The ICT4me Curriculum

About ICT4me

ICT4me is an after school and summer curriculum for middle school youth to develop ICT fluency, interest in mathematics, and knowledge of information, communication, and technology (ICT) careers. This problem-based curriculum capitalizes on youth interest in design and communication technologies. ICT4me provides structured interactions with ICT professionals, including having youth participate in engineering design and development teams. ICT4me's promotes a train-the-trainer approach to building capacity in informal ICT learning.

Build IT vs. ICT4me
ICT4me is a derivative of the Build IT curriculum co-developed between SRI International and Girls Inc. of Alameda County. Questions about the Girls Inc. implementation of Build IT can be directed to them at http://www.girlsinc-alameda.org/about/contact.

SRI is no longer supporting the development of ICT4me, so the curriculum materials are offered as is.

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Electronic Versions of Materials

Electronic versions of all materials in this unit are available for download from the website at http://ict4me.sri.com/.

Contact Information

Please contact the SRI International Inquiry line for questions about ICT4me.
https://www.sri.com/contact/form

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Unit 3: Redesigning the Web

Overview

Youth apply their design skills to the development of Web pages and Web-based communication tools. Program leaders, with assistance from volunteers and ICT Professionals, teach Web development and provide guided practice in the youth-led problem-based activities. Youth reflect on the affordances and drawbacks of their designs. Youth share their designs and reflections at the Family Tech Night.
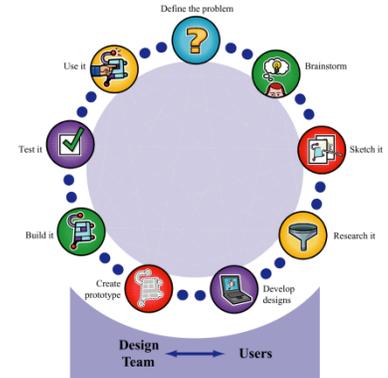
Enduring Understandings

Why does design matter beyond this unit? These enduring understandings help answer that question and give focus to the activities in this unit, they are the big take aways.

- A design has both form (how it is designed, what it looks like) and function (what it is designed to do). The functionality can be visible (e.g., web page navigation) or hidden (e.g., HTML code) to the user.

- Engineering conventions (i.e., shared standards) create opportunities and constraints for design.

- ICT professionals work with colleagues and users to solve problems.

- There are a variety of ICT careers. Some of these careers involve computer programming.

- Structured approaches and models in mathematics address complicated counting problems that are found in the development of Web applications (i.e., algorithmic thinking).

Essential Questions

Essential questions guide the activities for a day or session.

- What are the differences between how a user interacts with the web and how an engineer interacts with the Web? Hint: You've engineered your web pages.

- How does HTML enable and limit your designed Web page?

Additional essential questions for field trips:

- Who do ICT professionals work with?

- What do ICT professionals do in their jobs?

Unit Layout

Unit 3 is an intensively creative unit, of at least 32 hours of face-time over 10 weeks including 4 ICT Professional visits or field trips. Most weeks require at least 2 hours and 30 minutes of participation. This document includes weekly leader preparation and curriculum sections.

The Summary and Getting Ready prepare leaders for each week's activities. The *Summary* section includes the Schedule and Goals, Essential Questions, Design Process concepts, Glossary definitions, and a list of all the Materials needed for the activities that week. The *Getting Ready* section includes an Overview of the week's activities and Background information on the topics covered in the activities for the leader. For some weeks, we provide additional readings or websites in case leaders want to Learn more.

Each week has four activities: Warm-Up, Challenge, Main Activity, and Discussion/Reflection curricular sections. Our recommendation is to do the Warm-Up and Challenge in one 70-minute session, and the Main Activity and Reflection/Discussion during a second 70-minute session. Activity Pages include the handouts needed for the week.

Thoughts on Gender

Design is all around us, done by adults and youth. ICT4me units are designed to engage all youth in learning about design and Computer Science. It was especially designed for getting youth, African-American and Latino/a youth hands on opportunities to learn and develop expertise in these fields.

All youth should have an opportunity to explore the materials without being deterred by their own or others preconceptions about gender and race, in safe environments that promote collaboration, learning, and self-expression. All youth should have the same opportunity to see themselves reflected in the ICT professionals with whom they interact.

Gender Tips appear in orange boxes throughout the curriculum, with ideas on how to address particularly sticky topics.

> ☯ **Gender Tips**
>
> Connecting gender to ability (or lack of) or way someone or something looks or behaves is a slur. Just like a racial slur. Explain to youth that slurs (racial, gender, sexual orientation, age, etc.) are not cool and not welcome.

Table of Contents

Week 1: Introduction and Sketching

Summary

🕐 Schedule

Opening Activity	Youth design on paper websites all about them.	45 min
Warm-Up	Youth review Design Process and learn about goals for the unit.	20 min
Challenge	Youth show sample websites.	30 min
Main Activity	Youth design websites (include constraints/requirements/theme).	90 min
Discussion/Reflection	Youth discuss Essential Questions.	15 min
Total Time		**3 hr 20 min**

⭐ Essential Questions

- What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You have engineered your own web pages.
- How does HTML enable and limit your designed web page?

🔄 Design Process Concepts Involved

- Review the entire design process.
- Define the problem.
- Brainstorm.
- Sketch it.
- Research it.

🧰 Materials

- The Design Process poster and graphics
- Web and Foundation graphics
- Computers with Internet access
- Overhead projector connected to a computer
- Example websites
- Designing Your Website handout
- Butcher paper
- Markers
- Tape
- Sketching Pages

- Design Requirements
- Access to the HTML tutorial, http://ict4me.sri.com/chat/html_tutorial/overview.php
- Theme Ideas or posters based on the tutorial (summarizing the tags and commands). It is your choice as the leader whether to use posters, the online HTML tutorial, or some combination of the two.
- A list of websites with clear themes written on chart paper (for youth to visit)

- Pencils

Getting Ready

Overview

Youth begin to design their sites.

Glossary

- **HTML.** Hypertext Markup Language is the authoring language used to create documents on the Web. These pages are read by web browsers.
- **Tags.** An HTML tag is what you use to give the browser information about how to display the text on your web page. A tag always starts with a < and closes with an >. For example, <P> indicates a paragraph space.
- **Software engineer.** A person who designs and codes software programs for technologies, such as the Internet.
- **Computer scientists.** A person who is concerned with the theories and designs behind computing as well as the practical applications.

Background

In this lesson, participants will get to know one another and start designing their websites. Youth need to go over the design requirements and design process in order to create a theme for their websites.

As a "get to know you activity," youth will create an About Me page with information they would like to share with the group. You can choose to make one yourself to use as an example and to introduce yourself to participants.

In teams, the youth will work on their websites throughout Unit 3 as they learn HTML. You can decide, based on availability of computers and what you think will work best for the particular group of students, whether each pair will together create one website or whether each student will create their own, with their partner as a helper throughout the process— someone to turn to with questions or to brainstorm ideas. The youth can apply what they learn in Unit 3 and, if they choose, use other resources to further their HTML skills to develop their website. Have partners or teams ready for students. Remind them that engineers work together and that is what they will be doing for the next 2 weeks.

The students will have guidelines/design constraints for developing their sites. The first guideline in the design requirements, points students toward thinking of a theme for their websites. It is this first requirement that you will focus on in this lesson.

Finding a theme can be difficult for students. Use the Theme Ideas to help students come up with their own themes.

Things to Do Before the Unit Starts

- Enlarge and printout the nine design poster graphics. On the wall, put up the web and foundation graphics.

- Enlarge and laminate the Design Process.

- Learn HTML as you create a website of your own. You'll need the website to share with youth. Use the same guidelines you will give participants to create theirs.

- Upload an HTML text editor to the youth's computers. (Make sure you are not installing a WYSIWYG editor, just plain old HTML text editing is what you want.)

