

Focus Group Study
in support of
Cyberchase Parent Website

submitted to
Thirteen/WNET

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INTRODUCTION

Focus groups with parents of third and fourth graders were implemented to help support the revision and expansion of the current *Cyberchase* website for parents. This study focused on the following research questions:

- 1) How do parents understand their role in helping their children with learning in math?
 - a) Do parents see their role as motivational?
 - b) Do parents see their role as helping their child with math difficulties?
 - c) Do parents see their role as collaborating with their child in learning math?
- 2) What are parents' concerns or anxieties about their role in supporting math learning?
- 3) What information or features would parents like to see in a math website for parents?
- 4) Given a written description of what is currently on the *Cyberchase* parent website, what additions should be made and why?

METHOD

Procedure

Parents participated in groups of six parents at each of three national sites: Sacramento, CA; North Miami, FL; and Providence, RI.

Before the focus group discussion began, parents completed a short written questionnaire to provide background information. The focus group procedure used a moderately structured approach with a funnel research design, moving from broader to narrower, more focused topics. Verbatim transcriptions of the focus groups were analyzed for thematic and specific responses to the research questions. Excerpts illustrated the themes. Transcriptions are presented in a separate document.

Sample

Recruitment did not emphasize math so as not to “scare away” parents who might have math anxiety; e.g., “We would like to hear your thoughts about plans for a PBS website that will help parents learn how to help their children in various competency areas like reading, math, writing and so forth.” The recruitment criteria for the 18 parents are listed in italics below, followed by the actual sample characteristics:

- 1) *Parent has child currently in third or fourth grade. Parent may have older or younger children.*

The focus groups include 10 parents (56%) of third graders and 6 (44%) of fourth graders. The children include 11 boys (61%) and 7 girls (39%). The third or fourth grader is the oldest child

for two-thirds (67%) of the participants. Most participants (83%) have other children, ranging in age from 3 to 15 years.

2) *Gender: in each group of 6 participants, at least 2 males will be present*

Two-thirds (12, 66%) of the parents are female; one-third (6, 33%) are male.

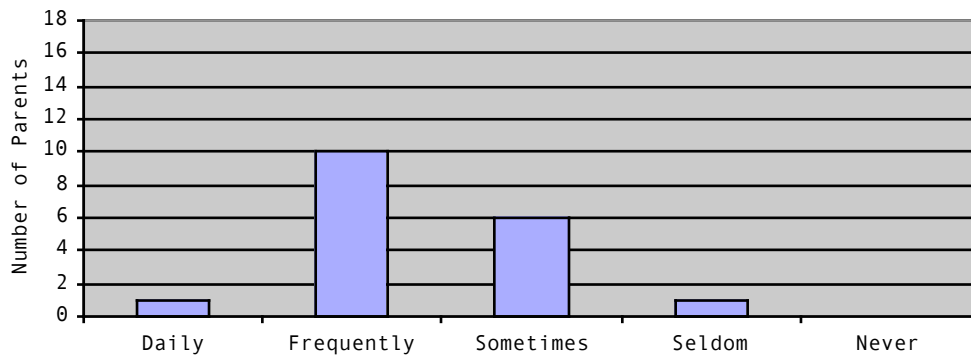
3) *Minorities: Percentage of the whole sample at each age will equal one-third minorities*

Minorities comprise 39% of the sample, including 3 (17%) African-Americans; 3 (17%) Hispanic; and 1 (6%) Asian-American.

4) *Parent and/or child is regular PBS viewer, defined as viewing at least once per month or more frequently.*

Half of the focus group parents watch PBS programming “frequently” and one-third watch “sometimes,” as indicated in the graph.

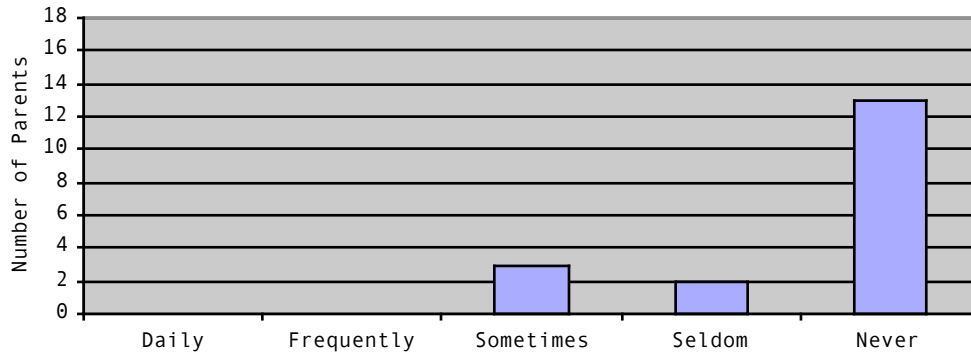
Frequency of Parents Viewing PBS



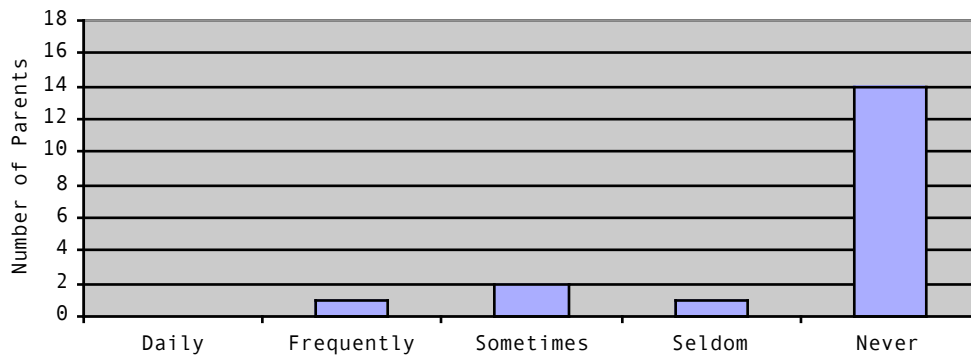
5) *There is no requirement that the parent or child be Cyberchase viewers or be familiar with the website.*

Only 5 (28%) of the third (1) or fourth (4) graders watch *Cyberchase*, and 4 parents report watching with their children (see charts below). None of the parents have ever accessed the *Cyberchase* website.

