

# ART TO ZOO

News for Schools from the Smithsonian Institution, Office of Elementary and Secondary Education, Washington, D.C. 20560

April 1988

## Let the Phone Book Get Them Talking! Using the Yellow Pages as a Teaching Resource

What book was used over three-and-a-half-billion times last year?

The Yellow Pages!

As a consumer, you use them. As a teacher, you can too. The Yellow Pages can be a source of activities in subjects as diverse as history, math, writing, consumer education, art, career awareness, library skills, map reading. . . .

As they use the Yellow Pages, your students will have fun coming across places they actually go in their daily lives. And they will be reminded that there *are* connections between "real life" and what they learn in school.

This issue of ART TO ZOO is different from the usual, because it is about a resource rather than a subject. Instead of a single lesson plan designed to teach one particular point, this ART TO ZOO suggests a number of activities that vary widely in length, content, and difficulty. Each can be done on its own. Or several can be carried out in a series (over weeks or months).

How you use these activities will depend on your curriculum needs, the size of your community and Yellow Pages, the number of students in your class, their ages, and the feasibility of their going out in person into the community as part of their assignments. . . .

And the activities suggested here are just samples—no doubt you will develop your own ways of using this resource to meet your particular teaching needs.

### Getting Hold of Copies

If possible, the children should each have their own copy of the Yellow Pages: when the time for a new edition approaches (your local phone company can tell you the date), send a note home asking your students' parents to give their children the discarded edition to use in school.

(If the new edition comes out late in the school year, ask the teacher of the class you will have *next* year to make this request. In either case, it's wise to also ask other teachers and friends to save their old Yellow Pages for you, so you will have extra copies for children whose families can't provide one.)

### Introducing the Yellow Pages

First, you will need to make sure that your students understand what the Yellow Pages are, how they are organized, and why they are organized this way (by heading, rather than in simple alphabetical order, as the White Pages are.) After a brief explanation, you can use activities in this section to give the kids practice in these basics.

#### • Categories

This simple activity will familiarize your students with how the Yellow Pages are organized and sharpen their awareness of how many goods and services are involved in even the most commonplace aspects of their lives.

Provide a list of categories, for example: homes, clothing, animals, travel, health, communication, food, leisure. . . .

Ask each child to choose one category and then make a list of Yellow Page *headings* (not individual businesses' names) related to their chosen categories.

Emphasize that the list they make should be as inclusive as possible. The children should write down *any* goods and services involved in any stage of making, equipping, or servicing the items in their category. For example *homes* can include such headings as Apartment Rental Agencies, Contractors, Demolition Contractors, Furniture, Home Improvements, Insulation, Insurance, Landscape Contractors, Painters, Ranges and Ovens, Real Estate Developers, etc.

Have the children compile their lists individually, and then pool them in class.

#### • Yellow Pages Pictures

Here's an easy-to-set-up, easy-to-participate-in contest that can be adapted even for quite young children.

Give the kids a list of items, and challenge them to find a Yellow Pages picture of as many of them as possible within a time limit that you set.

Following are some items that often appear in Yellow Pages ads: dog, painter, truck, doctor, nurse, photocopying machine, computer, scissors, globe, roof, tile floor, glass, bouquet, helicopter, bus, dump truck,

clock, stove, tire, chair, uniform, gem, keyboard, sink. . . .

It's possible to find these pictures by flipping through the Yellow Pages at random. However, the children should quickly realize that they can search much more efficiently if they ask themselves in what kinds of ads these objects are likely to appear. It's clear that a clock is likely to appear in ads for clock companies; but they will have to think harder about items that don't correspond to a Yellow Pages heading—for example, to figure out that dogs might be found under Kennels, or a bouquet under Florists. (You can make the list easier or harder depending on which kinds of items you include.)

#### • Hey, I Know Them!

To begin, have the children discuss what kinds of businesses they and their families patronize regularly. Write their answers on the board: supermarket, drugstore, hardware store, carryout, clothing store, shoe store, bookstore, record store, video club, contractor, plumber, doctor, dentist, mechanic, shoe repair store, etc.

Once the children have created a fairly full list, have them choose at least ten kinds of businesses from the list and write down their choices.

Then, at home, have them record the name of the actual company their family uses in each of the categories they have chosen. (An adult at home will be able to help out with this.)

Once the children have the ten company names, they should find the Yellow Pages listing (or display ad) for each one, and cut it out (being careful to damage the phone directory as little as possible). If

*continued on page 2*



A woman using the Yellow Pages around sixty years ago.

continued from page 1

the business has both a standard listing and a larger display ad, the students should use the larger ad.

Finally, have each child make a "Family Yellow Pages" by mounting the ads they have cut out onto sheets of paper, in the order, and under the headings, in which they appear in the real Yellow Pages. They should staple their pages together to make a little booklet, and create a cover for it.

Then they can take their "Family Yellow Pages" home to keep near the phone.

● **A Yellow Pages Treasure Hunt**

Divide the class into teams. Give each team a copy of the same list of items and tell them that their task is to use the Yellow Pages to find places to buy the items on the list.

The winning team is the one that finds an appropriate source for the most items (you be the judge of which sources are appropriate).

Use the following list—or make up your own:

- a personalized T-shirt
- a video film
- industrial safety goggles
- a rototiller
- a Chinese dinner
- a rented violin
- a trophy (inscribed to one of your friends)
- a visit from a chimney-cleaning service
- rental crutches
- a fish tank filter
- bubble film for packaging
- an armored truck
- a private eye
- a rental tuxedo
- a ticket to Tokyo
- repairs on an iron gate
- campaign buttons for a school election
- a rental dump truck
- a bridal bouquet
- a filing cabinet
- business cards
- a saddle
- a hot-air balloon ride
- a unicycle
- a bulletproof vest
- Roman coins

**The Yellow Pages and Your Community**

Another purpose for which you can use the Yellow Pages is to help your students become more familiar with their community.\*

● **Bringing Things In, Sending Things Out**

Begin with a discussion: communities don't exist in isolation, especially not in late-twentieth-century America. They depend on the surrounding region, the rest of the country, and the rest of the world for many of the things they use. Conversely, they send things they want to sell or get rid of to other places.

Guide the class in establishing a list of categories of items that communities bring in or send out:

- |                    |               |
|--------------------|---------------|
| food               | people        |
| water              | information   |
| raw materials      | entertainment |
| manufactured items | pollutants    |

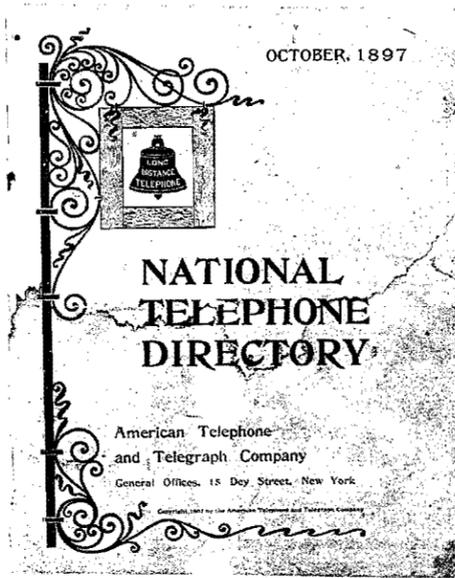
(Don't worry that the categories overlap.)