- Prepare a list of sample websites, based on your understanding of the design requirements and your knowledge of the youth's interests

HTML Text Editors

For Mac

- TextWrangler, http://www.barebones.com/products/textwrangler/index.html

- 10 Best Editors for Mac, http://webdesign.about.com/od/macintoshhtmleditors/tp/free-macintosh-editors.htm

For PC

- CoffeeCup, http://www.coffeecup.com/free-editor/

- 10 Best Editors for PC, http://webdesign.about.com/od/windowshtmleditors/tp/windows-text-editors.htm

◉ Opening Activity

Time:	45 minutes
Purpose:	Youth get to know one another.
Materials	• Butcher paper • Tape • Markers • Your "About Me" page

To Do

1. Share the "About Me" page you created, and introduce yourself to participants.

2. Tell youth that they will be creating a similar page (on your school server, as if it was on the Internet). This webpage will about them and should include information they would like to share with the group since they will be presenting the pages once they're done. This page should be much like a designer page or the About Me page that many people and companies have on their websites. Some topics to include are: name, age, siblings, favorite hobbies, pets, etc.

3. Show your example so that youth get an idea of what the product might look like. (It should look like a web page; show links with arrow, like the example below).
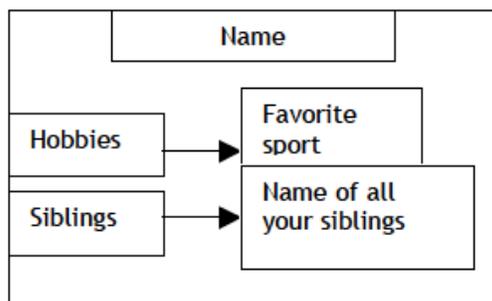
4. Pass out large pieces of chart paper and markers to start. Walk around to help those who might need more instruction.

5. Encourage youth to use text, color, and drawing to communicate their ideas.

6. Once all youth are finished, have them present to the group.

> ### ☯ Gender Tips
>
> Encourage everyone to appreciate another person's hobby even if they don't feel the same way.
>
> Connecting gender to ability (or lack of) or way someone or something looks or behaves is a slur. Just like a racial slur. Explain to youth that slurs (racial, gender, sexual orientation, age, etc.) are not cool and not welcome.

◎ Warm Up

Time:	20 minutes
Purpose:	Remind youth of the design process they learned in previous units in order that they understand design requirements
Materials	• The Design Process poster • Web and Foundation graphics • Design Requirements handouts • Magic markers • Nine Design Process graphics • Tape

To Do

1. Enlarge and printout the nine design poster graphics. On the wall, put up the web and foundation graphics.

2. Review the Design Process with youth. Have youth who already know the steps explain what each process is to youth who are unfamiliar with them. As a group, have youth place the graphics in order. (See Design Process poster for the order).

3. Once you've gone over the steps, discuss their importance. Make sure you discuss that the order the steps are in is one that people often follow, but they don't have to follow it exactly. Designers often go back and forth and across steps in their designs and development. That's what the web in the middle represents—going back and forth.

4. Go over the design requirements with the youth (Use the Design Requirements handout).

5. Have youth visit one of the first youth websites (Katie's page, http://ict4me.sri.com/chat/websites/katie/katie_page4.html) that meets all the design requirements.

6. Point to the first design requirement to check whether it is met on the sample web page.

7. Go over all the requirements in order for youth to understand how the requirements apply on a website.

💡 Challenge

Time:	30 minutes
Purpose:	Youth visit sample websites and find each one's theme.
Materials	• List of websites with clear themes for youth to visit
	• Computers with Internet access
	• Overhead projector connected to a computer with Internet access

To Do

1. Say: Over the next 2 weeks, you will have the opportunity to create a website with a partner or alone. You'll work on your designs, learn HTML, and use what you learn about HTML to create your own pages.

2. Say: We will be visiting websites that have themes so we can get an idea of what a themed website looks like. This way we can get started in fulfilling the first requirement for our websites, choosing a theme.

3. Ask youth to define theme (a recurrent idea, subject or topic).

4. Display the chart page that lists websites with clear themes that youth can visit.

5. Let everyone know that the group will be visiting these websites together and that they should not go ahead of the group. You should project each website using the overhead projector.

6. Have youth type the URL on their computers (remind them to help each other).

7. Have youth raise their hands once they've arrived at the website. Walk around and have youth who are ready first help their neighbors until everyone has the site up on their computer screens.

8. Tell them they will be given 1 minute to find the theme of the website.

9. After a minute, ask youth to share what they think the theme is.

10. Have youth explain how they decided what the theme was.

11. Ask them about the audience or users of the site:

   – Who is the audience? [Students, adults, people who care about a certain thing.]

   – What is the audience looking for when they come to the website?

   – Why might people want to come to the site to communicate?

⚙ Main Activity

Time:	90 minutes
Purpose:	Choose theme and sketch page 1 of website.
Materials	• Designing Your Website handouts • Pencils
	• A list of websites with clear themes for • Theme Ideas handout
	youth to visit

To Do

1. Explain: After going through the design requirements and learning about themes, you'll now think of a theme for your website. It needs to have a chat/IM feature, so your theme should be interesting enough for people to want to chat about. Today you can sketch out your first page; when you are finished designing it, design the second page.

2. Review the design requirements: an introduction or home page, an "about the designer" page, a chat page, and an additional page of their choice.

3. Give youth the Designing your Website handout.

4. Walk youth through the following steps:

   – Define the problem: Who is your audience? What are they looking for when they come to your website? What would they chat about on your site?

   – Brainstorm: Based on your answer to "the problem," what theme do you think your audience will like? What fits well with their needs? It's OK to look at some of your favorite websites for ideas, but remember to come up with something original.

   – Sketch it: Once you have an idea, start to draw it, lay it out.

   – Research it: Is there anything you want to look up about your audience?

> ### ☯ Gender Tips
>
> Encourage youth to think of the audience's interest in a topic rather than merely focus on the audience's superficial attributes such as gender or ethnicity.
>
> Redirect any conversation about inappropriate topics (guns, violence, bullying), unless you deem the approach to the topic is one of prevention or solutions (e.g., anti-bullying campaigns, etc.).

5. Encourage youth to collaborate with partners. Refer them to the Theme Ideas handout.

6. Make sure youth are answering the questions before sketching their first web page. Let them research some of their favorite websites if they need inspiration.

7. Those youth who are finished can go on to design their second page or design their "chat" page and the "about the designer" page.

8. All leaders should go around making sure youth understand how to develop each of their own web pages.

💬 Discussion/Reflection

Time:	15 minutes
Purpose:	Youth reflect on what they will create during this unit.
Materials	Youth Sketches of their web pages

To Do

1. Ask the youth:

   - What are the differences between how a user interacts with the web and how a software engineer interacts with the web? Hint: You are starting to engineer your own web pages.

2. Ask the youth to share what they are thinking about for their websites. What themes have they come up with? What do they hope to include on their pages?

> ### ☯ Gender Tips
>
> In all settings, make sure that everyone is sharing equally. You might try slips of paper or popsicle sticks with each youth's name on one. Once a someone has shared, put their stick or paper in a jar. Invite the youth who have not shared to share.

Weeks 2, 4, 7, & 9: Visiting ICT professionals

Summary

🕐 Schedule

Warm-Up	Several warm-up activities are suggested. You may also use ICT professionals' suggestions.	20 min
The Visit	Overview of structure of visit	2-3 hr
Discussion/Reflection	Time to reflect on specific visit and think about all the professions they've seen during the field trips. Venn diagram activity	30 min
Total Time		**3 hr 50 min**

⭐ Essential Questions

- What do ICT professionals do in their jobs?
- Whom do ICT professionals work with?

🔄 Design Process Concepts Involved

Potentially all (This will depend on what types of professionals you are able to visit.)

🧰 Materials

- Design Notebooks
- Venn diagram of what ICT professionals Do page

- In some cases, their laptops

Getting Ready

Overview

Arranging and participating in field trips is a significant part of the ICT4me summer program. It's important to make sure the ICT professionals that you choose do work that relates to the ICT4me unit. For Unit 3, consider visiting organizations whose primary, if not entire, business occurs through a website. Creators of communication technologies for the Web are also good choices. Examples from the pilot of ICT4me include Google, IDEO, LeapFrog, the developers of SRI's Tapped In, and a graphic design firm that specializes in user interface design for websites.