Frequency of Children Viewing Cyberchase



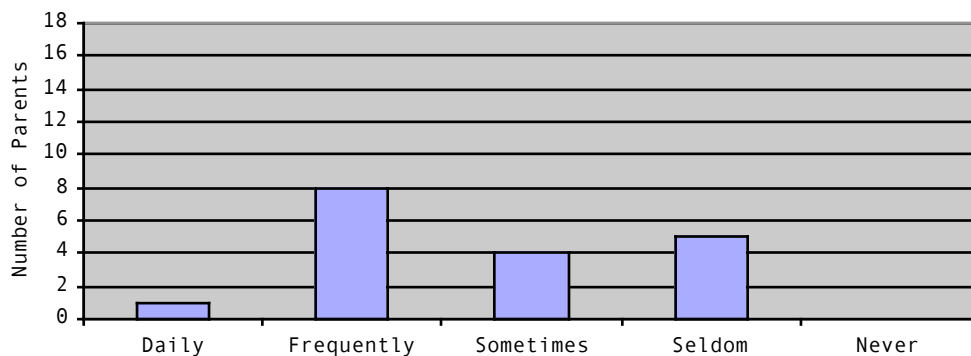
Frequency of Parents Viewing Cyberchase with Children



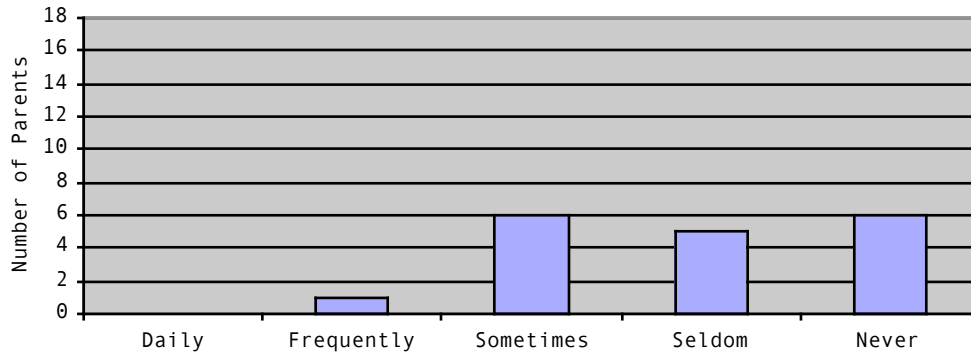
6) *Parent has home access to the Internet*

All parents have accessed a PBS website, with half reporting “frequent” or “daily” access. Two-thirds of the parents have accessed a PBS kids website, with one-third reporting access “sometimes” (see charts below).

Frequency of Parents Accessing a PBS Website



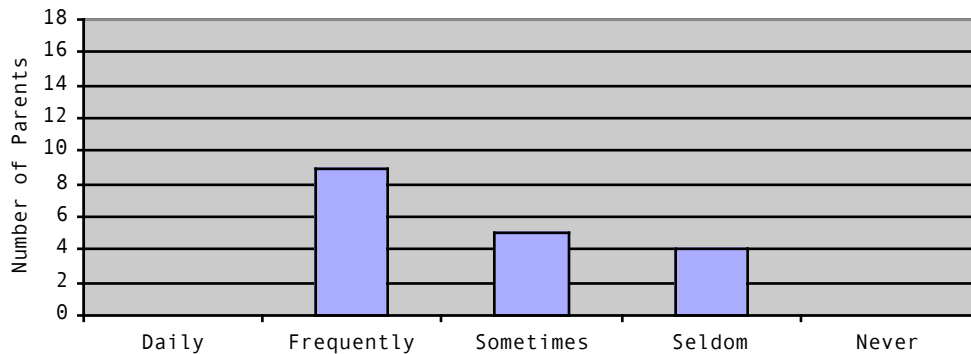
Frequency of Parents Accessing a PBS Kids Website



7) *Parent has used Internet at least once since Jan, 2005, to access information relevant to their child(ren), as in health info, developmental info, school info, whatever*

All parents use the Internet for access to parenting information, with half reporting “frequent” use.

Frequency of Parents Using Internet for Parenting Info



Participants were asked to think back over the months of 2005 to a time that they accessed the Internet to obtain any parenting information relevant to their 3rd or 4th grade child. The table on the next page presents their specific responses. This sample of parents uses the Internet to obtain parenting information about health; child development and education; school assignments; and activities for their child. The sites provided factual information, action options and alternative perspectives, ways to converse with their children, and reassurance that others have similar situations.

Type of site accessed	Why went to site	What information obtained	How information was helpful or not
Health			
Listening clinic	Get info on audio processing	Location, fee and services offered	Helpful to know that there are services out there to help
Health & physical activities	Get facts, resources, ideas	Child development, physical activity idea, info about age appropriateness, sports or recreation activities	Background info, dates, locations
Health research	Head lice	Find out what head lice is, what head lice look like	Helped me detect and get lice out
Medical, physiological, psychiatric	Medical and social issues	Medicines, techniques in parenting	Gave me options I was not aware of
Healthcare	Get info regarding healthcare	Specific symptoms of illnesses	Helpful for perspective on issues of healthcare
Child Development, Education			
Parents.com	To understand more about normal level of moral reasoning at my son's age	Read latest 'best thoughts' about allowances for kids and teaching fiscal responsibility	Helped me to moderate my expectations of my son. It gave various rationales for dealing with allowances.
Gifted and Talented	Underachieving GATE child, not doing homework	Alternative methods of instruction	Helpful in that I felt my issue is not isolated
Retail bookseller	Looking for books on raising children with oppositional behavior	Book titles, reviews	Helpful
Abduction of children	Concern regarding recent abductions	Steps on self-defense and key things to discuss regarding possible situations	Helped regarding how to approach conversation with child and how to discuss difficult situations
Re School Assignment			
Geography	Geography assignment	Specific geological formations	Successfully accomplished school assignment
Dinosaurs	School assignment	History of dinosaurs	Very helpful
Animal	School project	Different types of fish	Helpful for school project
History	Suggested by school for assignment	Historical data	Helped answer assignment questions
School site	To obtain missing homework assignments	School work assigned when child was absent	Necessary info
Activities			
Zoom	To find a fun project for my son	How to make a hovercraft	Provided list of household materials used to make the balloon-powered hovercraft
Places to visit with kids	To research recreational places to visit like Disney	Find out hours, locations, prices	Very helpful to know hours, locations, prices
Summer camp	To find out about camp	Dates, prices, info	Didn't have to call or play telephone tag
Summer camp	Get info about camp	What I need for selecting a camp	I selected a camp

PARENTS' ROLE IN SUPPORTING CHILD'S MATH LEARNING

Parents were asked an opening question about their role in supporting math learning:
What do you think your role is in supporting your child's math learning at his/her current grade?