As you write them down, ask for examples. Some are straightforward, others more difficult. For instance, *information* includes printed materials, radio and television broadcasts, telephone and telegraph messages, computer software, technical expertise, and so on. . . .

When the children have understood the categories, give them copies of the following list of headings from the Yellow Pages (their lists should leave space for an answer to the right of each heading):

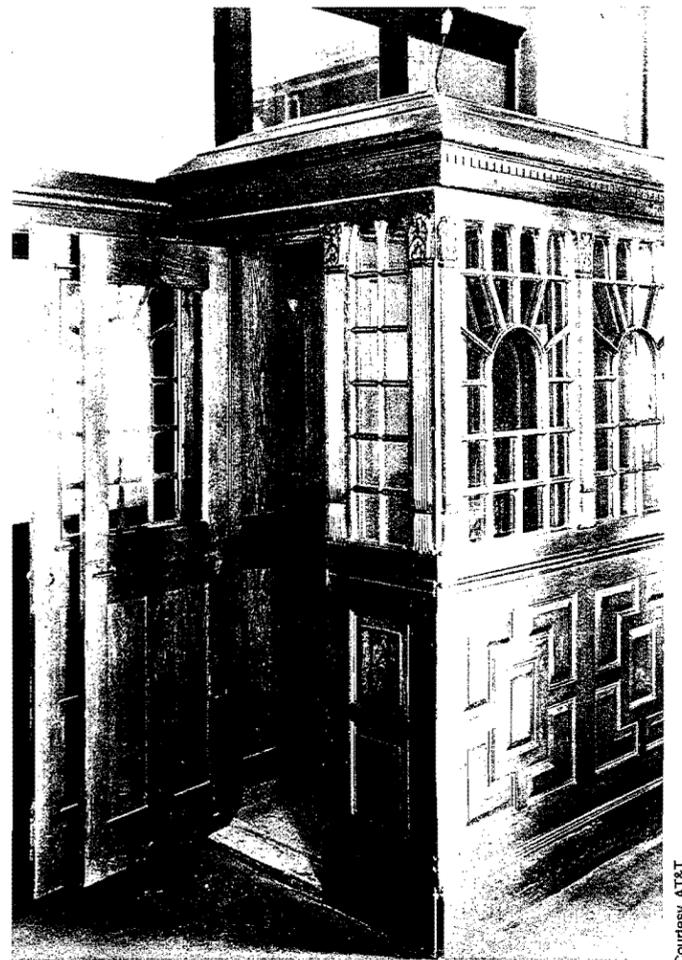
- |                    |                                  |
|--------------------|----------------------------------|
| Aircraft           | Mailing Services                 |
| Antennas           | Motels                           |
| Boats              | Motion Picture Film Distributors |
| Buses              | Moving and Storage               |
| Chimneys           | Newspapers                       |
| Computers—Software | Oriental Goods                   |
| Exporters          | Pipe Line Companies              |
| Freight Forwarding | Plumbing Contractors             |
| Grocers            |                                  |

\*Figure out ahead of time what you are going to define as *their community* (the area within your city limits? all the areas included in your Yellow Pages? the entire metropolitan region? the neighborhood where your school is located?) Choose an area that provides enough listings for variety, but not so many that the kids will be overwhelmed.)



Front of 1897 telephone directory. Courtesy AT&T

Phone booth of the type that was standard in the 1890s. This booth would probably have been decorated with rugs, lace, curtains, and fancy woodwork to impress users.



Courtesy AT&T

- |   |                   |
|---|-------------------|
| Publishers                                | Railroads         |
| Radio Stations and Broadcasting Companies | Telegraph Service |
|   | Travel Agencies   |
|   | Trucking          |

Tell the class that each of these kinds of businesses is involved in moving stuff into and out of the community.

But which kind of business is moving which kind of item?

Have the kids answer this for each of the Yellow Pages headings on the list, like this: Aircraft (people); Antennas (information); Chimneys (pollutants). . . .

Then have the kids compare their answers; often, more than one is possible. Finally, have them discuss what would happen if these things couldn't be brought in or sent out. Does this ever happen? (Certainly: during wars, floods, strikes, etc.) What are some possible consequences?

● **A Yellow Pages Commercial Map**

In this activity, your students will produce a giant map of a commercial area—either of the neighborhood around your school (if it is suitable), or of some nearby mall or shopping area.

**Step 1: Making Practice Maps of the School.**

First, have the kids practice by making a map of the ground floor of your school. Explain that the map should show the shape of the outside of the school (as seen from above); a floor plan of the ground-floor rooms should appear inside this outline.

When the children have succeeded in doing this correctly, they are ready to make similar maps of the commercial area you have chosen.

**Step 2: Making Preliminary Sketch Maps of the Commercial Area.**

First, the children need to visit the area in person, and make whatever notes and sketches they think they will need. They should also make a list of all the area's businesses that are located at street level. (They can make this visit to the area during classtime, as a group; or over a weekend, on their own or with their parents.)

Next, have each child prepare the same kind of map for the commercial area as he made for the school (in Step 1).

Then, in class, have the kids compare and correct their maps. A good way is for one child to reproduce her map on the chalkboard, and then have the whole class participate in correcting it. (Emphasize that making these maps is a *difficult* assignment. Encourage

the children to work together until they all understand how the map should look.) The final version of the map on the chalkboard can be the model for the wall map the class will soon be making.

**Step 3: Cutting Out Yellow Pages Ads.** There is one more step before drawing the wall map. Someone should cut out the Yellow Pages ads for these businesses (one copy of each is enough). Use large display ads whenever possible.

These ads are going to be pasted up in the space occupied by each business on the finished wall map.

**Step 4: Making the Wall Map.** Once the kids have all the Yellow Pages ads in hand, they can figure out the minimum size the wall map will have to be so even the largest ads fit. (There will probably be blank space around the smaller ads.)

This activity is most fun if the map is REALLY BIG. Have the kids fasten sheets of paper together to form one huge sheet, and then hang it on a wall of the classroom. (Be sure the paper has a hard, even surface behind it, so it can be written on easily.)

Then choose one or more kids to draw the final map. They should first work in pencil. When you have okayed their sketch, they can go over it with a bold marker. Finally, have other kids paste on the ads in the right spaces.

End the activity here . . . or move right on to the next one, "So You're Going into Business!"

● **So You're Going into Business!**

This activity is a continuation of the preceding one.

Before you begin to work on it with the children, add more paper to the edge of the wall map the class has made. This new paper should show one or more imaginary structures of about the size of the ones already on the map.

Tell the children that these new structures have just been built, and are now offering commercial space for rent. The children should pretend that they want to start new businesses in this space.

What kinds of businesses are likely to be successful there?

Have the class discuss what they need to know to answer this question. (What kind of people frequent the area? How old are they? Do they have much money to spend? What kind of tastes and interests do they have? Do they work or live in the area, or just go there for shopping or entertainment?)

(Emphasize that a person who was *really* thinking

Let Your Fingers Do The Walking! Shop the C&P Yellow Pages Way!

WHAT BOOK WAS USED 3.7 BILLION TIMES LAST YEAR?

What else? . . . the Yellow Pages.

3 out of 4 adults use it an average of 40 times a year. And 9 out of 10 follow up with a letter, visit, or telephone call. That makes the Yellow Pages a great buyer's guide.



WEATHER OR NOT SHOP BY PHONE USE THE YELLOW PAGES

of starting a business would also have to look very carefully into the *costs* of running it. Tell the children that *they*, however, will not be going into this question.)