Tips

- Choose a field trip site that relates to the activities that the youth are doing in ICT4me at the time. The first field trip (Week 2) ideally should include several interaction designers to whom the youth can show their designs and from whom they can get feedback. For the ICT4me pilot, we worked with three interaction designers who have their own businesses or work from their homes for an organization. For the final field trip of the unit, you should ideally have engineers who develop communication technologies who can help the youth make their chat feature work. For the pilot, the engineers who developed Tapped In's online environment for educators to communicate and collaborate worked with the youth.

- Work with the ICT professionals whom you will visit to identify goals for the field trip and the topics you would like addressed.

- Plan the details well in advance of the trip. Check back with the ICT professional(s) shortly before the visit to confirm arrangements and find out if there are any last-minute questions.

- Provide the field trip sponsors with pertinent information about the youth. Do they have special needs? Dietary restrictions? Physical constraints?

> ## ☯ Gender Tips
>
> Be sure to prep ICT professional around gendered language, stereotypes, etc. so that they share examples of both genders and a variety of races, working in ICT.

- If possible, exchange biographies and photographs of role models and youth before the visit. This exercise helps the groups connect right from the start.

- Find out if presenters have experience working with students similar to yours. If not, let them know what to expect based your experience.

- Request a diverse group of role models from the organization that you'll visit including individuals who reflect the diversity of the youth.

- Youth enjoy learning about a variety of careers found in technology and engineering work sites. Include meetings with professionals in law, business development, marketing, graphic design, quality assurance, and production, as well as engineering.

- Begin visits with a warm-up. One fun idea from Techbridge and Bechtel: When the youth arrived, the role models had the names of famous people taped to their backs, which could be seen by the youth but not the role models. The role models had to ask the youth "yes" or "no" questions until they guessed the name on their back.

  - Hands-on activities and round-robin discussions help keep youth engaged. It's best to ask professionals to limit lectures on their interests and careers to 10-15 minutes, allowing time for questions and activities.

  - Hands-on activities may come directly from the ICT4me curriculum, such as in Week 6, where the ICT professionals work with the youth to make their networked chat active.

  - Alternatively, the ICT professionals may allow the youth to interact with their technologies at their site. For example, they may have a new web-based feature that the youth can play with. The ICT professionals can then show how they created it.

  - Roundtable discussions work well. Be sure to encourage every student to participate.

  - Invite students to give feedback on what worked well and how to improve future field trips. Use the ICT4me Students' Feedback Form.

  - Remember to have students send thank-you notes to the sponsors of the visit. You might have two to four students send e-mails for the group so that professionals are not bombarded by e-mails. Sending a professional, courteous e-mail is great practice for the students.

Note: Tips for preparing for the field trip are drawn from Techbridge's field trip materials.

Glossary

As the leader:

- Point out vocabulary that the youth have encountered in ICT4me that they are now hearing used by the ICT professionals.

- Encourage the youth to ask for the definition of any word they don't understand.

- Encourage the ICT professional to reinforce design and technology vocabulary. The professional could prompt youth by asking "What does X mean?" or could point to some part of a website or code and ask the youth if they know what it is.

◎ Warm-Up

Time:	15 to 20 minutes
Purpose:	Youth get to know ICT professionals in a short warm-up activity.
Materials	Minimal, depending on the activity

To Do

The following activities are suggestions. Talk with the ICT professionals to decide on an activity.

Guess Famous People

1. Choose people that both the youth and ICT professionals will know. Put the names of the people on placards. Attach a placard to each ICT professional's back so they cannot see the name, but the youth can.

> ☯ **Gender Tips**
>
> Select famous people that reflect the gender and cultural background of the youth.

2. Put the students in teams of two to four depending on the number of ICT professionals. Match each team of students with an ICT professional. Have the ICT professionals ask the students yes/no questions until they can guess the name on their placard.

3. Once the person on the placards have been identified, ask the students and ICT professionals to share what they admire about each person.

What Does My Job Title Mean?

Job titles are often vague in describing what an individual actually does. Some can even be humorous.

1. Have two or three of the ICT professionals with the most intriguing job titles write their titles where the youth can see them.

2. Ask youth to play 10 questions (or the typical 20 questions, if time allows), where they ask questions of the ICT professional in order to describe accurately what the person does.

3. Ask the youth to provide a description of the ICT professional's job. They may also offer a new job title.

⚙️ Main Activity: The Visit

Time: Two to three hours

Purpose: Learn what ICT professionals do, whom they work with, and what their work environment is like.

Materials: Travel to site

To Do

1. Following the warm-up, the general format is:

   – ICT professionals talk with the youth about their careers, education, interests, and workplace. The presentation may include a tour of the workplace.

   – Q&A. If the youth have trouble thinking of questions or need some prompting on the types of questions to ask, see the List of Questions That Youth Can Ask ICT Professionals at the end of this section.

   > ## ☯ Gender Tips
   >
   > In co-ed settings, foster a balance of both boys and girls sharing out and asking questions of ICT professional.

   – Hands-on activity: You'll want to organize this with the main contact for the workplace that you visit.

   – Good-byes.

💬 Discussion/Reflection

Time:	30 minutes
Purpose:	Reflect on the essential questions: What do ICT professionals do in their jobs? Who do ICT professionals work with?
Materials	• Design Notebooks • Venn diagram of what ICT professionals Do page

To Do

1. Throughout Unit 3, youth will create a Venn diagram with one circle being what they like to do and another circle what ICT professionals do in their jobs. The leader should keep a running record of whom ICT professionals work with and what they do in their jobs so that the youth can see the list grow.

2. Have youth create a Venn diagram that they add to after each visit. It may be easier logistically to have them use their Venn diagrams when you return to your site rather than carrying them to the ICT professionals' work sites.
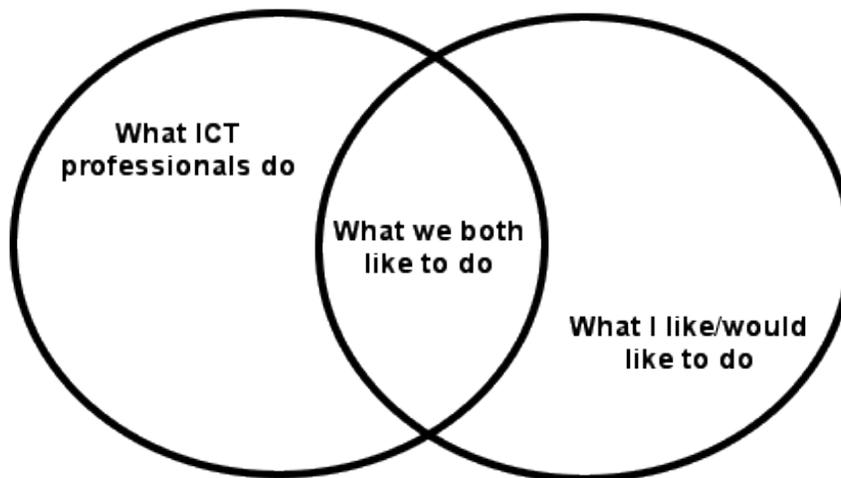
3. Ask youth: Based on what you've seen today, whom do ICT professionals work with? Encourage youth to think of team members, users, and other people outside the organization that ICT professionals interact with. Write down the students' thoughts where they can see them.

   – Ask students: Based on what you've seen today, **what** do ICT professionals do?

   – As you build your list over several field trips, you'll see duplication and new things. Discuss what ICT professionals have in common and some of the unique aspects of the jobs.