Most parents felt that their role was to help with homework but in a way that encourages their children to figure out problems on their own, by getting them to "focus," to read instructions more closely, to write neatly, and to think in a different way or with a different person like an older sibling. Some parents pointed out the stumbling block that sometimes their way of doing problems was different from the teacher's way.

Fewer parents spontaneously noted a motivational role to ease their child's frustration or to make math fun.

Only one group spontaneously discussed a role of collaborating or working with their child, mostly in drilling the basics.

HELPING WHEN CHILD IS HAVING DIFFICULTY:

- **Helping with homework** (three groups)

Especially in fourth grade, our role has been doing homework to **identify the areas where she needs help**. I feel that homework is very important, because as parents that's our only way to see if our child is actually understanding and grasping the material. And then, to sit down with her, go over the homework every night and the areas where she has wrong, and ask her 'Do you know what you did wrong here?'

The only time that he has a problem, it's usually because **he hasn't grasped the instructions**. Sometimes he tends to not bother to read the instructions and just start doing the page and I have to say, "you are doing it, but that's not what the instructions said, you are supposed to round it off, or you are supposed to estimate it and not actually do it," so that's really the biggest thing with him, is to get him to read the instructions. I don't really have to sit and do it too much with him, just reviewing.

I think my role is I like to focus on the directions. If the child approaches me for help I like to **focus on the directions and clarify the directions and pointing out the key words** that might help the child to get back to doing the problem.

He does come to me when he has a question, but usually the question he has is only because he is lacking focus, so, my role is more trying to **get him to focus**, because that is my biggest challenge with him. He knows how to do the problem, but he has so much going on in his head, a lot of day dreaming going on, so my role is really just to get him to sit, to focus, to remind him what he already knows.

The reason I would intervene is because even if it can't be resolved with the teacher, sometimes there is a problem learning it from a particular teacher so that it becomes a breakdown in the communication there, so I feel I **need to add something or to explain it differently so that it's coming from a new voice** so to speak, and it might make some kind of difference and make it CLICK there.

If he is having difficulty, I would step in and see what I can do to explain it better, as he said to communicate it a little differently. Come in with the thinking that **you know your child and you know how to work with him - maybe I can show him another way**.

- **Encouraging child to do work on own** (two groups)

As a parent, I try to **let him figure it out on his own**, and I assist him. I don't want to over assist him because he doesn't grow that way. My role is pretty much to **supervise his learning**.

The first thing that comes to mind is making sure that he doesn't use a calculator, we have a lot of them floating around, **making sure that he does the work himself** and doesn't cheat and that I am seeing the work done.

For my son, first of all **I don't want to do his homework for him** so he tends to do it on his own.

A lot of my role is helping her to focus, to bring her own strengths forward and not to overstep and help her too much. I usually **let her do her stuff on her own** and let her come to me if she has a problem.

I'll tell him to pick up the phone and call a classmate. **Encourage him to be independent and learn on his own.**

I think it's the school's responsibility if the child is having problems and needs help, then I'll intercept or intervene or get involved; otherwise, I feel it's really the child and teacher and the school that are working with the child, and if he needs or wants my help then I can help. But I think with any homework, including math and I also feel that **the relationship I have with my children is much better if I don't get involved in that homework.**

I feel my role is that if I **ask enough questions so that it seems that I've invested in his success** of it, but I don't get into the mimosa of it unless he is particularly excited or troubled by something that he is working on and he wants me to get involved.

I don't usurp, **I let him do his work.**

- **Using non-parents** (two groups)

I have an older son who is in high school, and sometimes if my younger son has a question about math, **he'd rather go to his big brother than to me**, because for some reason, he thinks that a teenager is going to know more than an adult. It's weird. Like he'll be, if I try to say no, this is how it is, read the instructions, he'll be like, Matthew is that right? Is mom right?

Regarding that, **my daughter has always been more receptive to having someone her same age, who already has the grasp of what the concept is**, or whatever she's doing, or even someone that is a teenager, or I think it's just the fact that it's authority, her mom or her father, she's more receptive to listening. Sometimes I have to stand back and say, maybe it's my tone. She's just taking it as authority talking versus a friend.

He'll go to an older sibling that he has a better relationship with. Some times I find he would be more willing to listen to somebody else and doesn't want to hear me tell him how to do it. Maybe I'm not effectively teaching him or he doesn't want to hear it from me. What does he want from me? Does he want me to show him? If so, I will.

- **Neatness counts** (one group)

.... But anyways, the bottom line is that I try and teach her that cleanliness is next to godliness, so that **you write your numbers neat**...and your posture in sitting is an educative posture. If they slouch, you know, then their numbers become smudged and all that.

The other night, she did her math homework, and **she scrunched up the numbers, and ...the errors I'm sure came because of the columns not lining up.** She tries to squish it all so much, and my husband said, "your teacher's not going to be able to really understand what you did here." And she was furious but he erased the whole thing and she had to redo it.

... I had the same situation. She actually did the problem correctly, but **she got the wrong answer, because they weren't lined up**. A lot of times, I would look at it and it was so sloppy that I would have to struggle to try understand what she did and I said "You know what, if I was your teacher, I'd just go ahead and mark it wrong, because I'm taking extra time to decipher what you have written. If I can't understand it, how can you expect your teacher with everybody else's, to understand what you have written here?"

- **Parents' 'way' is different from the teachers' 'way'** (two groups)

"Well **Miss Ortega said we don't do it like that**." I said, "Well Miss Ortega's not here and I'm showing you that it's the same problem, and it's the same thing, in bringing down the division problem." She wouldn't bring it down and I had to show her, draw the line, so you know that you are bringing it down and that there's a remainder, because she would just scribble the numbers and then get all confused, so I showed her....

I am trying to understand what it is that he doesn't get about it, and it will become obvious that **the teacher is teaching him one way that's different from the way I learned**. So, sometimes it comes to the point that I say, "You know what? You know how to do this; it is just that you are second guessing yourself, or you are not focused here, or something, and that you know this, so you sit down and you think it out and you do it the way she told you to do it. If I tell you the way that I know, I think that I am going to confuse you more."

The other thing I have some frustration with is how SAXON teaches the math. It just seems like its counter intuitive to me in some things, the teachers have to teach it the way SAXON does because the school bought the SAXON program. So this stuff is like -why are they having you do it this way, because it's so much simpler if you just do this - hard to teach them and reinforce them when it's weird to do it that way.