Wind up this activity by asking the children to prepare three products. First, a paragraph saying what kind of business they have decided to start, and why they think it can be successful in this neighborhood.

Second, a paragraph explaining how they plan to promote their new business. What in particular will they say it offers customers—quality? economy? convenience? experience? variety? personal attention? reliability?

Third, a Yellow Pages ad for their new business. The content and style of the ad should make sense in terms of what they wrote.

#### • Take a Trip Abroad . . . Right in Your Own Community

A search through the Yellow Pages can give your students a taste of far-off places without ever leaving town.

Before beginning, check your Yellow Pages to make sure they include enough ethnic listings for the activity to be fun. (In some smaller communities, there may not be enough ads of this kind.) If there are enough, decide which culture (or cultures) to have your students explore.

The Restaurants section is usually a good place to start. Churches, Associations, and Gifts may provide entries. So can food stores specializing in the ingredients for foreign dishes. Are there foreign consulates in your community? Foreign language publications? Entertainers who specialize in the music or dance of a particular area? Movie theaters that show foreign language films? Travel agencies can also be a source of information and illustrations; some even specialize in a particular geographical area. And certainly museums are a wonderful resource: they can give the children a chance to see real objects from different countries. Even if the *focus* of the exhibits is on the United States, our population's diverse origins make it likely that materials suitable to your needs may be on display. Your local historical society, for example, may have materials about immigrant groups that have settled in your community.

You may want to follow up this activity by having the kids do further research on the culture with which they have been familiarizing themselves. Their final product could be an itinerary for an imaginary trip to the area they are studying. It should include a list of where they plan to go when, and an explanation of what they want to see in these places.

#### Looking at Ads, Creating Ads

##### • The Golden Phonebook Award

(This activity works best when your students have already used the Yellow Pages for other purposes, so they are familiar with many ads there.)

Tell the class that they are going to present the Golden Phonebook Award for the best ad in the Yellow Pages of the phonebook.

**Step 1: Preparing Judges' Scorecards.** To rate the ads, the children will be using a Judge's Scorecard. As judges in certain sporting events do, they will be awarding points in a number of categories.

First, they will need to decide what these categories should be. (How eye-catching is the ad? How catchy is its slogan? How appealing is its artwork? Does it give all the information a consumer needs? How original is it? How easy is it to understand? Does it stand out from other ads in its category? Does it inspire confidence in the company? Is it entertaining?)

Once the kids have decided on five categories, have each child make a Judge's Scorecard. Shown on this page is an example of what one might look like.

**Step 2: Selecting Candidates.** Next, the class needs to nominate the candidates. Divide the class into six small groups. Have each child in each group propose one ad as a candidate. Then have everyone in the group vote for three of the proposed ads. Tally the votes. The ad that receives the most will be that group's candidate.

**Step 3: Choosing a Winner.** Now have the *whole* class vote to choose which of the six candidates is the winner. Each child should use his or her Judge's Scorecard to award points in each category. Each ad receives from zero to five points in each category (so the maximum total score any ad can receive is twenty-five points).

**Step 4: Notifying the Winner.** Now that the children have selected the winning company, they need to prepare two documents to send to it. Each student can choose which document to work on.

Both contain essentially the same information: what the award is, who is giving it and for what, the name of the winner, and the date.

The first document is a *letter* notifying the winner that it has been selected for the award. It should be neat and clear, and in the correct form for business correspondence. The second document is the *Winner's Certificate*. It is the award itself. It can contain artwork

	JUDGE'S SCORECARD					TOTAL POINTS
	Slogan	Artwork	Information	Originality	Clarity	
Ad A						
Ad B						
Ad C						
Ad D						
Ad E						
Ad F						

and decorative lettering, and should be designed to hang on a wall.

Finally, have the class actually send on one of the completed letters and awards to the winning company.

##### • An Ad for Your School

Tell the children to imagine that their school is placing an ad in the Yellow Pages: their job is to design it.

To prepare, they should take a brief look at the ads that other schools run. But emphasize that they should feel free to create whatever kinds of ads *they* think will be most effective.

Next, have the children discuss what information such an ad might include: The name and address of the school? Its founding date? Its motto? The courses it offers? Special programs available? The number of students? The student-teacher ratio? A description of the student body? A description of the school's surroundings? Photos or drawings . . . of what?

Then have each child create his ad. Explain that the printer can change the size of the ad, so the drawings can be bigger than they will actually appear in the phone book.

Finally, display the completed ads. If you can, put them up where students from other grades as well as from your own can look at them. If possible, have students from all grades vote for which ad should be run. (If such schoolwide participation is not feasible, then simply display the ads in your own classroom and have your students vote.) In either case, try to arrange for the winning ad to be printed in the school newspaper.

#### And All Kinds of Other Uses . . .

##### • A Yellow Pages Shopping Spree

A mysterious benefactor has offered each of your students \$300 for a shopping spree—on condition that each child buy five different items with the money, and that each item come from a different store. To get the money, they must present their benefactor with a shopping list that includes the name of each item they intend to buy, the name of the store where they will buy it, the price of each item, and the total cost. (Be sure, of course, that the kids understand that this money and shopping spree are just pretend!)

To put this list together, each child must first figure out what he wants to buy. Then the children should use the Yellow Pages to find stores that are likely to carry what they want. Next, they will need to look around in person to find the price of the items they are interested in.

Point out that they can make the most of their money by shopping around for the best buys. It is also in their interest for the total cost to come out as close as possible to an even \$300 . . . since the benefactor requires that they hand back any money they don't spend.

If there is a sales tax in your state, it must be included in the children's calculations.

When you check their work, you can write "Approved" and the benefactor's initials on those lists which have been correctly prepared.

##### • What Does a . . . Do?

Pick a service-providing line of work. Some choices that are well adapted to this activity are:

advertising agencies	physicians
automobile repair people	plumbers
banks	psychologists
contractors	secretaries
lawyers	travel agents
nurses	

What do these people actually do? Give the children a few minutes to compile a list of as many specific services performed by people in this occupation as they can find by reading the Yellow Pages ads for them.

Then have the children share and discuss their answers.

• This can prepare your students for a classroom visit by a parent who does this kind of work. In this case, at the end of the discussion, have the children make up a set of questions they will want to ask their visitor.

##### • Looking Backward

Yellow Pages ads can trigger an activity that will improve your students' sense of historical time—their mental picture of *what* was going on *when* in the past.

Start by showing them three Yellow Pages ads, each containing a reference to the date the business was founded. (Except for the fact that they show founding dates, the ads should be as different as possible from each other.)

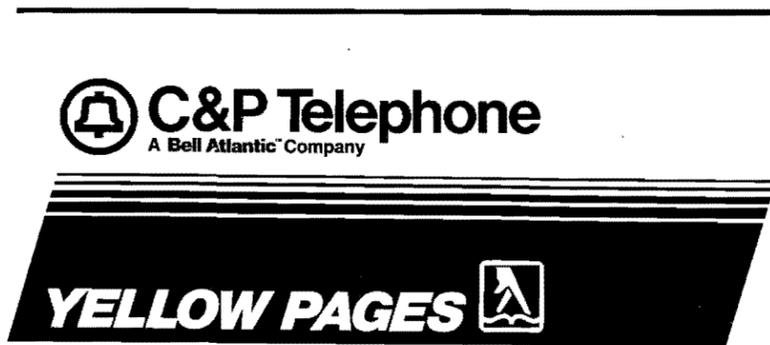
Ask what special piece of information the three ads have in common. When the class has figured out that it is this mention of a founding date, point out that such references are quite common in the Yellow Pages. Ask the kids to find other Yellow Pages ads that mention when businesses were established. Remind the class that these dates are referred to in all kinds of ways ("founded in 1920," "serving the metropolitan area for 40 years," "since 1958," "half a century of reliable service," and so on).