List of Questions That Youth Can Ask ICT Professionals

Questions About Your Job

1. What do you do on a typical day?

2. What is your work setting like?

3. What kinds of people do you work with? Do you work alone, in a team, with a partner?

4. What specific skills do you need in your job? (For example, writing, measuring, computing, creativity)

5. What are the most important activities in your job?

6. What do you like best and least about your job?

7. What are you most proud of doing in your job?

8. What does your company produce?

9. What knowledge and experience do you need in your job?

10. How could I get the training and education to do your job?

11. What salary range is available in your field? In addition to monetary, what other rewards do you receive?

12. What kinds of benefits does the company provide (for example, flexible hours, private offices, fitness facility, etc.)?

Questions About How You Got to Where You Are

1. What do you remember about being my age?

2. What did you want to be when you were my age?

3. Why did you choose this company?

4. Why did you select your career?

5. When did you make your career choice?

6. What plans did you make for your career? What plans do you wish you had made?

7. What important decisions did you make in choosing your present career?

8. How did you get from high school to where you are now in your career?

9. What one piece of advice would you give me if I wanted to pursue this career?

10. What skills do you use here that would be useful in other jobs?

11. As a youth, do you think your parents expected more or less of you?

12. Did your teachers expect more or less of you as a youth?

13. Were there any opportunities you might have missed out on because you were a youth?

14. What jobs led you to your present career?

15. What was a turning point in your life?

16. What advice would you give to middle school students to plan a successful future?

17. When did you realize technology was important in your life?

18. Looking back at when you were young, do you wish you could have done something differently?

19. When you were young, did you have a role model that inspired you to be who you are today?

20. Did you make any decisions when you were young that you later regretted?

21. When you were younger, did you change your mind a lot about what you wanted to be when you grow up?

22. When you were younger, did you wonder how you would apply subjects such as trigonometry and chemistry to your life?

23. What was the most valuable lesson you learned in school that you are now using at work?

24. Did you have summer jobs? Did you have a job while you were in school? Did you do volunteer work?

25. Were you a good student?

26. What subjects were interesting to you when you were a teenager?

27. Did those interests lead you to your present job? Which subjects helped you most?

28. What was your favorite extracurricular activity?

Questions About Your Personal Life

1. Where was your last vacation?

2. How do you balance your personal and professional life?

3. Are you doing what your parents expected you to do when you were my age?

4. If you could change one aspect in your life, what would it be and why?

Note: These questions were developed by *Design Your Future: Math, Science, and Technology for Youth,* which is hosted by Autodesk, Inc., a world leader in the design software industry.

Week 3: Intro to HTML

Summary

🕐 Schedule

Warm-Up	Create and name your folder	45 min
	Introduce HTML	
	Create a file with an HTML editor	
Main Activity	Teach youth Title, Spacing, and Formatting	80 min
Discussion/Reflection	Discuss Essential Questions	25 min
	Preparation for field trip	
Total Time		**2 hr 30 min**

⭐ Essential Questions

• What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You've engineered your web pages.

• How does HTML enable and limit your designed web pages?

🔄 Design Process Concepts Involved

• Build It.

💼 Materials

• Computers with an HTML editor and Internet access

• URL for field trip organization's website

• Access to the HTML tutorial at http://ict4me.sri.com/chat/html_tutorial/overview.php

• Overhead projector

• HTML Guide

Getting Ready

Overview

Youth are beginning to design and build their sites.

Glossary

- **HTML.** Hypertext Markup Language is the authoring language used to create documents on the Web. These pages are read by web browsers.

- **Tags.** An HTML tag is what you use to give the browser information about how to display the text on your web page. A tag always starts with < and ends with > (angle brackets)

- **Software engineer.** A person who designs and codes software programs for technologies, such as the Internet.

- **Computer scientist.** A person who is concerned with the theories and designs behind computing, as well as the practical applications.

Background

The youth should have a theme for their website from Week 1 activities. In this unit, the youth will learn how to create HTML tags, which begin with < and end with >, to produce a website. They will use the design process to design and build the website they want to produce.

In pairs, the youth will work on their website throughout Unit 3 as they learn HTML. They can apply what they learn in the unit and, if they choose, through other resources to develop their website.

The youth will have guidelines/design constraints for developing their sites.

Make sure that you have installed the HTML editor on youth's computers.

◎ Warm-Up

Time:	45 minutes
Purpose:	Help youth understand what HTML is; set up for designing a website; begin learning HTML.
Materials	• Computers with Internet access • Overhead projector • Computers with an HTML editor • HTML Guide

To Do

> ### ⌨ Tech Tips
>
> To give everyone a chance to work with computers, use *pair programming*. Give the first youth 10 minutes to be the "driver" of the computer (moving the mouse/typing on the keyboard), while his/her partner is the "navigator" (telling the driver what to do.) Then switch roles for the next 10 minutes, so that both youth get at least 10 minutes to be drivers and 10 minutes to be navigators.
>
> ### ☯ Gender Tips
>
> Use pair programming is key to balance uneven gender dynamics in co-ed situations.

1. Say: The first thing we will do is create a folder on the computer desktop. We will save everything we do on the computer for designing our websites in this folder. We will also save images and pictures that we want to use on our website.

2. On the overhead, take youth through the steps of creating a new folder on the desktop and naming it.

3. Explain HTML. Say: What we will be learning for these next two weeks is HTML, which stands for Hypertext Markup Language. It is the language that web browsers can read and understand. Who can tell me what a web browser is? (Internet Explorer, Netscape, Safari, etc., are all web browsers.) If you want something to be bold on your website page, you have to tell the browser that. If you want an image, you have to tell the browser that.

4. Say: We will use a program called (name of your HTML editor) to type in the language of HTML to tell the web browser what we want and to create our website. The way you tell the browser what information you want on your website page and how you want things to look is by using what are called tags.

5. Show youth an example of what a tag looks like on the overhead projector or from a poster of tags.

6. Say: Now that we know what HTML is, we are going to create our first HTML file. Open up the HTML editor. Now we're going to save this blank page. It is very important to save all of your files as *.html* files because this tells the browser it's something for it to read.

7. Take youth through the steps of naming the file as a .html file and saving it to their folder. Their first page should be saved as "index.html"—this is their home page.

8. Present the Setting up an HTML File poster.

⚙️ Main Activity

Time:	80 minutes
Purpose:	Youth will create a title for their websites and learn tags and HTML. Partners will help each other when one is behind or stuck.
Materials	• Computers with Internet access and an HTML editor • HTML Guide • Overhead connected to leader's computer

To Do

1. Say: Looking back at the web design worksheets from Week 1, think of a title for your website. Now in an HTML editor, type in the <title> tag inside of the <head> tag. Type in whatever title you want and close the tag. Save your changes and open up your web browser to view your web page. There should be a title at the top.

   <head>

   <title> your title here </title>

   </head>

> ### ☯ Gender Tips
>
> Keep using the pair-programming technique to support youth working with their partners.

2. Put the Title & Spacing poster up. On the computer and overhead, demonstrate how to write the HTML; then show it in the browser.

3. The other youth should follow along and try the tags on their own web pages.

4. Presentations should occur in the order of the lessons in the online tutorial.

5. Say: Another tag you will learn today is <br>, and it is like pressing Return or Enter. When you want to go to the next line, the web browser will only understand that when you type in the <br> tag, which means break. If you want to skip two lines down, you would type in two breaks; type <br> two times. For three lines down, type in <br> three times, etc.

6. Ask youth: Want a horizontal line across your page? Type in the tag <hr> where you want the line to appear.

7. Demonstrate by typing tags in an HTML editor for youth to follow and then show the results with the browser.

8. Have volunteers and other leaders walk around to check on and help youth.

> ☯ **Gender Tips**
>
> In co-ed classes, make sure that boys and girls have equal leadership and volunteer opportunities.

9. Teach youth the header tags and how they can be used. Demonstrate and explain the numbers in header tags, <h1> to <h6>.

10. Teach and demonstrate how to make text bold or italic.

11. Put up the Formatting poster for youth to refer to and use as a guide.

12. Let youth work on their websites and put in information they want, using the tags they have learned so far.

13. Have them start sketching *page2.html*. Page 2 should be about their theme, but the youth have more freedom in designing this page. Page 3 is the about-the-designer page, and page 4 is for the chat feature.