MOTIVATIONAL:

- **Easing frustration** (two groups)

In clarifying it for her and maybe to help her find it less frustrating.... I try to make it seem like it is an interesting puzzle versus this like dull math that you never use. Something that you can apply to the real world and that it is fun....When I say it's fun, not so much that we create a game, as I try to **appeal more to the intellectual side**. I even try to go into like the history of math sometimes. [How does she react to these conversations?] She gets a little more interested, when I appeal to her in that sense and the frustration factor is that I became more involved with her math.

Keep it calm, because at that age [4th], it's very easy for them to get frustrated and to just shut down. And once you shut down, you can't learn anymore....once you lost it and the child loses it, it's just like a screaming match. And I have found that math is the area where that will happen, more than any other subject. So you have to stay calm.

To help him realize that **any problem can be solved if he has patience**, and he is willing to take the time to think it out. I don't want him to be intimidated by math, which is a problem a lot of people have; I have noticed that and I am very cautious about that.

My role [is] in helping my daughter recognize when she does a good job and learns something new **positive reinforcement** is the thing that stands out the most.

For him it's more providing a safe place to and reassuring him that, look, you know this and if you just sit and work it in your mind and be patient with yourself you'll get it. And if you don't, so what! You just get it wrong, big deal! Giving him the chance to feel that **it's ok to make mistakes**.

- **Making math fun** (one parent)

...when she learned the most and when I had the most fun with her, is **when I watched Cyberchase and they made it really fun**. See that made it into a quest, like a Nancy Drew type of thing. And that's great....But the bottom line

is that if you are not interested in it, then if you don't show interest to your children, then they are not going to learn either, and the bottom line is I need to take a more active role.

COLLABORATING AND WORKING WITH CHILD:

- **Reviewing basics** (one group)

What I've worked on with my daughter is the basics. Just going over and over, and I think it's **just rehashing a lot of it**. . . . we've actually accessed web sites, math web sites that give them a different approach in more of a game style, so that she can grasp or get the practice in, and I find that's helped her Perfect example - multiplication tables. There was some numbers that she never got, so it was a constant way to go over it with her, be it flash cards – I bought her a turbotwist. . . . I found sometimes that just the independent time, . . . whether it was cooking or doing something else, I could be a support to her in a different way.

I think **a lot is going over it with them, going over, repetition**, the times tables and my daughter had a lot of problems, for example, with multiplication with money. As soon as you put the decimal in there - she could do the problem without it, but once it was there she never carried over. And then I had a lot of problems with her, what I would do is, do the problem without [the decimal] and then I would do the problem and put it in, so she would see the difference, it was the same problem.

I learned that in learning, that there's some predominant things that need to be taught first and that's my role. To teach her more how to learn. **And to teach her the fundamentals**.

- **Not jump ahead in concepts** (one parent)

But with him I try to keep in mind the lesson that I learned with my dad, that was my dad trying to teach me to do calculus when I needed help in my trig class. And he wouldn't help me with my trig because it was so much easier if you did it with calculus. I am like trying not to do that with my son - not to go over his head with a concept because it would be a lot easier do it this way. But it is not what he's supposed to be learning right now. And so I try to keep it at the level he's at right now. **Don't jump ahead, don't force him to do something he's not supposed to be learning yet.**

Two of the three focus groups were asked more directed questions about their roles:

Almost all the parents saw their role as motivational; some focus that motivation on homework, some focus on a broader scale, and a few feel they motivate by being appreciative.
Almost all parents were likely to help their children when they have difficulty with math, although some express concern about helping too much or in an inappropriate way.
Although parents said they 'collaborate' or 'work with' their child, few parents were able to give an example of how that collaboration played out in practice.

➤ **Do you see your role as motivational, that is, getting them interested in math?**

Motivational and encouraging. For him homework is a chore . . . the things that he cares about are really encouraging and the stuff that he is not, I just **want him to do the best that he can**.

I try to motivate her more by helping **find ways that she uses math on everyday experiences**. Like if she has some friends over and I only have a couple of pieces of pizza, how many will be left over.

I have my kids watch things or read things on physics or about Isaac Newton or **something that will give them a broader scope of how math fits into the broader world**. But with regard to a fraction, I'm not there to cheer them on.

I'm more of an appreciative bystander. [but later says in response to a child having difficulty] I try to bring in something new, **give them a different context**. There is no shortage of DVDs, videos about particular subject matters in math, so I have on occasion resorted to bringing in something like that.

He gets excited when he wants to share things, so I try to share that excitement with him. [but later says in response to a child having difficulty] It is important for them to know that it is more than just the fractions or what they are doing at that immediate time, that broader scope with that they are going to apply this in life . . . **Teaching them that there is a greater purpose than right now down the road.**

It's **hard to get somebody excited about something that he really doesn't understand well**. Or if they aren't doing very well.

➤ **Do you see your role as helping your child when he or she has difficulty with math?**

If my son is struggling on something, yes I feel it is part of my role, if it wasn't resolved with the teacher, to become involved to see if we could figure this out. I'm not sure if this would apply as well, but **if there was a test or something like that, I would certainly help him study** if it were multiplication tables or something like that or to go over certain things with him, he would sometimes come and ask that I test him. I most certainly would get involved.

If my child would have difficulty, I was not a strong Math student, I did fine but it's not my strength, so I wouldn't feel I was the right person to do it, but I have books; as I mentioned, I looked online for tricks like the nine trick. **I like to give the kids some sort of tool that they can use to help them more as a crutch than relying on me**, especially with word problems. It's just not my strength. So I like to give them something they can use outside of me.

If he is struggling then **why he is struggling**, I would like to find out why. Is it because he didn't understand the instructions or wasn't it taught to him properly? I'm not going to do it for him.

I see my role as helping my son but **I can't overstep it**.

I would say in terms of helping out children when they are having difficulties, I DON'T Just regarding homework, **I think it's important that the teacher knows what the children can do**. So if you are there and keep telling and telling them and giving them all the answers then the teacher has no real good sense from the homework whether the children really understand the homework.

I clearly think that **that is his responsibility and his teachers**, and if he doesn't, then he has to go back to his teachers or again back on the phone and call a friend. Maybe he wasn't paying attention in school when he should have been.

➤ **Do you see your role as collaborating or working with your child in learning math?**

I guess the broader picture of math, maybe not specifically whatever it is that they are learning in school but life applications in math definitely, and **hopefully as you spend time with your children and things come up so in that sense you are collaborating in education**.

I can think of two instances this year where we really did collaborate, **where a teacher was able to spark excitement in the subject with a math brain twister, and we had a good time with that** and that was something that I picked up in one of my other classes as a teacher, and a student showed me a math brain twister, so I shared that with him what I learned and at that instance we were able to collaborate.