Now give the children time to each compile a list from the Yellow Pages of ten businesses with their founding dates.

Then have them compare what they have come up with, and find the listings that fall closest to the beginnings of decades (1890, 1900, 1910, etc.). If possible, write on the board one business for each decade after the earliest one. If some decades are missing, just skip them. *It is essential to choose dates that are far enough apart so it is easy to see the style changes between them.*

Now break the class into small groups and assign one ad (and hence one decade or so) to each group.

*continued on page 4*



## Why Are the Yellow Pages Yellow?

According to Chuck Yoakum, of Ameritech Publishing in Detroit, Michigan, they "turned" yellow in 1903. That year, a printer in Cheyenne, Wyoming, ran out of paper while putting out the telephone directory. The only other paper he had enough of on which black ink would show up was . . . yellow! Rather than mix the two colors of paper together at random, he decided to print the personal listings on the white paper and business classifieds on the yellow.

People liked this color coding so much that by 1910 it had become standard.

Opposite, photo courtesy Division of Electricity and Modern Physics, National Museum of American History, Smithsonian Institution

Yellow Pages Advertisements courtesy Chesapeake and Potomac Telephone Company, Washington, D.C.

## How to be a better buyer

Use the Yellow Pages section of this directory for complete information.

C&P Telephone

YELLOW PAGES

First, have each group cut out their ad. Then ask them to make a poster illustrating what styles were like when this business was founded: how did people dress? How did they wear their hair? How did their houses look? How did they furnish them? What vehicles did they use? What household and office equipment was common? (Besides the encyclopedia, history books, collections of old photos or advertisements, and magazines dating from past decades are good places for the kids to look for the pictures they need.)

Each group of children should paste up their ad on the poster, with the caption: "When the \_\_\_\_\_ Company was founded, in 19 \_\_\_\_\_, people . . ." The children should then find, and cut out or redraw, pictures that illustrate styles current at that time, and paste them onto their poster—with captions that continue the caption quoted at the beginning of this paragraph (for example, ". . . wore their hair this way" or ". . . rode in cars that looked like this one.")

Finally, display the finished posters side by side, in chronological order, so the class can examine the progression, and trace and discuss some of the specific changes they see. You will want to point out similarities of style as well as differences.

- An interesting follow-up is to invite to class as speakers people who can remember some of these past periods. Tell the speakers in advance that the point of their presentation will be to make these past times as concrete and vivid as possible for the children. Encourage them strongly to bring in *objects* they may still own from the period: old photos, drawings, letters, books, clothes, dishes—any things that the children can handle and ask about.

- If you are lucky enough to have sufficient information available, you can focus this activity directly on *your community*, beginning in the same way, but then bringing in information about what your own town looked like back then (from old photos or drawings, perhaps . . . and even about the actual companies themselves.)

Some larger companies keep archives. You can phone and ask whether they have materials about the history of their company, or have your students do so as part of their assignment. Perhaps one of the older employees could come to class as a speaker, and bring in old catalogues and the items the store used to sell.

#### • How do You Store Them So You Can Find the One You Want?

Tell your students that they have become very good at finding things in the Yellow Pages. This means that they have understood the Yellow Pages' system of organizing information. Ask the class to recap in a sentence or two how this system works. (Companies are listed alphabetically under type of business.)

Then remind the class that the Yellow Pages are just one of many, many systems that help people store things so they can find what they want again.

Have the class think about this by discussing how people organize the following things:

- words in a dictionary
- articles in an encyclopedia
- houses on a block
- items in a drugstore
- crayons in a new box
- shoes in a self-service shoe store
- information in a computer
- plants in a plant book
- newborn babies in a hospital
- zip codes around the country

There are all kinds of ways to organize items—alphabetically, numerically, by color, by use, by physical attributes, by location. . . .

Sometimes, different people prefer different ways of organizing the same things. For example, not everyone organizes his clothing the same way.

Sometimes the same items are organized in different ways for different users. For example, the items on a store's shelves may be organized by type of product for the convenience of customers, but by stock number or manufacturer for inventory and record-keeping purposes.

Have the children consider how they themselves organize their own possessions: their clothes, their school things, their toys. . . . How do the children who have collections store the items in them? Do they ever have trouble finding what they want in their collection? Have they ever changed their system . . . from what to what? Why?

What would happen if people didn't have good ways of organizing things? What are examples of problems the children themselves have had because things weren't organized right? (Not being able to find a wrongly shelved library book, or an item in the supermarket that is kept in a place where they wouldn't expect it to be.)

Finally, have them write a short description of how they would organize the following: tools in a workshop, spices in a kitchen, records in a large collection, fabrics in a store, smells in bottles, instructions for hundreds of physical exercises, animals in a zoo, listings of occupations, a collection of paintings, descriptions of hobbies. . . .

## Short Listings

### • Letter Cornucopia

Who can find an ad that contains every letter of the alphabet? (If nobody can find such an ad, then the winner is the person who can find the ad that comes closest.)

### • Divisible Ads

Who can be the first to find in a Yellow Pages ad a number of at least four digits that is divisible by 7? by 11? by 17? . . . by whatever you want the kids to practice? (Phone numbers count as *one* number.)

### • Martian Ads

Some time in the future, the children come across a Martian Yellow Pages. It has the same format as our own, and is in English (now the interplanetary language), but the products and services advertised are unknown on Earth. Have each child draw one of the ads she finds there.

### • How Far?

Ask the children to make quick guesses about how far all the pages in the Yellow Pages would reach if they were placed end to end lengthwise. Have the kids guess *quickly*, without making any calculations: to the end of the block? to the next stoplight? to the next town? to the moon?

Then have the children figure out how to check their answers and do so.

## To End the Year

### • Let'em Rip!

It's the end of the year, and you're all done with the Yellow Pages. If you don't plan to use the phone books next year, why not let the kids have the fun of tearing them apart? They can practice some math as they do so.

First, make sure they all know how to fold a paper airplane. (Or a simpler paper shape if you prefer.)

After they have made a couple of practice planes, divide the class into small groups.

Begin by explaining what they are going to do. Each group will have five minutes (or whatever time limit you want) to tear pages out of their phone books and fold them into planes. But before they begin, each person will write down a guess of how many planes her group will be able to make within the time limit. Then they will make their planes, count them up, and find out whose guess was most accurate.

Tell them there will be two winners: a winning *group*, which is the one that makes the most planes; and a winning *individual*, who is the one who makes the most accurate guess.

Once you have finished your explanation, give the kids a chance to time themselves as they make a couple more planes. Then they should share and discuss their times with other members of their group. Finally, give each child a chance to write down his guess, put his name on it, and hand it in.

