Multimedia Research
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## Formative Evaluation of Cyberchase: The Next Frontier Web Redesign



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## INTRODUCTION

Produced by Thirteen/WNET New York, Cyberchase is a public television series of half-hour animated math shows for 8-11 year olds, accompanied by web activities, print activities and outreach kits. The overall goals of the multimedia project are to improve problem-solving and math skills and to inspire children with confidence and enthusiasm toward mathematics.

Funded by the National Science Foundation, Cyberchase: The Next Frontier is a web redesign intended to broaden Cyberchase's audience and engage kids more deeply with the math concepts. The goals of the redesign of the site are:

- To make content materials easier to access
- To motivate kids to engage with content across media including games, videos, and hands on activities
- To acquire new and retain existing users, particularly 9-10 year olds

Multimedia Research, an independent evaluation group, assessed an early version of the revised website with rising $4^{\text {th }}$ graders, focusing on

- Appeal of screens and features
- User friendliness of screens and site components
- Transparency of icons, titles and site structure


## METHOD

## Sample

Rising fourth graders were recruited around three national sites: Milwaukee, WI; St. Louis, MO; and Austin, TX. The sample included 25 children, 12 boys and 13 girls, with $48 \%$ minority representation ( $24 \%$ African-American; $24 \%$ Hispanic).

Familiarity with Cyberchase. Half of the sample, equal boys and girls, were current Cyberchase viewers or had seen Cyberchase at some point in the past year. To verify their familiarity, the children were asked to tell a bit about the characters in the series or about one of the shows they remember watching. The other half of the sample, again equal boys and girls, were not familiar with Cyberchase.

Favorite Website. To be involved in the evaluation, children had to have Internet website experience either at home or at school. The table below presents the kids' favorite website and why they like that website. Sites with games dominated the favorites list.

| Favorite website | What is liked about favorite website |
| :--- | :--- |
| addictinggames.com | Game called 2011 4th and goal. |
| Cartoon Network | Play games and make your own game. |
| Club Penguin (2) | It's fun because sometimes they have different themes like Halloween <br> they will make everything like Halloween- the themes were really fun. <br> It's like a game that you play. It's like a penguin and you play games and <br> you can talk and you get coins and you can buy hats and necklaces, <br> stuff like that. |
| Cool math.com | It has games and shows math and helps me in school. |
| Fantage.com | Where you get to make your own avatar, play games, buy clothes, and <br> meet other "Fantagians." |
| Funbrain.com | I like the fun games that are kid games. |
| Gamebrew.com | There's a game called Obama Rider and you have to get Obama to a place <br> that he needs to be. You collect money and get all kinds of things like <br> back flips. It gets hard. I got on level 9 but my friends got on level 12. |
| Girlsgogames.com | I like it because you can cook and play games on it. |
| Mathiscool.com | Because it is fun and it helps me with math. |
| Miniclip.com (2) | Because there's games on it. <br> Like to play games. |
| Moshi <br> Monsters.com | Like to play addicting games. <br> Mostfungames.com |
| Nick.com (2) | Cuz there's fun games. <br> My favorite thing is icarly where you have to fight a girl- you are <br> punching the girl. <br> One of my favorite characters is on there- sponge bob and there are games <br> for him. |
| Pokemon.com | I like to go online and play Pokemon. I'm a beginner and it helps me and <br> you can win prizes that you can get in the mail. |
| Poptropica.com (3) | You can walk anywhere or go anywhere. <br> You get to make your own person and then play games and go to different <br> worlds and unlock new things...and you can win items for yourself. <br> Colorful, play games and is somewhat educational. |
| Yobkinz.com (2) | It's a dress up website where you can buy clothes and you can get your <br> own pets and it's lots of fun. <br> It's a website where you can talk to your friends and make your own dolls <br> and go shopping and get star coins. |
| You could do a lot of fun stuff with the toys that you have. |  |
| I like it to see my favorite shows or Lego videos. |  |
| There are really cool videos on it. |  |

Experience with current Cyberchase website. Almost half of the sample (44\%) had visited the Cyberchase website. They described what they like to do on the site as follows:

The quests
I looked on PBS kids and I found this website, and I started to play the quest
You go to a world and play games
There was only one game that we played [with entire class]
The games
I like to play the games and watch the videos. I like to try some of the new games, and I like to see the episodes. I saw the one about Digit's birthday party and it was kind of fun.
I like to watch episodes
I like to watch the episodes
I like to make my own - that little scene that you can have stickers and draw stuff on it. It's cool. I like the noises it makes on the side.
Those little super hero kids

## Procedure

Parents of recruited children signed informed consent confirming their understanding of the evaluation. An honorarium of $\$ 30$ was given upon completion of the evaluation.