I think for me **collaborating in math is more in the broader sense** of -- as an example, we hung a shelf in his room and we wanted to center the shelf on the wall, and it was measuring the wall and measuring the shelf and making him subtract the size of the shelf so we could center it. So this example is where we really collaborated rather than the homework sense of it. So I let him do stuff like that.

PARENTS' CONCERNS OR ANXIETIES ABOUT SUPPORTING MATH LEARNING

Parents were asked what their concerns or anxieties are about their role in supporting their child's learning in math.

Parents were concerned mostly about their ability to understand math and their ability to teach their children math effectively in a way that doesn't interfere with the way the teacher does it.

As you grow with your child, as they get older, you get more used to the things they are going through and their homework, and you think, oh I remember this. And the concepts kind of come back to you, but I am very concerned about what I will remember when we get there [algebra], and again if there's materials, you know just to kind of...your child's going to be in such grade, this is the concepts they are going to be looking at.

I was not a strong math person, so my anxiety was that I was always frustrated and anxious about math myself. So in terms of feeling capable of explaining it to somebody when you don't really know something until you can explain it to someone else. The subject is would it be helpful to have a resource, whether it's a website or DVDs now, **the concern or anxiety would be that I'm not well versed in the subject to competently explain it.**

Math was not my greatest subject in school. However, I would like to be available to any of my children at any age and to have enough knowledge when they need my help. **I do think a web site teaching specifically these types of things would be very helpful.** You mentioned the website on your form. There were times I thought: where would I go if I didn't know.

I did fine in [math], but when I came to algebra, I had to like take it again to really grasp the concept, and for me that's my biggest concern. So something I worked with my daughter also on is knowing **where to get the information when you need it.** Instead of getting frustrated, whether it be the internet, or it be an additional math book or something that we can access the information and really straighten it out in our mind or grasp that problem. So as far as my anxiety, I think that's where my anxiety is... I decided to be a little more proactive, because of how anxious I was. That fear factor of, hearing her say "I hate math. I don't want to do it." That was my biggest fear. So over the summer and towards the end of the year last year, I signed my daughter up at Sylvan to take math. And they really did it. It was the repetition, going over all of this, because it was just the basic simple multiplication, little simple mistakes that were creating the frustration, and I didn't want it to get so out of hand, where I would become so anxious.

Math was not something that I particularly loved and liked. I carry over my own antipathy to it. . . . **I guess my concern is that are we able to understand what is being taught to them in school and then having us be able to explain it to them, so they can absorb it.** . . . Maybe what would be helpful, if a company could do this, is to try and get on the same page as your teachers, what method they are using.... how it's being taught, what is being taught and there the computer can be a link to teachers and a bridge to the children and the parents.... That way you can learn what the lesson plan, the objective is and then you know how to go about it.

I wish I had some ideas on how to teach children math, it's a whole different thing to know it, than it is to teach it.

My son's big problem is he is incredibly weak on the basics, the additions tables, multiplication tables **I feel like I have failed on drilling him on the tables but it becomes such a fight** . . . It's frustrating for me because I feel like I have failed in drilling him enough let alone the multiplication tables, which they are into now.

...I consequently just grew up thinking that basically, I'm an idiot when it came to math. ...[my concern is] not only keeping her frustration in check, but as well as mine and that of my wife's, because my daughter is very sensitive. ... it's learning **how to teach in a calm manner. And sometimes, when it is possible, I try to incorporate some physicalness into it.** Rather than just sitting there. Even if I go to the refrigerator and I pull out ice cubes or fruit or something. Here it is - touch it, feel it. Even when she was learning math, one time I remember asking her

to do push-ups. I'm like if you do five push-ups and five more, how much is that? Cause it gets them, some of that energy out, but also it's just physically and intellectually incorporated it into it.

I think the biggest thing for me is that they have **so many new techniques and ways to do different types of math problems now than we did**. It's the same thing, but different technique and more modernized, if you want to word it that way. That, I'm afraid that I'm going to, trying to help her, I'm going to discourage her, because I'm really getting frustrated and going 'maybe wait a minute, this is how, let me think back, addition, math algebra, okay we used to do it this way' and trying to figure out, okay to get the same answer as they are doing it and then to take my way of learning and adjust it to hers. . . . important too, to have mothers or friends of theirs that you can have a phone tree and connect with each other and figure it out. I think that is very important.

I learned that when I tried to show him to do it a certain way, when it came to test time he may suffer, because now he's confused because he's got two different methods, so, now I want to help him, but I don't to be overly anxious about helping him because I may not be doing it correctly. I guess **my concern is that I am not spending enough time figuring out how they are doing it in the classroom**.

Time is an issue. . . . I feel like sometimes I don't devote enough time to help him then. And I think it gets even more critical. I mean he's in third grade now, but I know from my experience with my older son that it gets even more critical as they get older. My biggest thing is the time.

My concerns are that **I do not have enough time** to do things with either one of my kids. I have anxiety about that. I don't know when the test dates are, I don't really know exactly what's going on a whole lot, just trying to hang on.

A story is when my daughter first started 4th grade, they had a new teacher who was teaching math. And I remember a few weeks had gone by and we'd say "Don't you have any math homework?" There was no math homework. She was doing math in class, but no math homework. And again, we had no way of judging, is she getting it? And then here comes the first test. And most of the kids in both classrooms did very bad. And then all of us parents started calling this teacher. And we said, "You know what, we need more math homework." This was his first teaching experience. "We need more math homework. Because this is our way of judging how much our children are grasping." We were very anxious about this. **You really need to have a good communication with your teacher to alleviate concerns**.

My main concern for my son is I don't want him to be intimidated by math cause I can remember times when I was younger, math tests would terrorize me. . . . That's my main concern - **I don't want him to look back on math as a bad thing**.

DESIRABLE FEATURES FOR PARENTS' WEBSITE

Parents were asked to brainstorm what they would like to see on a website meant to help them support their child in his or her math learning – what content, features or activities would be helpful to them.

Parents described numerous tools that would help them support their child's math learning: tools to help the parents understand math concepts; tools to understand how to teach the math that is being taught in their child's textbook; tools describing math standards and math levels; tools that provide support for word problems; tools to motivate their children; tools for sharing with other parents; math tricks, games and activities appropriate for kids; and other resources or links. The website should also be user-friendly and time efficient and meet a variety of learning styles.