Now the kids are ready to make their planes: one, two three—go! Everyone must immediately throw each finished plane into a box or trash bag you have provided for each group. *No one may count (or even touch) the finished planes until time is up.*

After they stop, each group should count its planes,

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ART TO ZOO brings news from the Smithsonian Institution to teachers of grades three through eight. The purpose is to help you use museums, parks, libraries, zoos, and many other resources within your community to open up learning opportunities for your students.



Courtesy AT&T

## Be One of the People at Person to Person

Learn how the telephone evolved . . . what problems its developers coped with . . . how it has changed our lives! See the earliest equipment . . . find out what operators used to do . . . peek into a paneled telephone booth . . . play a telephone drawing game . . . by visiting the *Person to Person* exhibit at the Smithsonian Institution's National Museum of American History, in Washington, D.C.!

The show, located in the Electricity area (on the first floor), explores interpersonal communication and the social impact that communications technology has had.

If you can't come to Washington just now, you can still take a look at some of the show's highlights by ordering the *Person to Person* catalog. It is available for \$3.00 by writing: Division of Electricity and Modern Physics, National Museum of American History, Smithsonian Institution, Washington, DC 20560.

eliminating any that are not properly made. Write the totals on the board and announce the winners.

- You can follow up this activity with older children by having each kid make a bar graph comparing his individual guess with the actual outcome.

If you wish, they can also calculate the average guess for their whole group and add it as a third bar to the graph.

Then have them discuss the results: did they make more or fewer planes than they had expected they would? How do they account for the difference?

Do newspapers and magazines sometimes tell about *guesses*? (Of course: for example, when they give estimates of future population growth, future production, expected voter turnout, etc.)

What makes for a good guess? Have the children pick one of the examples and briefly discuss some of the factors that may make such a guess turn out to be wrong. . . . Remind them that *just because you see a fact in print doesn't mean it's reliable*: a truism for readers and consumers—but one that is easy to forget when the data *look* good. (You may want to follow this up with further exercises involving critical thinking.)

Our reason for producing a publication dedicated to *promoting the use of community resources among students and teachers nationally* stems from a fundamental belief, shared by all of us here at the Smithsonian, in the *power of objects*. Working as we do with a vast collection of national treasures that literally contain the spectrum from "art" to "zoo," we believe that objects (be they works of art, natural history specimens, historical artifacts, or live animals) have a tremendous power to educate. We maintain that it is equally important for students to learn to use objects as research tools as it is for them to learn to use words and numbers—and you can find objects close at hand, by drawing on the resources of your own community.

Our idea, then, in producing ART TO ZOO is to share with you—and you with us—methods of working with students and objects that Smithsonian staff members have found successful.

Special thanks to the following people for their help in preparing this issue of ART TO ZOO:

Gail Buckley and Bruce Manthe, Bell Atlantic

E. Daniel Grady, Michigan Bell Telephone Company

Robert G. Lewis, AT&T Historical Archive

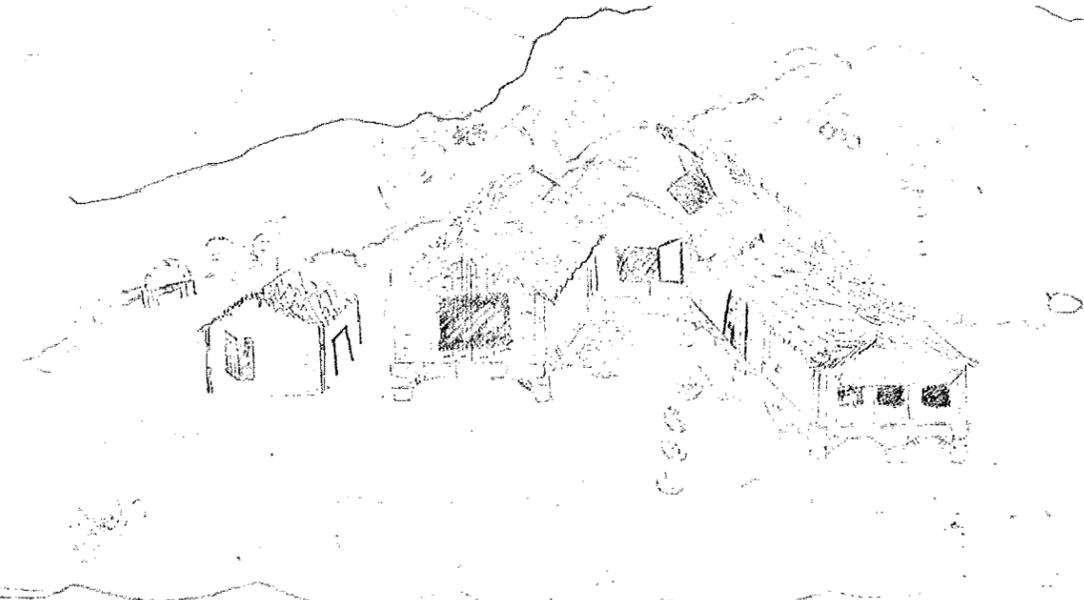
Rose Wheeler, The Chesapeake and Potomac Telephone Company

Chuck Yoakum, Ameritech Publishing

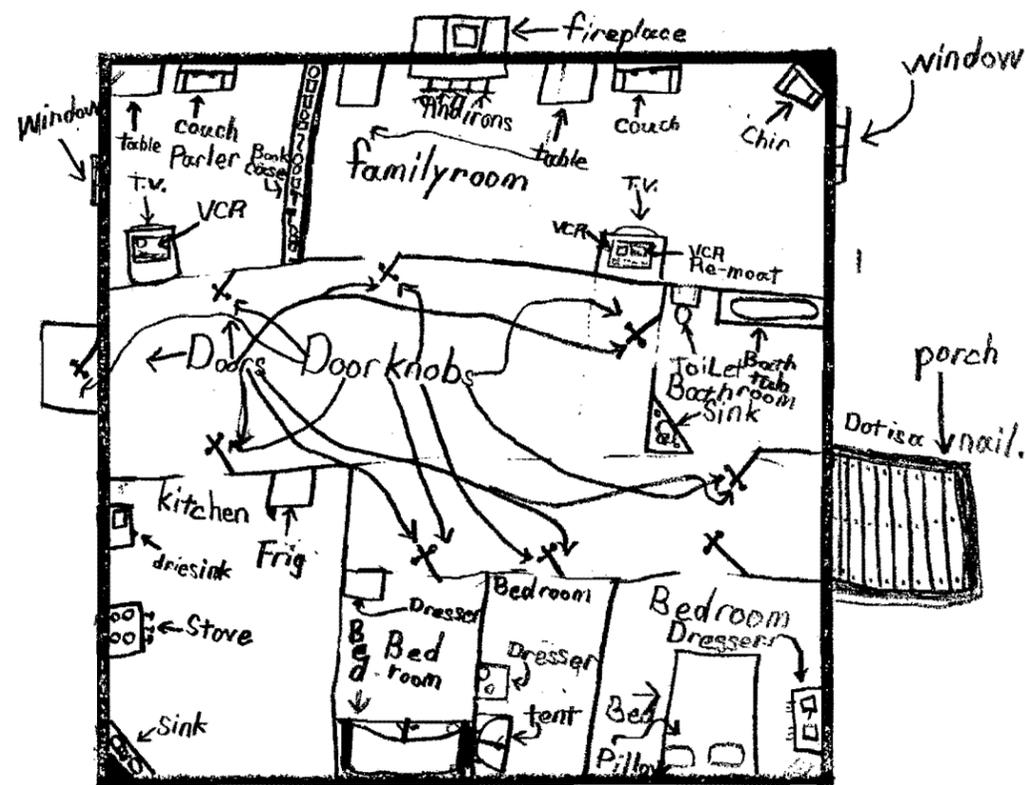
Bernard Finn and Elliot Sivowitch, National Museum of American History, Smithsonian Institution