Researchers at each of the three sites walked individual children through an early version of the website in sessions ranging from 30-50 minutes. The project was introduced as follows:

Today, I am going to show you a website that goes along with a math television series called Cyberchase. Cyberchase is changing how their website looks and works. We want to know what kids like about the new website and how kids will use the new website. And I need your help. Today, we are going to look at some webpages that show what the new website will look like, and we will talk about your opinions of the pages.

Five web pages were explored with respect to the following issues:

## Homepage:

- general appeal
- initial interest in activity
- understanding of Motherboard Recommends Promo Box
- understanding of where to click to find something of math interest, to watch a show, to play games, to do some activity other than games
- understanding of what happens after clicking on a button
- understanding of icons


## Games Landing page

- locate games above the fold (alphabetical) and below the fold (using scroll bar)
- recommendations for changes


## CyberOlympics Game page

- interest in Try Another (this section presents alternative learning paths, that is activities related to the game to encourage users to stay on the site)
- understanding of Try Another format
- recommendations for changes
- search for some fun with fractions


## Find It Landing page

- interest in choices


## Find It Results page

- interest in choices
- understanding of choices
- visibility and understanding of tabs


## HOMEPAGE



Upon first exposure to the homepage, attention was grabbed by the Promo Box, although the majority of children said they would click first on games. Almost all of the children understood the goal of the Promo Box as Motherboard's suggestions for the user. All children correctly interpreted the function of the Promo control bar. Half of the children thought that they would see a video by clicking on the Promo Box, although the majority interpreted the play icon correctly when asked about it specifically.

To learn more about a personal math interest, 40\% chose FIND IT! Almost all of the children understood the function of FIND IT! and interpreted the magnifying glass icon correctly.

All children recognized the video play icon and game controller icon and chose to click on the appropriate homepage area to watch a show or play a game.

One-quarter of the children understood that clicking on the hands on area meant that they could do activities, and another third suggested that they could draw or color. Most were unsure of the meaning of the phrase "hands on." The majority interpreted the icon to mean drawing.

## General Appeal

Upon seeing the homepage above, children described what they liked first and also what else they liked secondarily. The tables that follow indicate that the majority of attention was captured by the scene in the Motherboard Recommends (MR) Promo Box. This result might be expected as MR is the largest and most central component on the homepage with a scene depicting action. Two children spontaneously identified the item in MR as a video, and three children thought it was a game. Games and Videos in the Navigation Bar were the next most appealing features on the homepage.

| Feature <br> Liked | \% (n) chosen | Reasons |
| :---: | :---: | :---: |
| Motherboard Recommends Promo Box | $56 \%$ (14) chose first <br> 24\% (6) chose second (including 4 who had chosen another area of MR Promo first) | I see that the kids are escaping from Merlin's Maze. I see a girl who has a wand, and I think she is going to cast it on this tiger. Kids escaping from the maze: they use a lot of cool things to escape, and they always find a way to get out by using math and science and other things. <br> I like how they did the scene selection, and I love the color. It's more interesting- you can look at the picture and say "wow! what is going to happen?" I like the monster. It looks like they're trying to save the monster and save the bad guy from destroying the town. The lady has a wand and is trying to not make the dragon over power her. <br> It's about Merlin. I want to find out what that cat is. Magic, you can do like whatever you want and stuff. Magic, it like makes stuff mean, I guess. <br> Magic is just cool. <br> It looks kinda interesting because I want to see what this video is right there in the front. It really pops out to me. I really want to know about it. <br> I like the games. They look fun. <br> I think there is a game, and it looks fun, and it looks like you are shooting a lion and making it change colors or something. I like games. I don't know if they are fighting or not, but I like games that you are on missions or they are like mazes. <br> The game- it looks like it would be fun to play. It looks very interesting. <br> I like this [animal]. I think it attracts your attention and makes you want to learn more. <br> It's glowing and it's a tiger. <br> The tiger and those kids with a wand. <br> It kind of looks like the room. It's cool. <br> It looks interesting. <br> I like this part. [points to arrows below] You can move it around. You can see if you are interesting in it and see if you want to watch it. |