Tools to understand math concepts

Tools to understand how to teach the math that is being taught in specific textbooks

Florida Group discussion:

M1: ... And also, to teach the parents the art of teaching and the science of teaching.... **give us training in how to teach.**

M2: Give us the context and the framework of which they are trying to teach this in... [tell us] "it is our goal or our objective to do this with your child"... tell us why you are trying to teach our child... because then I'll understand the concept better, to help my child and teacher. I mean you are asking me to assist in a homework that I have no idea how you are doing it. I think that on the website that there should be a little spot that you can click "parents' info" and you click, you jump from that site to here and it goes, okay, this is why we are asking this problem. This is the point that we are trying to get across or the objective we were trying to achieve. **You, as a parent, could help your child reach this goal by doing such, go over the history of this, or perhaps it would be better if you reinforced multiplication with your child. Give us tips how to get to what you want us to do.... a parental guide.**

F2: I agree with the point of a Parental Help Guide type of thing, but **I'm just wondering if it wouldn't have to be more specific, like for the textbook that they are using.** I don't know if just having a Parental Third Grade math guide is really going to help you, because each book is different... maybe like a workbook version of [teacher's guide], that said, "okay textbook A on Chapter 14 is going to cover these things and this is what you kind of need"... I know there's probably a hundred different textbooks that 3rd grade is using but somehow it would have to make it specific to that textbook, I think, for it to really be helpful to you.

F3: ... I believe my daughter came home one day with a math link, supposedly from their book, that they could go and do these so called math games, and we've been on that before, and I think that was a good support system... **there are situations where you come down to the same math answer, but the way they are teaching it is different, so it would be a support system to that book. I would want to see actual math problems...** and then say... step one, step two, step three...

F4: like a guide for - **what is the concept to be learned and examples of problems and then links to, if you know, a link to McGraw Hill or whatever.** I've been to the McGraw Hill website... but there's no parental area on that website, to us, okay like, what is it we are trying to convey to your child here.

M2: ... whatever the website is would have to be **customized to the textbooks that are being used in that teaching district.** To say, to get all the text books in all the United States isn't realistic, but they can say, "Do you live in Miami, Florida," click to that and then it takes you to a website that now has the textbooks that are used within that teaching district.

Rhode Island Group Discussion:

F4: So basically without me having to go to the textbook, sort of **re-teaching so to speak from a modern perspective, some basic skills** would help me be more competent about helping my child...

M4: I guess more like a teacher text that would kinda explain - I assume these teachers are being taught how to teach these concepts, so maybe something along that line. Would be helpful to them to be able to **explain those kinds of concepts**.

California Group Discussion:

F8:if they are getting it or not, if they're not getting it, here's a way to help, they could give **examples of different things that could be going on that might be the problem**.

F10: What would be a nice feature is if along with the math program that they have, if they could have **examples so parents could refer to**; so when your child comes to you "I don't get this mom" (we haven't visited math for how long?) - something that we can refer to and say oh! And we can confidently help them get back on track.

F9:what are **5 ways that I could go about solving this problem?**

Tools for math standards and developmental levels

I would also like to know **what is standard for 3rd & 4th graders** should know by the end of the year. Everyone goes to different schools. I'd like to know that they are at the right level so that ideally this is the basic curriculum.

Give us the tools, so then when 5th grade starts, I know exactly what it is by May that she should know, how it's going to be approached, how they are going to teach it to her, and again, give us the tools, to say, "if you find that you child has difficulty in this area, we suggest you do this, this and this."

A parent guide , so maybe we could see a **logical progression**.

Examples on **how to know if they're on track**... I was thinking like child development, what's normal what's not, ...or the role of the parent in the learning process, well relating to math, you know this is an appropriate role.

Tools for word problems

I think one of the hardest situations I had was in learning math word problems....**we need a website that will teach the parent how to convey the word problems**, like, "if two trains start at a certain speed and reach to" whatever it is. I think that's maybe the hardest concept for my child to learn.

I remember with word problems you had to look for key words. That gave you the hint that this was an addition problem, that this was a multiplication problem or division or percentage problem....**List these key words**. But just jump over to the website to parents tips: these are the key words you should stress to your child.

And then something [game] that personifies the word problem, where you got 2 trains traveling, and actually have the train and the tracks **so the kids can start picturing in their minds what these problems are about**. That's what they got to get to really do the word problems.

Tools for motivation

Rhode Island Group discussion:

M5: I think that if I was going to use a website to maybe help motivate them - **how does math fit into something that he likes**, for instance he likes baseball. How does math fit into baseball? Maybe the speed of a ball being thrown 60 feet 6 inches, then how long does it take to get there, then what is the speed rate. Maybe some things like that where you can take what interests him and apply that to the math concepts.

F5: I think that is a great idea because **it can make it live for them and the practicality using that math**. As a woman and a mother of four boys, it's hard to relate those things about the baseball. It's a great thing to get to the understanding how to relate to them. What makes sense to them what's going to be that driving force?

F6:...What kind of topics would there be to draw a girl into a subject that she is already preconditioned to think that she is already not good at. So how do you redefine a girl's role in math? That might be something that I would look for **-how can I stimulate them to feeling good about math** when maybe they have fallen into the trap that some girls fall into that they are not good in math. Any tools to bring them out of that rut.

I think that **if a website can make it so that the parents can learn how to be fun** and how to make it like that, that would be the key to that program...make it a success....

Something that would encourage the kids [to ask the teacher a question]-- you are in the class, take responsibility for asking your teacher the question. Don't be afraid because that's their job and you're gonna do someone else a favor. It shows courage that you're gonna ask it, or maybe English is not their first language so be a helper. So if there was some feature to help reinforce that.

Tools for parental sharing

Chat rooms for parents to share their experiences. What worked for me, what worked for you? Etc. Ask any kinds of questions and inputs as to how they've helped their children.

Math tricks, games, activities

I think for a third or fourth grader definitely a game. I've seen games that it will divide up a pizza pie and it will do the fractions of the pie Kids at this age just love games, so any computer **games** that I feel comfortable for them playing on that will actually be doing some sort of drills...**Math tricks.** There are ways that kids are trying to memorize multiplication tables. There are ways of doing certain things, and I do think that that is helpful for kids if they narrow down what it is they have to memorize and they have to clutch onto, this would be very helpful.

It would be really neat if there were some truly **fun game that you could play with your child** on the computer related to math cause I have searched, and I don't really understand what are good games. I have not bought any of those others games cause she won't really play them.... a lot of the games that she really wants to play have people that she recognizes and relates to. I know it's really sad but I have bought her some of these menza type games but she doesn't play them cause they're not really fun in the same way. Like the PBS character Clifford - that's too babyish, these Disney channels, I don't like them, but she plays them more.... Some kind of treasure hunt game older level that incorporates math.