Maria del Rosario Bastera, Thomas Lowderbaugh and Janice Majewski, Office of Elementary and Secondary Education, Smithsonian Institution



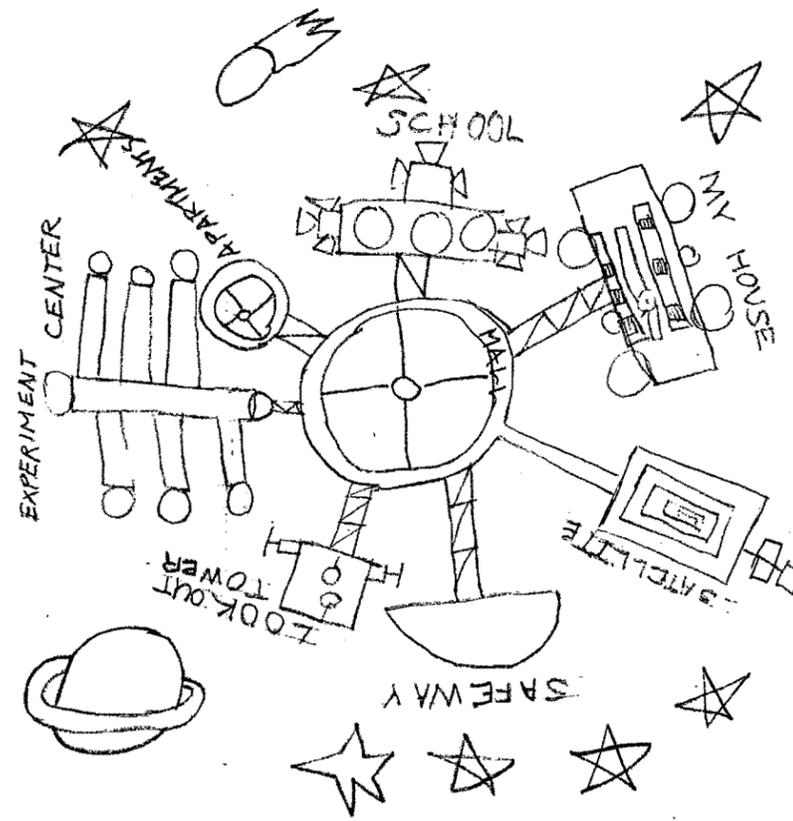


Shawn Williams, Foothill Intermediate School, Marysville, California

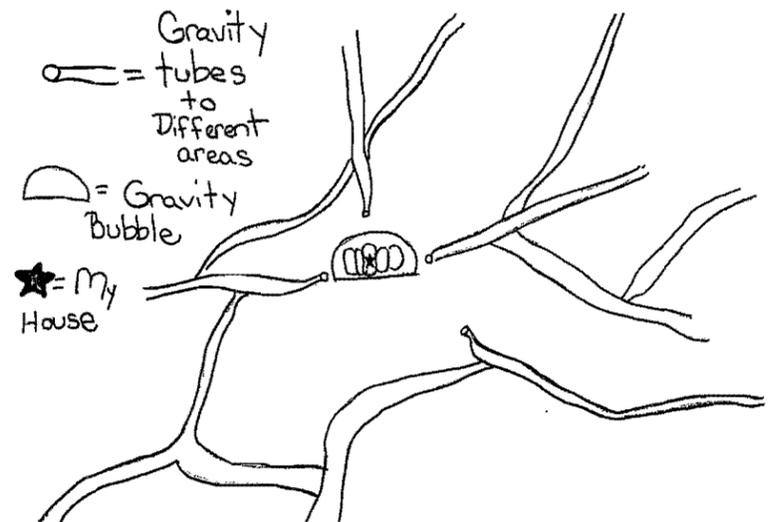
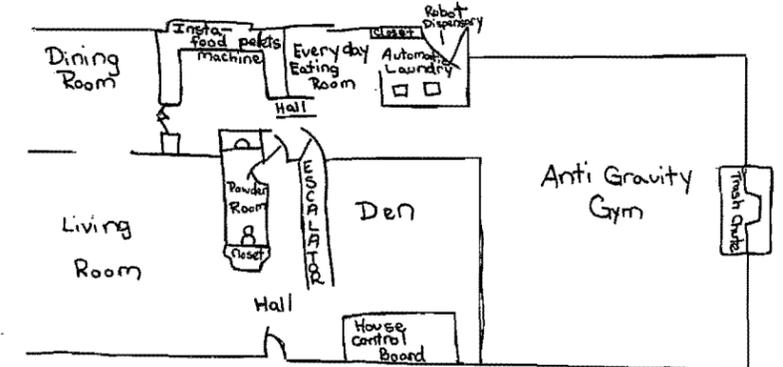


Aaron McKimmey, grade 2, Lucketts Elementary School, Leesburg, Virginia

Danielle Mysliwec, age 11,  
Flagg Street School,  
Worcester, Massachusetts



Evan Stater, age 6, Meadowland Elementary, Sterling, Virginia



Jennifer Lloyd, age 12, St. Philip's School, Falls Church, Virginia

Jennifer says that "this is the common house of the year 2090. The people of this century hate to leave their things unwatched." The code board on the top left window helps the house's occupants deal with this problem: "When they push in their secret code, their house will begin to shrink. It will continue until it is the size of a woman's compact. It is then transportable."

Joseph Kress, age 11,  
Lincoln Elementary  
School, York, Pennsylvania



# PULL-OUT PAGE



ARTE A ZOOLOGICO Abril 1988  
Noticias para las escuelas, de parte del  
Instituto Smithsonian

## Ustedes se Imaginaron Casas . . . ¡Y Nos las Enviaron por Correo!

Traducido por Ricardo Inestroza, Ed. D.

En la edición de *Arte a Zoológico* de la primavera de 1987 ("Casas que Hablan"), invitamos a los lectores a imaginar casas y a que nos las enviaran por correo. También les prometimos publicar una página especial con dibujos en 1988. Esta página mostraría algunas de las casas que ustedes, los niños de todo el país, imaginaron. ¡Aquí están!

Ustedes imaginaron casas en todo tipo de ambiente: en islas tropicales, en el espacio sideral, bajo tierra, bajo el agua, en las copas de los árboles, en pilares sobre lagos. . . .

Ustedes imaginaron casas cuadradas, redondas, puntiagudas, en forma de salchicha, etc. Algunas parecían diamantes, barriles y cohetes. Una tenía la forma de un pájaro. Ellas fueron diseñadas para proteger a la gente contra ventiscas, temperaturas muy calurosas, maremotos, culebras venenosas—y en un caso, contra "fiches, un tipo de rata gigante."