💬 Discussion/Reflection

Time:	25 minutes
Purpose:	Spend half the time with youth reflecting on design and what they've learned so far about HTML. Spend the second half of the time preparing for the next day's field trip.
Materials	• Having what they've created handy will help them reflect. • URL for field trip organization's website • Computers with Internet access

To Do

1. Ask the youth:

   – What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You engineer your web pages.

   – How do you think HTML might enable or limit your designed web pages?

   – Responses: Youth may say software engineers write HTML code, and users don't. Make sure that by the end of the time together, all youth understand that engineers write code and users navigate the Web using the pages that software engineers create. Do note that many people who are not software engineers do write simple HTML code to create web pages. More complex code is written by software engineers.

2. For the second half of this time, have youth go to the website of the organization you plan to visit for tomorrow's field trip. Have them think about:

   – The audience or users of the site.

   – What design requirements they think the designers and engineers of the site may have had.

3. Prompt the youth to plan some questions to ask about the site in addition to the questions about the workplace and careers (see Summer Field Trips: Visiting ICT Professionals).

Week 5: Hyperlinks & Images

Summary

🕐 Schedule

Warm-Up	– Youth continue to work on their 1st page and begin designing their 2nd page	30 min
Challenge	– Links	40 min
Main Activity	– Youth work on page 1 and 2 and sketch page 3.	90 min
Discussion/Reflection	– Discuss Essential Questions.	20 min
Total Time		**3 hr**

⭐ Essential Questions

- What are the differences between how a user interacts with the Web and how an engineer interacts with the Web? Hint: you've engineered your web pages.

- How does HTML enable and limit your designed web page?

🔁 Design Process Concepts Involved

- Build It.

🧰 Materials

- Computers with an HTML editor and Internet access

- Overhead projector

- Charts used in previous sessions

- Chart: Website Design Requirements

- Chart: Placing Images and Headers

- Chart: Setting Up an HTML File

- Chart: Images

- Chart: Hyperlinks

- Pencils

- Access to the HTML tutorial at http://ict4me.sri.com/chat/html_tutorial/overview.php

- Handouts: Sketch your 2nd page, Writing on page 2, Sketch your 3rd page, Writing on page 3 (these are available in the Week 1 plan)

Getting Ready

Background

Participants will learn how to create new pages in their folders and to link web pages to one another.

In order to guide youth through linking pages, you will be creating a page2.html file. You should create an index.html file before youth arrive so you can do the work along side the students.

◎ Warm-Up

Time:	30 minutes
Purpose:	To have youth continue working on their 1st and 2nd pages
Materials	• Computers with Internet access and an HTML editor • Pencils
	• Handouts: Sketch your 2nd page, Writing on page 2, Sketch your 3rd page, Writing on page 3 (these are available in the Week 1 plan)

To Do

> ☯ **Gender Tips**
>
> Keep using the pair-programming technique to support youth working with their partners.

1. Begin by asking youth to finish creating their 1st page.

2. Remind them to save all pages as pagenumber.html (all lowercase without special characters or spacing).

3. Tell youth that if they are done creating their 1st page in html, they can begin sketching their 2nd page. If they are done sketching their 2nd page, they can begin writing the code for it. If youth finish page 2, pass out the handouts for page 3.

4. Remind youth that visiting websites they enjoy is a good thing to do before they sketch. Also remind them that while they can use other websites for inspiration, they should come up with an original idea.

5. Allow youth enough time to finish pages 1 and 2.

6. Give youth constructive feedback on their pages. If you see things that are not doable, have youth know this and give them suggestions.

7. Have volunteers and other leaders walk around to check on and help youth.

> ☯ **Gender Tips**
>
> If you see gender stereotypes reflected in the design of a page, point out the bias and ask youth to think whether or not they are offending, excluding, or hurting anyone. Does pink have to be the go-to-color if girls are designing a website for girls? Why is pink a girl color? See http://www.pinkisforboys.org/2/post/2012/01/when-did-pink-become-a-feminine-color.html for more info on the genderization of pink, and http://thesocietypages.org/socimages/2011/10/26/pink-earplugs-for-your-beauty-sleep/ for examples of "pointlessly gendered products."

💡 Challenge

Time:	• 40 minutes	
Purpose:	• To link page2.html to index.html.	
Materials	• Computers with Internet access and an HTML editor	• Chart: Hyperlinks

To Do

1. Begin by explaining to youth that connecting their pages is very important because that's the only way they can view all the pages on the same website. Explain that a link allows you to click on something and be directed to a different page.

2. Explain that today they will be linking their pages to one another.

3. Using your computer and the overhead projector, guide youth in linking pages. Use your website as a sample for the youth.

4. As you are going through every step on the Hyperlinks chart (or in the online tutorial), instruct youth to do as you are doing and link page2.html to index.html.

5. Remind youth that the charts and/or online tutorial are available if they get lost.

6. Have the youth try linking. Remind youth to work with their partner. When linking, make sure the youth are typing in lower case, with no spaces or special characters. Youth often make small mistakes when typing and it gets frustrating for them. If it is too cumbersome to have the youth write links on all their pages, you can have the youth only create links to their other pages on their index.html file.

7. Remind the youth to save their changes. They should save everything before they try to view their webpage on Safari (or another browser).

8. Instruct youth to open the browser drag their index.html document to the browser screen, and refresh the screen in order to view the changes they are making.

9. All adults should walk around and work with youth who need further explanation or guidance.

10. As you go around the room, ask students: How do you know it's a link? The students' response should be: It is underlined and when you click on it takes you to another page.

11. Ask youth whose links aren't working to raise their hands. Have adults troubleshoot with them one-on-one. If a significant number of the youth have problems with linking, troubleshoot with the entire group.

⚙ Main Activity

Time:	90 minutes
Purpose:	Youth will have time to work alone or with their helper pairs on researching, sketching, adding text and linking. By the end of the day they should be done with page 1 and page 2. They should also have linked these two pages and have started page 3, the about-the-designer page.
Materials	• Computers with Internet access and an HTML editor • Chart: Placing Images and Headers
	• Chart: Website Design Requirements • Chart: Images
	• Chart: Setting Up an HTML File • Chart: Hyperlinks
	• All charts should be displayed in the room where youth can easily see them. You can also use the online tutorial.

To Do

1. Allow youth work time to finish index.html page (page 1) and page2.html (second page) and to begin their 3rd page, the about-the-designer page.

2. Before working on page 3, ask the youth what information it is okay to share on their website. Responses may include: first name, hobbies, interests, why you created the site. Make sure the youth understand why it is important **not** to put identifying information on their site. Remind them that the site can be visited by anyone with access to the Internet. If necessary, discuss Internet safety.

3. Adults at this time should be working with youth one on one, troubleshooting with participants, and making sure participants are managing their time wisely.

4. Remind the youth that as they learn new commands, they may go back to pages already created to add the new commands they've learned. Remind them that as they know more, their web pages will become more interesting.

5. Give youth an overview of what they will be working on in the upcoming days:

   – Adding images

   – Manipulating images

   – Using an image as a hyperlink

   – Adding color

💬 Discussion/Reflection

Time:	20 minutes
Purpose:	For youth to reflect on design and what they've learned so far about HTML.
Materials	Having what the youth have created handy will help them reflect.

To Do

1. Ask the youth:

   – What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You engineer your web pages.

   – How do you think HTML might enable or limit your designed web page?

   – Responses: Youth may say software engineers write HTML code, and users don't. Make sure that by the end of the time together, all youth understand that engineers write code and users navigate the Web using the pages that software engineers create. Do note that many people who are not software engineers do write simple HTML to create web pages. More complex code is written by software engineers.

Week 6: Color Your Web World

Summary

🕐 Schedule

Warm-Up	Youth review tags, a start tag and an end tag.	10 min
Challenge	Youth learn the color tags and put in color.	30 min
Main Activity	Youth explore some combinatorics problems	40 min
Discussion/Reflection	Youth talk about the math they did today and what math they need to take in high school.	15 min
Extra Time to Work on Their Website	Youth refer to HTML Guide for reminders on creating tags, or ask their partners or the leaders for help.	55 min
Total Time		**2 hr 30 min**

⭐ Essential Questions

- Why is mathematics important?