| Feature Liked | \% (n) chosen | Reasons |
| :---: | :---: | :---: |
| Games in Nav Bar | $16 \%$ (4) chose first $12 \%$ (3) chose second | They're kinda fun. <br> They are fun. <br> I have seen some games that my brothers have played that look fun. Games usually have like- you have to find something, and there is usually a timer which makes it challenging and fun and then you get a badge as a reward. <br> They are just fun games to play when you are alone and nothing to do. They are really fun and cheer you up. <br> The games are fun. <br> Because you can play them. <br> They're interesting. |
| Videos in <br> Nav Bar | 4\% (1) chose first $16 \%$ (4) chose second | That looks interesting because I do like to watch Cyberchase. I like it because there is always trouble and the kids always have to go fix it- there is always something that goes wrong. <br> The videos are sometimes interesting. <br> Usually when I go to other websites when I click on videos, they seem kind of funny. <br> Because they might be like funny videos. <br> You could watch them and see what's coming on. |
| Doughnuts | $4 \%$ (1) chose first $12 \%$ (3) chose second | They are tasty. <br> They look good. <br> Just looks funny. <br> I like that Delete is eating doughnuts. I think it's kind of funny and he has a whole box of them and he looks like he's not going to share them with anybody! |
| Pictures, <br> Background | 4\% (1) chose first <br> $12 \%$ (3) chose second | The pictures are really good. They actually look like the picture from the show. <br> I like how it looks, like a laboratory. The screen and the lady robot, the one who helps the kids with their adventures through Merlin's maze and how it looks and how they have codes on the door. <br> The background. I like how it looks like you're inside a computer. <br> I like how it looks like a computer screen. If you think about Cyberchase, it's all about technology, and I think it represents it - really cool. |
| Buzz <br> Delete | $8 \%$ (2) chose first $8 \%$ (2) chose second | I love this dude [Buzz]. He's funny. <br> That guy [Buzz]. I like how he's tiny, and he kinda looks like a dog, his little sharp teeth. He looks like a devil. I think he's cute. <br> They [Buzz and Delete] can mess up on things and they are kind of funny- they mess up on what Hacker tells them to do. <br> The two creepy guys and the guy with the doughnuts makes me wonder what is going to happen with the doughnuts. |


| Feature <br> Liked | $\boldsymbol{\%}$ (n) chosen | Reasons <br> Navigation <br> Bar |
| :--- | :---: | :--- |
| $4 \% ~(1) ~ c h o s e ~ f i r s t ~$ <br> $4 \%$ (1) chose <br> second | I like that it shows you what sections it is, like games and videos. <br> It kind of helps you with it. <br> How there's the different buttons to go to places. A lot of times <br> on websites, I can't find those buttons and right here, it is in <br> clear sight and so it is easy to find that. |  |
| Cyberpoll | $4 \%$ (1) chose first <br> $4 \%$ (1) chose <br> second | I just like votes a lot. I don't know why. It just gives you a <br> chance to share your opinion. |
| All websites like have the vote thing so that is really good, cuz |  |  |
| you have to do a challenge for everything and you have to |  |  |
| see if you can handle it or not so it is always something new. |  |  |

## Initial interest in activity

Given control of the cursor, the children showed what they would like to click on first. They were asked why they would click there and what they thought would happen when they clicked there:

- $64 \%$ (16) chose games in the navigation bar because games are fun. They expected to see a list of different types of games.
- $16 \%$ (4) selected to click first on the center MR Promo Box because it grabs their attention and interest. Half expected to see a video play. Half expected a game with playing instructions. It is possible that more would click first on the Promo Box if our evaluation procedure had not first asked them to talk about the homepage.
- $8 \%$ (2) picked the control bar under Escape from Maze title because they could see different options. They expected to see different episodes or games to choose from. Those who chose this area understood the functionality of this feature.
- $8 \%$ (2) chose videos in the navigation bar because they like watching videos. They expected to see different videos to choose from.
- $4 \%$ (1) chose Cybersquad in the navigation bar because they could become one of the team. The child expected to put in a user name and password.

The only features not chosen in the homepage were Cyberpoll, Hands On, and Find It; thus, there appears something of interest for everyone.

## Understanding of Motherboard Recommends Promo Box

The children were asked what would happen, what would they be able to see, hear or do after they click in the area of the promo box.

