.***
3 Tricep dips.	***4 Bench press.***	***5 Jump rope.***	***6 Concentration curls.***	***7 Lying hamstring curl.***	***8 Sitting overhead press.***	***9 Lying leg raise.***
10 Lifting side plank.	***11 Inclined push-ups.***	***12 Yoga plank position.***	***13 One-arm row to both sides.***	***14 Twisting crunches.***	***15 Stiff-legged dead lift.***	***16 Jump rope 10 min.***
17 Tricep extensions.	***18 Declined push-ups.***	***19 Knee tucks on a bench.***	***20 Bicep curl w/resistance.***	***21 Crunches with a basketball held under your chin.***	***22 Alternating walking lunges.***	***23 10 min power walk/jog.***
24 Toes to ceiling on bench.	***25 Wide arm push-ups.***	***26 Twisting bench crunch.***	***27 Superman.***	***28 Standing shoulder press.***	***29 Calf raises off a step.***	***30 Single leg lift.***

Arts Activities for Grades 3-5

A number of the activities listed reference specific works of art. If you are not familiar with them you may find them on the internet (even the performances). However, these are provided as examples, and you can substitute similar works of art with which you are familiar or to which you have access.

All Arts Activities taken from the *Blueprints for Teaching and Learning in the Arts: Grades PreK-12.*

DANCE

- Practice exercises and combinations learned in a dance classroom that build on strength, awareness, coordination and control.

- Discuss what a dancer brings to dance and what a viewer brings to dance.

- Compare and contrast live or taped performances of dances that are narrative (e.g., Mark Morris' *The Hard Nut*) and abstract (e.g., Paul Taylor's *Esplanade*).

- Compare and contrast works by choreographers such as Jerome Robbins (*Fancy Free*), Fred Astaire/Hermes Pan (*Top Hat*), Paul Taylor (*Three Epitaphs*), Alvin Ailey (*Cry*).

- View videotapes of children studying dance in other countries (e.g., Russia: *The Children of Theatre Street*), and compare with students' own experiences in dance class.

MUSIC

- Listen to an American spiritual such as "Swing Low, Sweet Chariot" and, working in small groups, discuss feelings the song evokes. Use pantomime to demonstrate and capture responses.

- Listen to an orchestral piece such as "Dance Macabre" (Saint-Saens) and, in small groups, brainstorm/list the emotions and feelings evoked by the music. Discuss and report back to the class.

- Create instruments made from recycled or found materials.

- Use the Internet to identify music makers and music-making institutions in New York City.

- Go online and research the most unusual or unexpected jobs in the music industry.

- Develop 10 questions to ask a person in the music industry about jobs other than performing.

THEATER

- Through storytelling, puppetry, poetry jam or pantomime, tell a short original or traditional story, using theater skills. May be done solo or with siblings.

- Write a character biography or autobiography using the "5 W's" (who, what, when, where, why).

- Develop scenes through improvisation, theater games or writing that have distinct character, clear relationships, conflict, setting, actions and beginning- middle- end.

- Use situations from literature, history or current events to create tableaux (frozen body pictures), and then devise character monologues from that frozen moment.

- Measure a room at home, create a ground plan and place furniture according to the plan.

- Design a marketing poster and program with logo or illustration based on a particular story or play.

VISUAL ARTS

- Create a painting that demonstrates:
    - observation of detail
    - use of primary and secondary colors
    - use of tints and shades
    - balanced composition

- Looking at a work of art, discuss how the artists use detail, color, and balance to evoke a sense of place.

- Create a series of drawings that demonstrates:
    - volume
    - proportion
    - gesture
    - control

- Suggested theme: gesture drawings that show a figure at rest, work, and play. Refer to drawings by artists such as Leonardo da Vinci, Edgar Degas, and Keith Haring to explore the expressive use of line; the work of Reginald Marsh and Al Hirschfeld to examine gesture.

- Create a collage using hand-painted paper that demonstrates:
    - awareness of visual textures
    - mixing secondary and tertiary colors
    - designing and cutting out shapes
    - use of positive and negative space

Educational TV Shows

Channel	Show	Subject	Day	Time	Recommended Audience	Description
PBS-13	Cyberchase	Mathematics	Weekdays	8:00 AM; 5:00 PM	2-3, 4-5	Animated series featuring adventures driven by different math concepts. When the dastardly villain The Hacker launches a mad mission to conquer the virtual universe, Motherboard calls upon three Earth kids for help.
Discovery	How It's Made	Science, Engineering	Weekdays	9:00-10:00 AM	4-5, 6-8, 9-12	The show is a documentary program showing how common, everyday items (including food products like bubblegum, industrial products such as motors, musical instruments such as guitars, and sporting goods such as snowboards) are manufactured.
Animal Planet	Growing Up	Nature	Weekday	4:00 PM	4-5, 6-8, 9-12	Each episode is an hour long and follows the life (usually the first year) of a wild animal growing up in captivity.
HBO OnDemand	Crashbox	Science, Math, Vocabulary	OnDemand	27 minutes	2-3, 4-5	Crashbox is an educational television series that airs on the HBO Family digital cable television channel in the United States. It aims to educate grade-school children in history, math, vocabulary, and other various subjects.
HBO OnDemand	Earth to Kids: A Guide to Products for a Healthy Planet	Science, Environmentalism	OnDemand	27 minutes	2-3, 4-5, 6-8	Making the Earth a better place to live is the focus of this special on reducing, reusing and recycling trash.

Channel	Show	Subject	Day	Time	Recommended Audience	Description
WLIW	Maya and Miguel	ELA, Spanish	Weekdays	3:30 PM	2-3, 4-5	The show models how people communicate in English in a variety of social settings. Each episode also focuses on a particular set of vocabulary words, which are repeated throughout the show. In addition, *Maya & Miguel* fosters a positive attitude toward knowing and learning more than one language.