🔄 Design Process Concepts Involved

- Develop designs and iterate

🧰 Materials

- A set of 16 color cards (per team), made with colored construction paper of background, title, and text cards. See the Color Cards handout.

- Paper and pencil

- Computer with overhead projector

- Getting Ready

- Color Your Web Pages handout
- Website Design Requirements Checklist
- HTML Guide
- Color pencils or markers

- Color Cards template

- URL for field trip organization's website

- Computers to test schemes in html

Getting Ready

Overview

The mathematics activity focused on combinatorics and the coloring web pages activity provide an opportunity to discuss the need for each student to take mathematics in high school. The ICT4me curriculum has mathematics activities, and ICT professionals share some of their uses of mathematics in their careers. The reason for this focus may not be clear to the youth. Week 6 provides an opportunity to discuss the role of mathematics in ICT and in their high school course-taking plans.

Glossary

- **Combinatorics.** Complicated counting made simple. It's a type of mathematics that attempts to answer "how many" questions (without actually having to count).

Background

Combinatorics is a branch of discrete mathematics that works on how elements of finite sets can be arranged and how many combinations are possible. For example, how many ways can Ally, Becky, and Cynthia line up in a queue? How many handshakes are needed for 10 people to all meet at least once? Most of us have encountered such problems and can solve them by applying a bit of logic. However, the power of combinatorics lies in creating algorithms from logic models to solve more complicated problems, such as how many different sets of 3 you can make with 256 colors.

Web developers and computer scientists use combinatorics to build search engines or pick color combinations. It is taught in statistics, probability, and computer science courses (especially in high school and college). There are too many instances and applications of this field to include in a brief description, but some of the more elemental building blocks of this branch of mathematics are permutations, combinations, factorials, graph theory, and algorithms.

In every math activity you do, predicting and verifying answers will be an important routine to build youths' math skills. It is especially important in the combinatorics exercise in this activity. Predicting taps into the youths' preconceptions or understanding of a particular problem. We built in exercises that will help them explore and verify their answers. If they over or underestimated the number of combinations, they can learn from doing the exercises. In general, do not give out the answers to the problems, but help the youth develop their own.

[The activity in this lesson roughly resembles a typical combinatorics problem. If you would like to see other combinatorics games and their math explanations, see http://www.mathpages.com/home/icombina.htm.]

◎ Warm-Up

Time:	10 minutes
Purpose:	Youth review tags to continue writing HTML and build their web pages.
Materials	• HTML Guide • Computer connected to overhead projector

To Do

1. Say: Let's review what tags are and what they look like. What symbols are always used with tags? A tag always starts with < and ends with >.

2. Say: Tags have a start tag and an end tag (except "stand-alone tags," such as <br> or <hr>). What is always in an end tag? A forward slash / is always in an end tag.

3. Review and demonstrate an example of tags on the computer and overhead projector.

   For example demonstrates a start tag and an end tag.

💡 Challenge

Time:	30 minutes
Purpose:	Youth will learn color tags and put color on their websites for fonts and backgrounds.

Materials:	• Computers with Internet access	• HTML Guide
	• Computer connected to overhead projector	• Web Color Codes handout [Note: Print on color printer.]

To Do

1. Say: Today you will learn how to add color to your web pages. To change the color of your font, use the following code: I enjoy this program

2. Pass out the Web Color Codes handout.

3. Say: In the quotation marks, you need to type in the name of the color you want your font to be. If the web browser does not understand the color you have typed in, your font color will appear black on the Internet.

4. Say: Between the start and end tags is where you type what you want to say on your Website, and it will appear in the color you chose and typed in the quotation marks.

5. Demonstrate on the computer and overhead projector how to write the tag for font color. Have youth follow along and try it on their web pages.

6. Say: Another way you can choose a font color is by using color number codes. These codes have the # symbol and numbers following it.

   – Example: The number code for the color green is #008000. Type the color code you want in the quotation marks.

   I enjoy this program

7. Say: There are over 16 million color choices, but we are just going to use the 16 "official" web colors.

8. Project on the overhead for youth to see and use: number codes for the 16 "official" colors: http://www.w3.org/TR/html401/types.html#h-6.5

9. Say: Now you will learn how to put in a background color. You always need to use the <body> tag to put in background color. Find the <body> start tag that you typed in the very beginning.

10. Say: After the word body, hit space and type in bgcolor=" "

   – Example: <body bgcolor="purple">

   – In the quotation marks, type the color you want for the background.

11. Demonstrate on the computer and overhead and have students try it.

⚙️ Main Activity

Time:	40 minutes
Purpose:	Give youth experience with combinatorics.

Materials	• Paper and pencils (to take notes of possible color schemes and figure out a rule).	• Color cards made with construction paper—piles of background, title, and text cards. A set of all 16 colors for each group. See the Color Cards page below. Color cards need to be cut and colored before the activity.
	• Color Your Web Page handout	• Computer with overhead projector

To Do

1. Distribute the Color Your Web Page handout. (On the overhead projector, show the Web Color Codes handout that shows the 16 colors before you start the activity.)

Activity 1

2. Read Activity 1 together. Ask youth "how do you know?" after each prediction. Do not give away solution or reject incorrect answers. Probe answers and ask for justifications for each prediction.

> ### ☯ Gender Tips
>
> When asking questions in the math activity, make an effort to ask the youth whom you think are not so good in math. When they respond, really pay attention and try to understand what they say, engage with them, even if it is not an answer you expect. Typically, there is logic to youth's wrong answers. See if you can figure it out. This effort will show them that you believe in them, even when they doubt their own abilities.

3. Stress the importance of *first* finding out how many combinations are possible, regardless of the aesthetics. Black background and black text is one combination, albeit a useless one when thinking about making a webpage. In another context, however, say clothing, black top and black pants is a common combination. For this task, we want them to find out ALL possible combinations. They can reject some combinations based on taste later on. First they need to know how many combinations are possible.

4. Ask youth to predict how many color combinations they think can be made 16 colors.

   [Answer: Some youth will say 16, others 32, and others may say "lots." Write the answers on the board so you can use them at the end of the activity when youth will have different answers. Predicting the number of combinations at this point sets them up for discovery.]

5. Say: We'll come back to this question at the end of the activity.

6. Say: In this activity, we're going to experiment with the possible color combinations for our Web pages. [Note: Some youth aren't into math, so to keep their attention; you may want to avoid calling this a math activity until the discussion, at which point you must emphasize that they have been successful doing math!]

7. Distribute the background, title, and text color cards. Explain that they will be using the cards to experiment with color combinations before they try them out again on their Websites.

Activity 2

1. Before each exercise, ask the youth to predict the answer and then find out if their
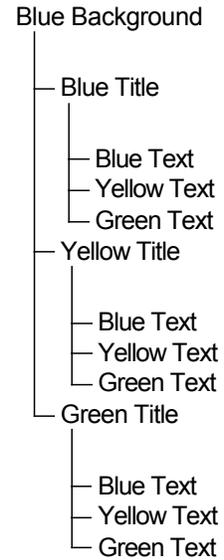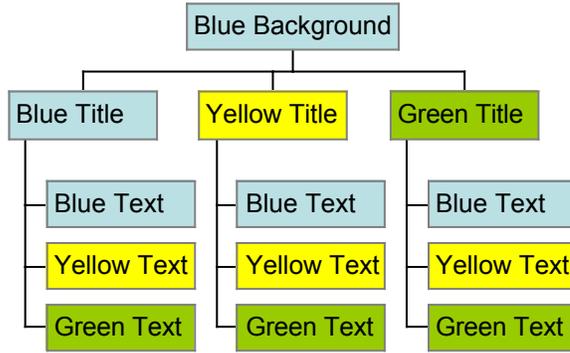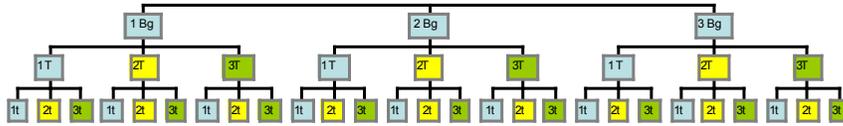
> ☯ **Gender Tips**
>
> Encourage collaboration rather than competition in this activity.
>
> Keep in mind the mistaken bias that boys do better in math than girls and that some youth "aren't" good in math while others are naturally talented. Encourage all youth to participate equally in giving explanations and demonstrating solutions. Encourage perseverance.

predictions were true by playing with the color cut outs.