- $48 \%$ (12) suggested that they would see a video
- $24 \%$ (6) reported that they would go to a game
- $12 \%$ (3) noted both a video and game possibilities
- $16 \%$ (4) were unsure what would happen; e.g., try to escape from a maze? I don't know

Almost all children understood the goal of the promo box; for example, Recommends means that she thinks that you would like it, so that is what they are trying to get you to play. When asked what the words Motherboard Recommends means to them, $80 \%$ (20) of the children used the word recommends in their answer or responded with appropriate rephrasing that Motherboard is telling you something, telling you what to do, giving a suggestion. The 20\% (5) who responded that they did not know the meaning of Motherboard Recommends were part of the group who were unfamiliar with Cyberchase and its characters; perhaps not knowing who Motherboard is influenced their response.


The orange and white video play icon was interpreted as a play icon $(48 \%, 12)$, as an icon meaning to play a video $(36 \%, 9)$ or as an icon to go to the game $(20 \%, 5)$.


Almost all $(96 \%, 24)$ of the children correctly interpreted the function of the control bar just below the MR Promo Box to mean that it shows you different options like games or things or videos or pictures.

## Find something of math interest

Each child was asked what they would click in the homepage if they wanted to do something with or learn more about an area of their personal math interest. ${ }^{1}$

- $40 \%$ (10) chose to click on FIND IT! in the navigation bar
- $24 \%$ (6) chose to click on GAMES in the navigation bar
- $12 \%$ (3) chose HANDS ON in the navigation bar
- $8 \%$ (2) chose VIDEOS in the navigation bar
- $4 \%$ (1) chose Teachers in the upper right of the homepage
- $4 \%$ (1) chose Site Map in the bottom navigation
- $4 \%$ (1) chose the right arrow in the control bar under MR Promo Box
- $4 \%$ (1) could not give an answer

The 15 children ( $60 \%$ ) above who did not chose FIND IT! were asked what would happen if they clicked on FIND IT! Of these 15 children, all but two understood the function of FIND IT!

- $33 \%$ (5) expected that a search box would open to type in a request; for example, it will give you a little search box, and if you want to search for something on the website, you can type it in there, and it will give you the options.
- $53 \%$ (8) suggested that FIND IT! will help you find things that are on the website.
- $7 \%$ (1) thought the choice was like an I Spy book, like "can you find the tennis racket?"
- $7 \%$ (1) could not give an answer.

[^0]Almost all $(88 \%, 22)$ children correctly interpreted that the magnifying glass icon means to look for, to find or to search for something. The remaining three children identified the icon as a magnifying glass to see things better up close but did not relate the icon to a search function. When these three children were asked what kind of little picture "tells you to click here to look for some topic you are interested in," two thought the current icon was fine and one suggested the Google picture (that is where I search most of the time).

## Watch a show

To watch a Cyberchase show, all of the children chose to click on a play icon either in the navigation bar $(92 \%, 23)$ or in MR Promo Box $(8 \%, 2)$. All recognized the icon as a play button to watch a video.

## Play games



All of the children would click on GAMES in the navigation bar in order to play games. All recognized the icon as a game controller or representing playing games; for example, it represents a video controller to represent the games on the website.

## Do some activity other than games

Many children were unsure of what would happen when they clicked on the HANDS ON area:

- $44 \%$ (11) did not know what would happen
- $32 \%$ (8) suggested that they could draw or color
- $24 \%$ (6) proposed that they could do activities

When asked what the words "hands on" means, a small portion suggested activities:

- $44 \%$ (11) interpreted the phrase literally to mean to put one's hands on something like a pencil or crayon or mouse (e.g., put your hands on a marker and color something)
- $32 \%$ (8) were unsure of the meaning
- $16 \%$ (4) referred to activities (e.g., something you can do)


The "hands on" icon was interpreted by a majority $(72 \%, 18)$ to mean drawing, by $28 \%$ (7) to mean writing, and by $8 \%$ (2) to mean activities. The children were then asked what kind of picture to use that tells them to click here to do some activity other than games. Many $(40 \%, 10)$ of the children had no suggestions for an alternative picture, and $16 \%$ (4) recommended the Cybersquad icon that appears on the homepage. Other suggestions included the following:

A smiley face
Home [pointed to house icon]
A hand doing something
Math symbols
Show a book
A book or a printer

An essay or a report
A picture of a piece of paper
A piece of paper and a pencil
A crayon doodling on a piece of white paper with a black squiggle
Show someone drawing

## GAMES LANDING PAGE



The children had no difficulty locating games above or below the fold. Most found the alphabetical order acceptable, but a quarter recommended larger game pictures. Other suggestions included using game categories, a search box, an alphabet letter search, and rotation through games via arrow keys.