Algunas de las casas fueron hechas de materiales naturales simples. Otras fueron futurísticas. Estas casas de alta tecnología estaban equipadas con aparatos ultra-modernos: una cama que garantiza el sueño, una piscina que nos hace flotar,

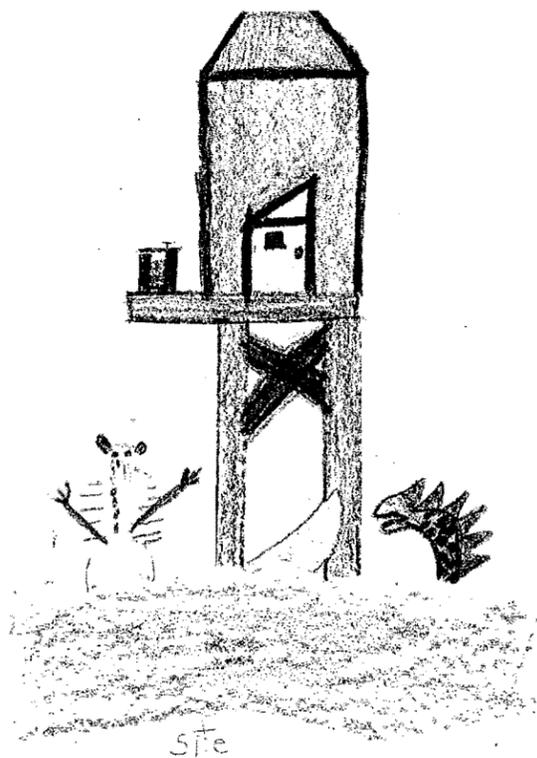
un gimnasio donde no existe la fuerza de gravedad, y un cuarto especial para cuidar a los robots enfermos. Una casa tenía un "cuarto para hacer experimentos con diferentes máquinas."

Ya que no tenemos mucho espacio en nuestra página especial, hemos tratado de darles una idea de la variedad de diseños de casas que nos llegaron: estamos mostrando casas que son muy diferentes si las comparamos. Estas casas fueron dibujadas por niños de diferentes edades.

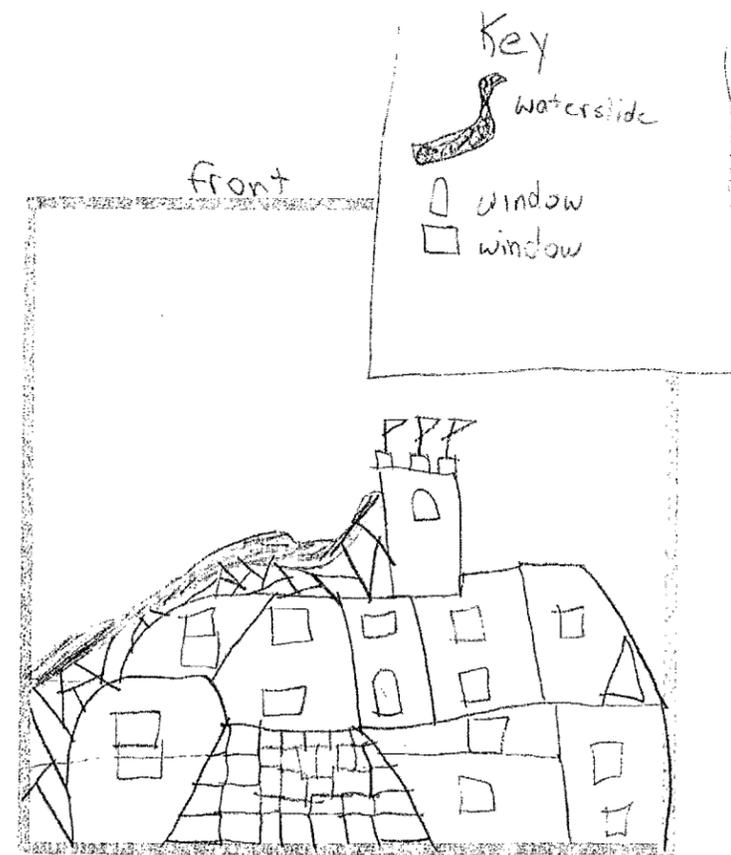
Tuvimos que descartar muchos dibujos que realmente nos gustaban. Desearíamos tener páginas y páginas para poder mostrarles a ustedes las creaciones de muchos más arquitectos de *Arte a Zoológico*.

¡Muchas gracias a todos los que mandaron dibujos!—los diseños que ven aquí y los que no pueden ver. ¡Son todos excelentes!

*Los datos que damos aquí son las edades de los arquitectos y los grados en que estaban cuando mandaron sus dibujos. Estos niños son mayores ahora; algunos inclusive están en otro grado.*