2. Have youth do each problem in pairs. After they are finished with the problem, pick one pair and ask them to explain their solution to the whole group. Probe them to explain their answers; ask them to demonstrate if it's not clear to other youth. Then move on to the next problem. After they are done with problem b, ask another pair to explain their answer. Here are the answers to the activity the youth will do:

   – 2 texts and 2 backgrounds. There are only 4 schemes. Youth can probably see this, but have them lay it out with the cards for practice.

   – 3 texts and 3 backgrounds. There are 9 schemes. Youth should lay them out with the cards. Encourage organized layout (first put down all the possibilities with the backgrounds, for example) without telling the youth how to solve the problem.

   – 2 titles, 2 texts and 2 backgrounds. There are 8 schemes. Youth may see a pattern: 2 for title, 2 for text, 2 for background gives: 2 x 2 x 2 = 8 choices.

   – 3 titles, 3 texts and 3 backgrounds. There are 27 schemes. In this activity youth are asked to figure out a solution, without using the cards. Let them work on their methods for a while. Perhaps a group will use a tree-graph to show their combination. If so, then ask them to explain their answers to the whole group. If not, then this is a good time to introduce the tree tool to one of the teams. You'll have to walk around to see which team may be ready to seize the tree as a tool for their work. Here are a few examples:

1 Bg 2 Bg 3 Bg

1 T 2T 3T 1 T 2T 3T 1 T 2T 3T

1t 2t 3t 1t 2t 3t 1t 2t 3t 1t 2t 3t 1t 2t 3t 1t 2t 3t 1t 2t 3t 1t 2t 3t 1t 2t 3t

Blue Background

Blue Title
Blue Text
Yellow Text
Green Text
Yellow Title
Blue Text
Yellow Text
Green Text
Green Title
Blue Text
Yellow Text
Green Text

Blue Background

Blue Title | Yellow Title | Green Title

Blue Text | Blue Text | Blue Text
Yellow Text | Yellow Text | Yellow Text
Green Text | Green Text | Green Text

– Encourage youth to see the patterns in the cards to show how the number of schemes gets larger each time as there are more color choices for each part.
The mathematical key: In general, you can multiply the number of choices for title, text, and background to get the total number of color schemes.

– 2 titles, 5 texts, and 1 background. Youth test the rule: 2x5x1=10.

– 16 backgrounds and 16 texts. If they follow their rule, the answer should be 256 color combinations. Expand the conversation to and tell youth there are many more color choices than 16 color choices – over 16 million! Can they imagine how many combinations that means?

💬 Discussion/Reflection

Time:	15 minutes
Purpose:	Discuss the math that the youth did and why; discuss the mathematics requisites for college and engineering.
	Reserve 10 minutes for field trip preparation.
Materials	• Computers with Internet access • URL for field trip website

To Do

1. Ask youth if they can think of other areas in their life where they can find the number of combinations in the same way. [For example: outfits (tops and bottoms of different colors needed to make the most outfits for a trip), sandwiches (different kinds of breads, fillings, etc.)]

2. ICT professionals don't have time to count all possible color combinations and color schemes they could create. They need a quick way to figure it out—that's combinatorics.

3. Engineers use combinatorics in several ways. For example, developing search engines and programming how they determine which search results to display and testing of technologies to determine how many different types of tests they'll need to check specific features. Engineers, designers, and marketing professionals might also use combinatorics in an activity similar to yours to let users know how many different options (or combinations) are available by using their product.

4. Mathematics is often an important and fun part of a person's job. What do you think about math?

   – If youth say they don't like it, ask: What could make math more fun?

   – If youth say they do like it, ask: What do you like about it? Are there favorite things you like to do in mathematics?

5. Why is mathematics important? [Let students share their thoughts on the importance of mathematics in daily life and career preparation.]

6. Say: It is important to take math in high school in order to (1) meet the requirements for college, and (2) prepare for many careers, including ICT.

7. Ask youth: Does anyone know what mathematics class you should take in 9th grade? [Algebra] What about 10th grade? [Geometry] Does anyone know why it's important to take these courses in the 9th and 10th grades? [Because they are prerequisites for other math and science courses.]

8. What does prerequisite mean? [You must take it before you take something else. For example, at most schools, you need to take algebra and geometry before you are allowed to take calculus. If you take calculus, colleges will usually be pretty impressed with your math level.]

Extra Work Time

Time:	55 minutes
Purpose:	Youth work on their websites and meet website design requirements/constraints

Materials:	• Computers with Internet access	• Website Design Requirements
	• Computer connected to overhead projector	• HTML Guide
	• Website Design Requirements Checklist	

To Do

1. Say: Look over the Website Design Requirements Checklist and check off the requirements you have met. Make sure you work on the things you have not yet gotten to for the requirements. You can work on changing font color and the look of the website after you have met all requirements, such as linking all pages together, etc.

2. Say: Remember to ask each other for help if you get stuck, and also use the HTML Guide to remind you of the different HTML tags you've learned. Raise your hand for help if you are still stuck.

3. For the last 10 minutes of this time, have students go to the website of the organization you plan to visit for tomorrow's field trip. Have them think about:

   – The audience or users of the site.

   – What design requirements they think the designers and engineers of the site may have had.

4. Prompt the students to plan some questions to ask about the site in addition to the questions about the workplace and careers (see Summer Field Trips: Visiting ICT Professionals).

> ☯ **Gender Tips**
>
> Keep using the pair-programming technique to support youth working with their partners.

Week 8: Finding the WYSIWYG

Summary

🕐 Schedule

Warm-Up	Youth reflect on form and function of web pages.	15 min
Challenge	Youth work in trios to review HTML conventions.	15 min
Main Activity	Youth use their knowledge of HTML to draw what the web page will look like based on the HTML they see.	80 min
Discussion/Reflection	Youth reflect on how their drawings match the HTML.	20 min
Total Time		**2 hr 10 min**

⭐ Essential Questions

- What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You've engineered your own web pages.

- How does HTML enable and limit your designed web page?

🔁 Design Process Concepts Involved

- All steps may be involved

🧰 Materials

- Color pens or pencils

- Paper

- Chart paper

- Word documents with correct drawings of HTML code (for leader)

- Three computers (one for each group)

- WYSIWYG Drawing Checklist handout

- Access to ICT4me HTML tutorial

- HTML Guide

- Print & display on a computer the 3 WYSIWYG pages in HTML, so youth can check after.

- http://ict4me.sri.com/chat/html_tutorial/overview.php

Getting Ready

Overview

This day-long session is the culminating performance task. These activities provide youth with an opportunity to apply many of the skills and the knowledge they've acquired during the unit to a single problem. Youth look at HTML code, then draw what they imagine it will look like on the Web, and then test the accuracy of their drawing by seeing what the HTML looks like when the page is published on the Web.

In this performance task, youth will demonstrate that they understand that what they see on a website is displayed based on the "directions" from the HTML code. Youth break up into teams. Each team has the opportunity to review "Introduction to HTML" in the ICT4me HTML Guide and take some notes on the sections: formatting text, line breaks, headers, and inserting links and images.

Following this activity, each team gets a page of HTML code. Teams create a drawing that shows how the HTML code will render. Finally, youth check the accuracy of their drawing against what really shows up on the Web and then discuss what (if anything) they missed in their drawings.

Glossary

- **WYSIWYG**. What You See Is What You Get, which is defined on the page the youth decode.