## Locate games above and below fold

None of the children had difficulty finding either CyberOlympics above the fold or Railroad Repair below the fold. Everyone immediately used the scroll bar to read and scan the titles.

## Recommendations for changes

When asked how to make it easier to find games, most found alphabetical order was acceptable. One-quarter $(24 \%, 6)$ suggested larger game pictures. A few other possibilities were suggested including game categories, a search box, an alphabet letter search, and rotation through games via arrow keys:

They could put it in like "action" or "puzzle" games, like sections, they could click on it then it would give them all of the games that would be like in the section.
If you click on a game in sections, like "action" games or "sports."
I think there should be things with a section that all start with cyber and a section that starts with crack (crack digit's code, crack hacker's safe).
Kind of like a dictionary - different sections for different letters.
You could search it.
There could be a search and you could go to it from that.
I think if there were so many games, you could have a search box.
Maybe have a screen where you click an arrow key to see all the games until you found the game you wanted. Maybe with a little info about each one but not a lot of details.
Have arrow keys here [in MR strip], so you could slide over.


A small portion of the sample were interested in clicking on the Try Another choices, after imagining they had completed the CyberOlympics game. All children understood the meaning of the phrase Try Another in this context. To attract more attention to this section, the children mainly suggested bigger choices and more motivating titling,

Two-thirds of the sample preferred the Surprise Me choice because they like surprises and mysteries, and one-third inferred that this choice would lead to different media. Everyone liked the idea of the Surprise Me choice.

One-fifth of the sample preferred the Using Data choice for a variety of reasons. All understood that this choice would show a video.

The choice of Hacker was preferred by $16 \%$ of the sample for a variety of reasons. Half thought this choice would show something to draw or write, and one-fifth suggested the choice would reveal a project or activity. The majority understood the meaning of the hands on icon.

When asked how to get from this screen to a place on the website where you could have some fun with fractions, half chose to click on FIND IT!

## Understanding of Try Another section

Pointing to the Try Another column, researchers asked "what do you think this is for?"

- $40 \%$ (10) suggested the section was for trying another game
- $36 \%$ (9) noticed the variations in the types of choices; for example,

To choose videos, hands on or a mystery thing;
For taking you to places that would be harder to get to. Like the Using Data would take you to a video because it has the play sign, and Hacker would take you to a coloring page because it has the hands on symbol, and the Surprise Me would be something random.

- $20 \%$ (5) spoke more generally that the section was for other things or things that you want to try.
- $4 \%$ (1) did not have an idea.

All of the children understood that the phrase Try Another means to try something else on the website; for example:

So you could try another thing instead of this game.
To try another thing like watch a video or other stuff.
It means like if you want to try another thing instead of a game.
So that you can know that they are links, so you don't wonder what they are for and so you know they are not an ad.
So you won't think you are supposed to go back and exit out and try again. You just click on that and it will take you to videos or something.
I think it's written there because for other things to do when you're done with the game.
All children understood that a choice of Using Data would show a video.
Users thought that the choice of Hacker would show something you can draw or write $(56 \%, 14)$; show a project or activity $(20 \%, 5)$; reveal a game $(8 \%, 2)$; or provide a description of Hacker $(8 \%, 2)$. Two ( $8 \%$ ) children did not know what would happen with this choice. When asked specifically, the meaning of the hands on icon was not apparent to $16 \%(4)$ of the children.

Users thought the choice of Surprise Me would be something that surprises you ( $36 \%, 9$ ); would reveal a random game, video or activity $(32 \%, 8)$; or show some sort of quiz questions $(16 \%, 4)$. Three (12\%) children did not know what would happen with this choice.