A lot of those games like Dora the Explorer type level seem to "kiddish." By third grade, they want something that is more bionical, sword-like or game theory, even just for the addition tables, multiplication tables, like the faster you can get the problems, the farther along in the game you get. **It encourages them to get the basics.**

What I like about Cartoon Network is that I can go on it and play the games myself and figure out what are they trying to teach -- is it just violence or is this thinking? are you making them think ahead? **are they teaching them math skills without them knowing it?** so that's very important. I say to my son, "play this one," and I watch him play it and if I like it and he likes it, then I download that.

Something else they could include: I love crafts, I have got a whole three months that I have got to entertain my children when they don't have school. **Some fun stuff that they could take and do on their own.** There's some stuff for science, but not necessarily relating back to math. And if there was some crafts that could relate back to math ...

Other resources

Different subjects within math, goals and different books or multi-media products that connect with those topics, so that if I know that there is a unit on whole numbers or something and I want **to supplement it, I can go onto the website to see what products tie into that.**

Something else that is helpful on websites is when you are reading the topic and it **links** immediately in the text, that if I am interested in knowing more about the topic, I can link out of it and come right back to the article.

User-friendly and time efficient

I need something that is going to give me the information fast. I don't want to have to look for it... I want to go under "word problems," then I want to have under "word problems," I want to have the "different types" of word problems. So I can click on the word problems and know right away where are the word problems, and this is what I am looking for, whether it be, you know the same thing - multiplication or division or percentage..... Time is a big issue. I think if they had a website that catered to kids and us, because we can also go back, **print it out** and say, okay, this is how they are showing us, this is the first step. Now we could use that sitting there as a guideline to go over it with them.

Meet a variety of learning styles

I want it to be not only to read, but I want it to be visual. Because some parents work better, seeing visual, like you learn. Kids learn different. Some learn by reading or type. Some learn visual, and I think that it needs to adapt for that, because ...we're just like the kids. We learn the same different ways. We each learn different.

ADDITIONS TO *CYBERCHASE* CURRENT PARENT WEBSITE

Parents were given a written description of what is currently on the *Cyberchase* parent website and asked what additions should be made and why. (See Appendix for outline of current parent website.) Participants were also asked if the features that they had discussed earlier were found in the outline.

Looking for what was in the website and what was missing from the written description was a difficult task for the parents, but the groups noted that they did not see at the top levels the contents and features that they had discussed, with the exception of games and activities. They thought the website as it is now designed was missing a parent tutorial on math concepts and how to teach math; missing descriptions of math standards and math developmental levels; missing word problems; missing tools to help parents motivate their children; missing tools for sharing with other parents; and missing outside links and resources.

Tools to help the parents understand math concepts:

How about something that helps us, like math for adults.

The parent tutorial.

Like a wizard – how to solve that problem.

A pull-down menu for the type of math topic that you are looking up and there could be an example next to it like 'this is what we mean.'

They might call it something that we didn't call it when we were growing up.

Tools to understand how to teach math:

Specific things for the parent to understand or spark their memory and say, "this is what you need to do."...It would help me better communicate to my child ... if he doesn't get it right, and he asks me a question, then I need to be able to explain it to him in a logical fashion. I need to give him a rule. The rule will help him go on and have success with it.

There is a large majority of parents who struggle with math, something that tells you, teaches you how they are teaching math now.

A problem-solving section that helps you think through a problem. Parents relating to frustrating homework problems, what to do.

I didn't see that there were tutorials for the parents to help teach your kids. I am not sure that I would pull down 'lesson plans,' if I am just trying to help my kid understand it. I would think that somebody that is home schooling their kid would need a lesson. [the site needs] a pull-down button: How to teach your kid this; a help button: if your kid is having trouble with this kind of problem. How do I teach my kid about this. It would be specific to different types of math problems....Parent tutorial and how to teach your child this skill.

And we were saying there could be so many publishers of math books, but if there are the top ten, maybe have links to those....all the activities on the *Cyberchase* website would be great but that there would be links available if you want to go outside the *Cyberchase* universe. You could have links to the academic world. Just links. Because obviously those companies, for being put on there, would be financially supporters of the *Cyberchase* website, you know.

I think they should add...tips on conveying the message, frequently observed obstacles....I think that what we are asking for is a two-dimensional apprenticeship on how to teach.

Also tips for how to overcome obstacles, like shutdown, you have to reroute. If you are frustrated, the child is frustrated. It's hard to reroute, so some tips on how to get past the shutdown. Maybe under FAQs. ... I think that I might need a tip because I'm like frustrated, but I don't know if my tip is going to be under Lessons, Under Math Search or....so I think if there's a letter "G" that would say "Parent's Tips" and even if that web page you get there and it says, 'If you're need assistance with this, click here....' Because if not, it would be a lot to figure out where to go to get the tips. I think that if we are going to go on there sometimes for tips, I think that should be on the home page and link there right away.

Tools describing math standards and math developmental levels;

A way to log on and check your children's progress

Like how fast did they complete the task, how successful they were.

It would be cool if they could test themselves for the standards.

You know how when they do the accelerated reader program, and they get the test, and they get to see at the end what level they're reading at; if they had something like that.

Tools that provide support for word problems:

Word problems, I don't see....If it's not in 'math topic search,' if 'word problem' is not a search, then it should be.

[word problems] It's such a grandiose and important area of math and learning. They've got to make it [a part of the site].

Tools to motivate their children:

We need more tools on how to be the motivator not just the teacher. Click on any topic of interest to my child that would then interrelate to my child's interest. Not just baseball. I'm not interested in being my child's teacher. I'll be the motivator, the supporter and the cheerleader. I'd like the site to be tailored to the interests of my fourth grader in math.

Telling kids how they could have these really cool jobs but telling kids the math they need, all the math to get there.

A tracking method that gives [the children] positive strokes so they can come to us and say 'look what I did!' We need every opportunity for them to do something right. What if, when they complete something, the site sends them a message, an email a day later, congratulating them.

A big issue I have is, when they [children] ask you, you know I'm learning this, but how does it relate to the real world? Like ...designing a playing field.

Tools for sharing with other parents:

I'd be interested in hearing what other parents think about this website or other places where we could find content, as opposed to, I don't really go into chat rooms per se to chat or interact with people. Bulletin boards would be good, where you can type in an opinion or whatever rather than interaction with a stranger... how about an online discussion at a specific time like after the show like a host or a mathematical person would be leading the discussion perhaps.