Joseph Carlson, 9 años, Coral Springs Elementary, Coral Springs, Florida

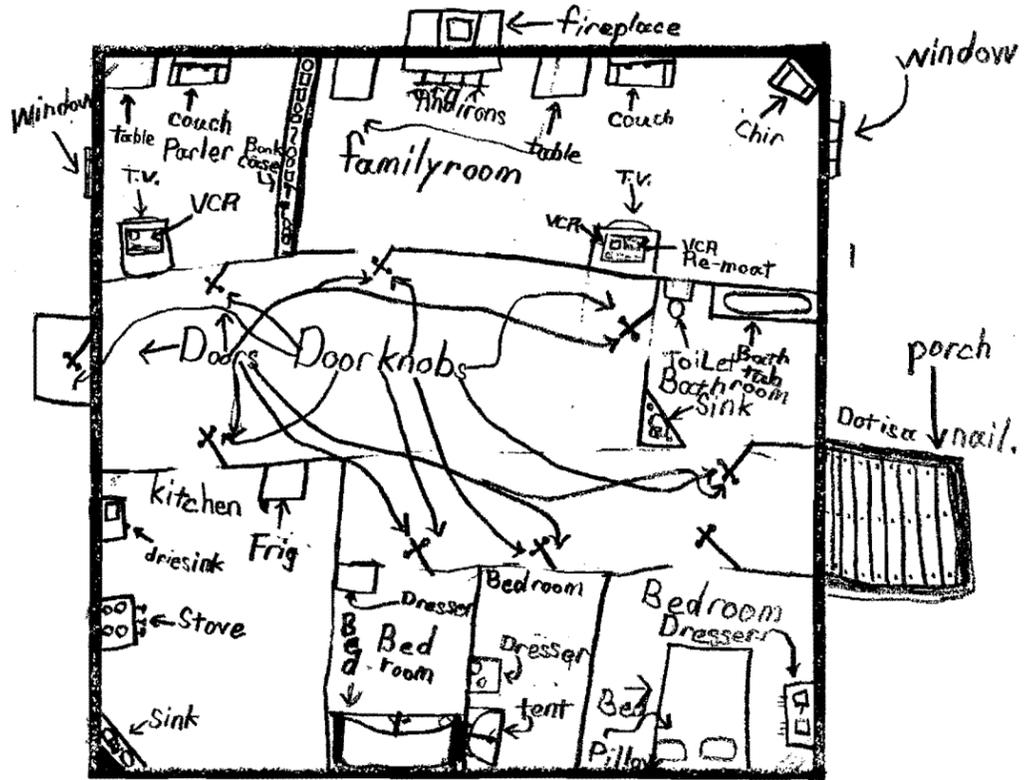


Phillip Jakudowski, 8 años, Mill Valley School, Meskego, Wisconsin



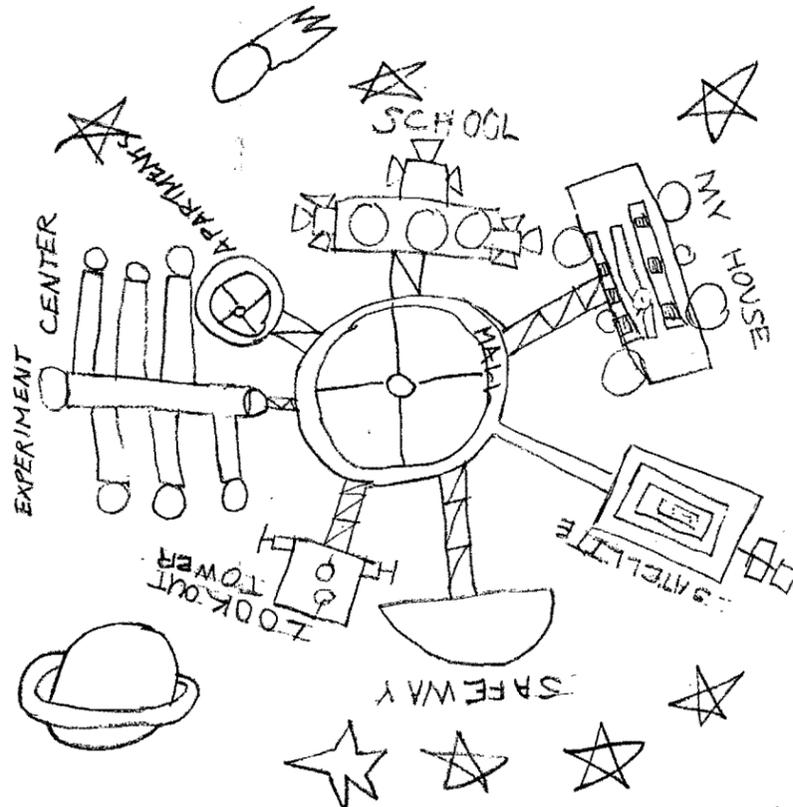


Shawn Williams, Foothill Intermediate School, Marysville, California

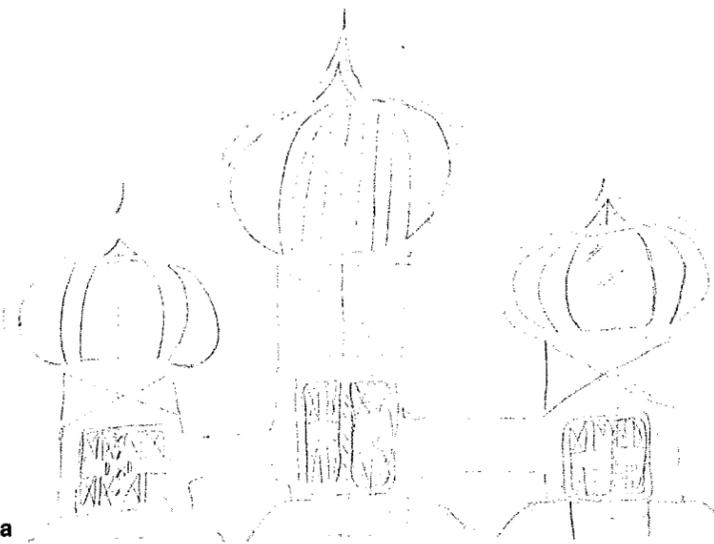


Aaron McKimney, segundo grado, Lucketts Elementary School, Leesburg, Virginia

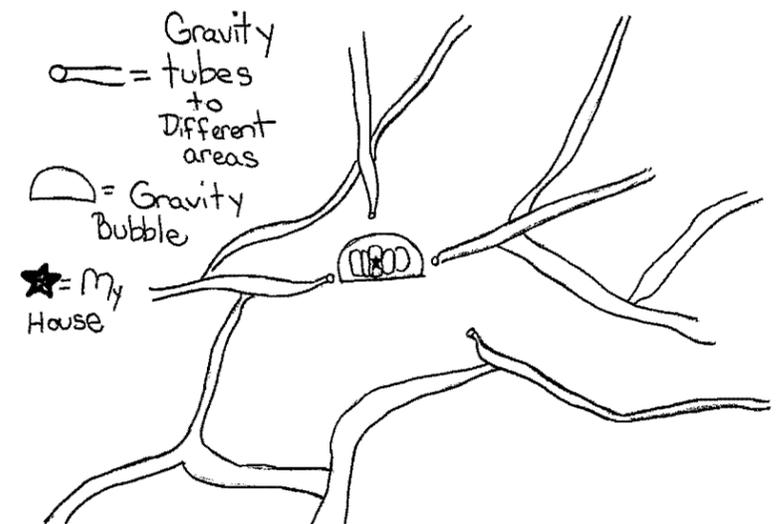
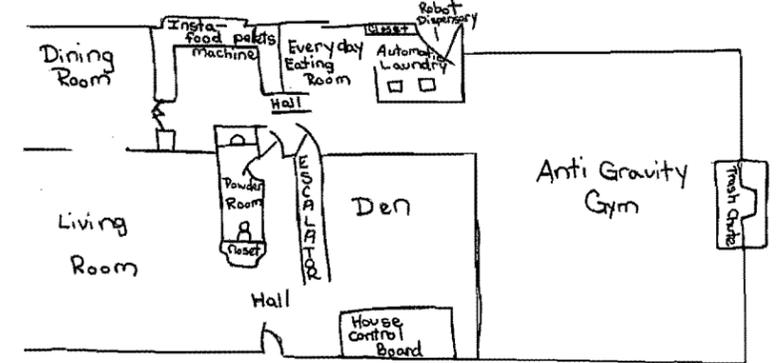
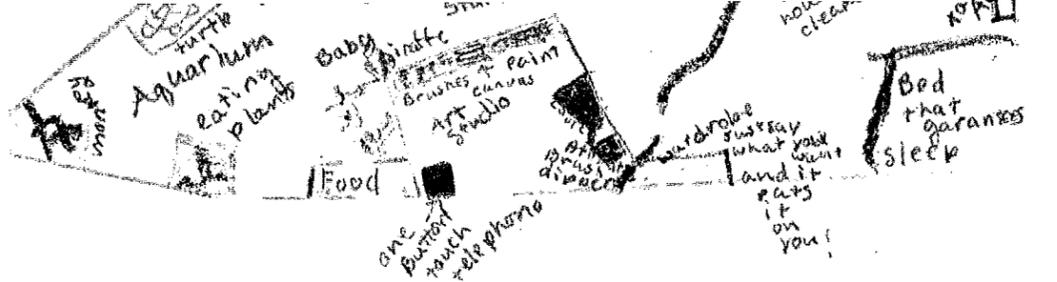
Danielle Mysliwec, 11 años,  
Flagg Street School,  
Worcester, Massachusetts



Evan Stater, 6 años, Meadowland Elementary, Sterling, Virginia



Joseph Kress, 11 años,  
Lincoln Elementary  
School, York, Pennsylvania



Jennifer Lloyd, 12 años, St. Philip's School, Falls Church, Virginia

Jennifer dice que "ésta es la casa común del año 2090. A la gente de este siglo no le gusta dejar las cosas sin cuidar." El panel de controles situado encima de la ventana de la izquierda les ayuda a los ocupantes de la casa a solucionar este problema. "Cuando ellos presionen su número secreto, la casa comenzará a encogerse. La casa continuará a hacerse mas pequeña hasta quedar del tamaño de una polvera de mujer. Una vez que alcanza este tamaño, la casa se puede transportar."