## Interest in Try Another section

After imagining that they had played the CyberOlympics game,

- $60 \%$ (15) of the children would pick another game via the navigation bars at the top or bottom of the page
- $16 \%$ (4) would click on one of the Try Another choices
- $12 \%$ (3) would click on the browser's back arrow
- $8 \%$ (2) would click on the Cyberchase icon
- $4 \%$ (1) would click on videos in the navigation bar

When asked which of the three Try Another choices they would pick first,

- $64 \%$ (16) chose Surprise Me first because they like surprises and mysteries. A few noted that they like the picture. Everyone liked the idea of the Surprise Me choice when explained to them ("When you click here, you will see maybe a game, maybe a video, maybe an activity, but you won't know which one until you click here.")
- $20 \%$ (5) chose Using Data first because:

It's a video and looks like it will have a lot of information.
It seems like it shows you how to use your data in a movie way.
I want to see if it's videos, if it's cartoon videos that I like.
Then you know you already did that one and then keep on going down.
It looks fun.

- $16 \%$ (4) chose Hacker first because:

The crayon- I think it shows little projects. I make bracelets out of paper at home.
Probably it will interest me.
I don't know much about Hacker I think he might be important in that game.
It looks like a mystery because I don't know what it is, so it makes me think I want to find out.

## Recommendations for changes

The children were asked to think about redesigning the Try Another section ("These choices are other activities that relate to the CyberOlympic game. The website designers want you to click on one of these Try Another choices when you finish playing a game, so you can do more things related to the game. What can we do differently with this section so you would be sure to notice these other choices? Is there anything else you would do to make these choices stand out and have you or your friends want to use them?")

- $32 \%$ (8) recommended making the choices bigger:

Make them bigger, make try another choices more obvious, make try another bigger or different font.
I would kinda make them a little bigger so people can notice them a little more, they can change the pictures every month I would probably make them bigger.
Maybe make it bigger.
Make them a bit bigger.
By using more pictures, making them bigger.
Maybe make it like more like make the words a little bit bolder and a little bit bigger.
I think we should take away the square boxes and make them bigger.
It's small and I don't think I would notice it if you didn't point it out.

- $28 \%$ (7) noted that the title was not sufficiently motivating:

They could say 'you can see really cool stuff on here.'
Say that it's a fun game.
Like "click here! The activities are going to be really fun! "
Changing the words, maybe add that 'this game is as fun'- if they told me it was fun I would
try it.
Make it so it sounds more exciting instead of Using Data, it says 'cool videos' or something.
Change those words - Try Another.

- $20 \%$ (5) did not have any suggestions
- $16 \%$ (4) reflected on position:

They should put it right in the middle of the screen when the game ends.
Maybe right after you play a game, it would show it up on the center of the screen.
You could maybe put them in a different category. You could put them in groups down here [at bottom of screen].
Maybe like put them on both sides so you can click on both sides, or right on the bottom where it is all empty.

- $12 \%$ (3) suggested changing the colors:

Make the colors more bold so it like stands out.
The colors should be louder because I think a lot of louder colors show better than other colors. They take away people's attention from what they're doing.

- $8 \%$ (2) suggested extra design features to draw attention:

There was a game my brother played once and he got attracted to it by a lot of arrows pointing to it- maybe an arrow pointing from this [CyberOlympics] to those [Try Another].
They could put stars around it.

- $8 \%$ (2) proposed rollover descriptions to provide more information:

You can make a list and like if you went to it [rolls over it with cursor], then a preview of it would pop up.
If you put your mouse over it, a text box comes up with a description about the game or video or both.

## Search for some fun in fractions

When asked how to get to a place on the website where you could have some fun with fractions, half $(52 \%, 13)$ chose to click on FIND IT!; 20\% (5) chose GAMES; $16 \%$ (4) chose HANDS ON; and one each chose CYBERSQUAD, Surprise Me, and Home.

## FIND IT LANDING PAGE



Excluding the Fractions choice, more than half of the sample was interested in exploring the topics of Science and Engineering; Math and Sports; and Money.

## Interest in choices

The children expressed interest in all the topics on the Find It Landing page, as follows:

- 60\% (15) liked Science and Engineering
- 56\% (14) like Math and Sports
- $52 \%$ (13) liked Money
- $44 \%$ (11) like Math and Weather
- $40 \%$ (10) liked Holidays
- $36 \%$ (9) liked Problem Solving
- $20 \%$ (5) liked Geometry, Pre-Algebra, and Using Numbers
- 16\% (4) liked Measurement
- $12 \%$ (3) liked Using Data


## FIND IT RESULTS PAGE



Most children preferred the game or video choices on the results page and understood that they would play a fractions game or see a video about fractions. Almost all children were aware that clicking on the Games tab would allow them to see only games about fractions.