People might have a need for a resident expert, like here is my problem.

Math tricks, games and activities appropriate for kids:

Rhode Island's group saw the reference to games and activities, but commented:
It doesn't tell me if that is a game that my third grader will want to play.
They need to relate [activities] by age, describe it briefly.

Other resources or links:

Some outside links for parents that would be away from PBS or Cyberchase, for the perspective.

Links to a related resource.

The website should also be user-friendly and time efficient and meet a variety of learning styles.

...Home Pages in general of companies tend to use it as an advertisement or a business card of them, and that's not what people want. I don't really care about "about the show, what it's about." If I'm going, in the sense of time, really what I'm interested in is, what's in it for me? Not what the company is about.

[add] a help button or function, like 'help me!'

The other thing I always think is helpful are navigation tasks that allow you to go to major topic areas, no matter what page you're on, so you don't have to click back. I hate that.

A feedback function, something that you can just type in a comment on your website, not go to my email to send a message. Like as in a forum, they have a box with a send box. It is a hassle when they send you to your email.

SUMMARY

Parents of 3rd and 4th graders met to discuss their roles in helping their children in learning math and how a website might support them in those roles.

Most parents felt that their role was to help with homework but in a way that encourages their children to figure out problems on their own, by getting them to “focus,” to read instructions more closely, to write neatly, and to think in a different way or with a different person like an older sibling. Some parents pointed out as obstacle that sometimes their way of doing problems was different from the teacher’s way. Fewer parents spontaneously noted a motivational role to ease their child’s frustration or to make math fun. Only one group spontaneously discussed a role of collaborating or working with their child, mostly in drilling the basics.

Parents were anxious mostly about their ability to understand math and their ability to teach their children math effectively and to teach in a way that doesn’t interfere with the way the teacher does it.

Parents described numerous tools that would help them support their child’s math learning. Other than games and activities, the parents felt that the current *Cyberchase* website was missing at the top levels the contents and features they felt were desirable, including:

- ✓ tools to help parents understand math concepts that their children are learning;
- ✓ tools to understand how to teach the math that is being taught in their child’s text-book;
- ✓ tools describing math standards and math levels;
- ✓ tools that provide support for word problems;
- ✓ tools to motivate their children;
- ✓ tools for sharing with other parents;
- ✓ other resources or links.

Parents also suggested that the website be user-friendly and time efficient and meet a variety of learning styles.

APPENDIX

Cyberchase Parents Web site Content Outline

The “For Parents & Teachers” section of the *Cyberchase* Web site provides parents with information and activities that support the *Cyberchase* daily cartoon math adventure series.

I. Homepage:

The homepage introduces the site and gives you navigation tabs to click on for:

- A. About the Show**
- B. Lessons & Activities**
- C. Math Topic Search**
- D. TV Schedule**
- E. About the Site**
- F. Products**

The homepage also features bypass links providing easy access to these sections:

- 1. Quick Topic Search:** allows you to do a topic search and bypass the home page of “Math Topic Search” listed above in (C).
- 2. More Math Fun from Cyberchase:** takes you directly to quick and fun math-related activities kids can do on their own
- 3. Special Feature:** Links you directly to information and materials related to the current *Cyberchase* initiative

A. Here is what happens when you click on “About the Show” from the Home Page:

The home page for “About the Show” gives you a brief introduction to the section, plus links to:

- 1. Program Summary:** A descriptive summary of *Cyberchase*, including links to the “Webisodes” that show kids the origin of *Cyberchase*.
- 2. Video Clip and Slideshow:** These provide an introduction to *Cyberchase*, with an explanation of how the Parents section can give adults tools to help kids discover math.
- 3. FAQs:** Several frequently asked questions from parents of children in grades 3 to 5 about their child’s math development,
- 4. Educational Philosophy:** describes the overall mission of the *Cyberchase* series.
- 5. Meet the CyberSquad:** Introduces the animated characters and *For Real* actors that appear on the show.

B. Here is what happens when you click on “Lessons & Activities” from the Home Page:

The home page for “Lessons & Activities” gives you links to the types of lessons or activities that the site provides.

- 1. Guide to Web Activities:** Provides descriptions and links to Cyberchase games that kids can play on computers.
- 2. Guide to Lesson Plans:** Provides descriptions and links to Cyberchase lesson plans teachers can print out and use with their class.
- 3. Guide to Print Activities:** Provides descriptions and links to Cyberchase afterschool workshops and activities for kids.
- 4. More Math Fun Activities:** Provides descriptions and links to Cyberchase activities kids can print out and do on their own or with a grown-up. Includes tips for grown-ups.
- 5. Math Topic Search:** Links to the “Math Topic Search” as featured on the “For Parents & Teachers” home page.

C. Here is what happens when you click on “Math Topic Search” from the Home Page:

The home page for “Math Topic Search” gives you a brief introduction to the section, plus navigation tips.

It also provides:

1. **A pull-down menu** that lets you select a math topic on which you want to focus (e.g., Algebra, Estimation, Money, etc.)
2. **A list of *Cyberchase* mixed-media available to review**, including *Cyberchase* episodes, Web activities, Print activities, Streamed videos of the live-action *Cyberchase* ‘For Real’ segments, and Lesson plans. **Check boxes** permit you to select those media you want to review.

For example, from the **pull-down menu**, you might select the math topic “Fractions”, and **check off** the media of “Web activities” and “Print activities” before you click on “SEARCH.” The results? Links to two Web activities, and two Print activities on the topic of “Fractions.”

D. Here is what happens when you click on “TV Schedule” from the Home Page:

The home page for “TV Schedule” gives you links related to the show:

1. **Localized TV Schedule:** A link to a map of the U.S. that allows you to localize the TV schedule for viewing *Cyberchase* in your area.
2. **Episode Descriptions:** A link to written descriptions of *Cyberchase* episodes as well as links to related games, activities, and the live-action “For Real” streamed videos.
3. **Program Viewing Tips:** Tips to make the most out of viewing *Cyberchase*.

E. Here is what happens when you click on “About the Site” from the Home Page:

The home page for “About the Site” gives you a list of links related to the website:

1. **Site Philosophy and Usage Tips:** Explains the goals of *Cyberchase* Online and how to use the site.
2. **Site Map:** Provides an overview of the site.

F. Here is what happens when you click on “Products” from the Home Page:

The home page for “Products” gives information about *Cyberchase* videos, CD-ROMs, and books that are currently available, and how to order them.