## Interest in choices

Given their choice of where to click on the Find It Results page,

- games were chosen first by $40 \%$ (10) and second by $52 \%$ (13)
- videos were chosen first by $44 \%$ (11) and second by $40 \%$ (10)
- hands on activities were chosen first by $16 \%$ (4) and second by $8 \%$ (2)


## Understanding of choices

Those who chose a game or a video suggested that they would see a game or video about fractions (e.g., it will be a game that is about matching the fractions together; I think it will play a video about fractions). Those who chose an activity were less certain what would happen in their choice (e.g., It might show you Cyber digits, like if you are doing math and you are trying to add and subtract and use multiplication and division; You get to draw a Cyberchase ruler; Maybe it'll pop up some fractions and there is some clay and you have to match the fractions to put it on right).

## Visibility and understanding of tabs

Almost all $(84 \%, 21)$ of the children knew to click on the Games tab under the title Find It: Fractions in order to see only games about fractions. The four children who chose a specific game in the Find It list instead of the tab understood the function of the tab once the tab was pointed out to them.

## APPROPRIATE AGE RANGE

The majority of children felt that the test version of the website was meant for kids of all ages because the site has a variety of choices of different levels of difficulty and is educational.

Almost all $(80 \%, 20)$ of the children felt that the website, given what they saw, was meant for everybody. Their reasons emphasized the variety of choices, the different levels of difficulty, and the educational quality:

It has games for all ages.
It looks like there's games for all ages.
Some of the games are easy and some of the games are hard.
Everyone could play, and everyone plays games, and it's not nice to not let grownups play games. It's not nice to let them sit around and watch tv all day.
Kids could come on for math in my age, and the younger kids could probably do games, older kids could do math like geometry.

There are kids younger than me like my brothers and kids older might like the math games for their class and there are a lot of math games.
Kids might go on here and learn new things about fractions, math, science and other stuff like that, and their teachers might assign them to do it, and they might just do it for fun.
If older kids have problems with or need refresher on like fractions, they could go to fractions and get a refresher, and kids my age, it's gonna help them with math, and younger kids- it's gonna help with a lot of stuff.
Everybody needs to learn math and other important stuff like weather and algebra and geometry and money.
I think it's meant for you to learn fractions and other things you're going to have to grow up and learn about in your life.
It has more complicated stuff and some easier stuff.
It has different categories.
It has different kinds of sections for older kids and younger kids.
Because kids younger than me probably haven't seen the old ones, and some kids older than me can't get out of the habit of liking them, and kids my age will like some of the videos and games.
It's fun and you can have fun for everyone. Little kids will probably have fun playing some of the games and drawing, and the kids my age will probably have fun doing fractions and math games, and the kids older than us can do fractions, and it's kind of like a family website.
There are some activities for big people like fractions and all that.
It is not too kiddish, and it is not too babyish, and it is not too older for like older kids, it is just like a website where you can do anything.
I think that everybody can enjoy this website.
I used to love Cyberchase when I was younger so I know that younger kids can do it and older and kids this age.
My sister she is 6, maybe she would go on there for the games, and if I was on there too, I'd make sure she didn't go on an adventure. I'd make sure she'd find one that she really likes.

Three ( $12 \%$ ) children thought the site was best for kids their age and younger:
I think it would help kids my age with stuff they have to do in school. I think it looks like it would be fun for younger kids.
It has some good information I don't know about. It might teach me something I don't know and for younger people, it will teach them, they can learn something.
I think it is mainly for kids my age and younger. Cuz if they do all of the games, well fractions, they could get better at that than most of their classmates, so kinda like a jump start.

One child (4\%) felt it was only for kids his age cuz I barely got them right. When you asked me the thing where to go for fractions, I never even said the Find It.

Two children (8\%) suggested the site was for younger kids:
Most of the things I probably already know- like all the math and science. I'm sure I already know lots of it

I think it is mainly for kids my age and younger. Cuz if they do all of the games, well fractions, they could get better at that then most of their classmates, so kinda like a jump start


[^0]:    ${ }^{1}$ To supply the personal aspect, each child had been asked at the beginning of the procedure what math they thought was most fun or interesting or what math was most difficult or hard for them in the previous school year. Most frequently mentioned were multiplication (36\%), division (8\%) and algebra (8\%).