Background

It is possible youth will get frustrated with having to pay attention to so much detail within the HTML code. The task also requires youth to put together many different elements they have practiced in the previous days. Reviewing some of these elements at the beginning of the task may help prompt youth to look for particular elements of HTML.

In addition, youth are asked to work as a team, but some youth may find it frustrating not to have their individual contributions reflected in their own drawings. If you think that might happen, then feel free to allow each student to try out a drawing and then have the group come to agreement about which drawing is best before testing out the solution on the Web.

Note: Your primary roles in this activity are to explain the directions for the activity and to make sure the youth understand the nature and particular goals of the task. If you like, you may work with the youth to help them figure out individual elements. However, try to refrain from helping any group with all of the elements they need to decode to make their drawings.

Things to Do Before the Week Starts

Make webpages with the html code in the WYSIWIG Page 1-3 Activity Sheets for youth to use when they finish their drawings.

◎ Warm-Up

Time:	15 minutes
Purpose:	Youth review the ideas that designs have both form and function and that some functions may be hidden to the user.
Materials	• Pen • Chart paper

To Do

1. Ask youth to reflect as a group on the following questions, as a way to review the key ideas that designs have form and function, and that some functions may be hidden from the user:

2. What are some of the different ways web pages differ in how they look to you when you visit the page?

3. What kinds of ways can you interact with web pages?

4. When you see a web page, what kinds of "instructions" about the web page's look are hidden to you as a user?

💡 Challenge

Time:	15 minutes
Purpose:	Youth work in groups to review basic HTML Conventions.
Materials	ICT4me HTML Guide

To Do

1. Ask youth to count off from 1 to 4. Make teams with at least 4 people, one for each convention. You'll have about 3 teams with 4-5 youth.

2. Tell them the goal for this activity is to review the knowledge they have already acquired about HTML conventions to help their group with the task.

3. Using ICT4me's Introduction to HTML, ask each team to review one convention for representing the following:

   – A reference to an image file

   – Text with a particular font, sizes and colors

   – Text with italics, bold, and underlining

   – A web link

4. Ask each member of the team to take notes on these conventions and save their notes for the next activity.

⚙️ Main Activity

Time:	80 minutes
Purpose:	Youth uncover the "visible" display of three different HTML pages to reveal the meaning of the term "WYSIWYG" and the lyrics to a song.
Materials	• 3 WYSIWIG assignments with HTML code • 3 computers, one per team • Pen and paper for each group • WYSIWYG Drawing Checklist handout

To Do

1. Keeping the same teams, explain to the students that each team will receive a different sheet of paper with some HTML code. Their task will be to draw what they would expect to see if they were to input the code into a web page. On the basis of their group's drawing, they should each be able to answer the question:

   – What does the term WYSIWYG mean?

2. Hand one of WYSIWIG Page 1-3 Activity Sheets, pen and paper to each team. Encourage teams to collaborate, and ask them to consider how to use information they just reviewed about HTML conventions to help their team decode the sheet. Emphasize that their drawings do not have to be pretty, and if they wish, they can use an Internet-connected computer to help them out. (Hint: Using the Internet might help them figure out what an image looks like.)

3. Checking their work. After each team has been given half an hour to complete their drawings, you can either have teams look at the printed solutions or check the solutions online (of the HTML code which you had previously uploaded).

4. Finally, after each team has checked their drawing, ask the whole group to come together to define WYSIWYG. If there is time, challenge the group to find out what song the lyrics refer to.

💬 Discussion/Reflection

Time:	20 minutes
Purpose:	Youth reflect on how well their drawings matched the HTML code.
Materials	• Word documents with correct drawings of HTML code (for leader) • HTML code (for leader)

To Do

1. Lead the youth in a discussion of their experiences in making their drawings and checking them against the code in the web page. Consider asking them the following questions:

   – Which parts of your drawing did you get right?

   – Which parts did your group have trouble figuring out?

   – How did you make sure in your group that you used the expertise of the other members of your group?

   – Does this activity tell you anything about how you could test out a web page you were designing using HTML?

Week 10:Celebration of Published Websites

Summary

🕐 Schedule

Warm-Up	Youth reflect on what they have learned and fill out program evaluation forms.	45 min
Challenge	Youth prepare to present and present their websites	45 min
Main Activity	Youth get to visit each other's websites and use chat features on the websites. Required: Youth comment on each other's sites, using the website requirements as a starting point.	40 min
Discussion/Reflection	Youth talk about their experience writing HTML and designing a website. Youth share what they have learned.	20 min
Total Time		**2 hr 30 min**

⭐ Essential Questions

- What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You've engineered your web pages.
- How does HTML enable and limit your designed web pages?

🔄 Design Process Concepts Involved

- Test it.
- Use it.

🧰 Materials

- Computer connected to overhead projector
- Website addresses for all the youths' websites

- Website Design Requirements
- Paper and pencils
- All websites need to be published on the web before this Activity day.
- Build ICT program evaluation forms
- Getting Ready

Getting Ready

Overview

The youth will present each website they have designed to the whole group. They will tell everyone what their website is about, the audience it is designed for, what kind of information or things users can find on the site and different web pages, and what people will want to come chat about on the site. ***All websites need to be published on the web before this Activity day. Check to make sure the chat feature works properly.**

Glossary

No new vocabulary, except publishing

Background:

Youth need to prepare for presenting and should go through their website and think about how they want to present their site to the whole group. Youth should not be on the chat features at this time. Youth will be tempted to get on chat. Make it clear that they will have a time during the day devoted to chatting on each other's websites.

Things to Do Before the Week Starts

Contact the research team to get the survey forms for use in the Warm Up.

◎Warm-Up

Time:	45 minutes
Purpose:	Determine how well youth were able to learn HTML and how youth felt about the program curriculum.
Materials	Survey forms (ICT4me Concepts Survey • Pencils and ICT4me Attitudes Survey)

To Do

1. Say: We need you to fill out this survey because this will tell us how we can make the program better. This is not a test or a quiz of you, but a test of the ICT4me program.

2. Hand out evaluation form and pencils.

3. Say: If you have any questions or don't understand something on the survey, raise your hand so we can help you.

💡 Challenge

Time:	45 minutes
Purpose:	Youth present the websites they have designed.
Materials	• Computer connected to Internet and overhead projector • URLs for students' websites bookmarked for easy access

To Do

1. Say: Each of you will present your website to the whole group today. We have published all your websites, and they are on the World Wide Web. Anyone can view them from anywhere in the world now.

2. Say: Right now you will spend about 15 minutes to go through your website and think about how you will present it. Think about these things: What is your website about? Who is the audience it is designed for? What kind of information or things can users find on the site and different web pages? Why will people want to chat on your site?

3. Have youth come up to the computer connected to the overhead projector to present their websites.

> ## ☯ Gender Tips
>
> Encourage everyone's voice to be heard and their participation appreciated.
>
> If there are any co-ed small groups encourage all members to participate.

⚙️ Main Activity: Performance Task

Time:	40 minutes
Purpose:	Experiment with and use the chat feature to communicate; visit each other's websites and give comments.
Materials	• Computers with Internet access • Website Design Requirements • A list of everyone's website address

To Do

1. Say: We are now going to check out each other's websites, and we will get to chat. It is important that you use your name when chatting and not pretend to be someone else. You only need to use your first name. For safety, you are not using your last name. Also make sure that what you say or talk about is appropriate.

2. Spend the last 15 minutes having youth check out the website of the partner they have worked with during this unit.

3. Ask youth to think about these things as they view their partner's website: What is the theme of the website? Is it easy to navigate/browse this website? Does this site indicate what people should chat about on the website? Does the website meet the design requirements?

4. Youth should give comments about each other's websites. Prompt youth on how to give feedback in a kind, constructive way.

💬 Discussion/Reflection

Time:	20 minutes
Purpose:	Youth reflect on their experience learning and writing HTML and designing a website.
Materials	None

To Do

1. Ask youth: What was interesting about doing HTML?

    –   What has been the most challenging thing for you?

    –   What do you plan to change on your website, given feedback and the experience presenting what you've created?

2. Close by discussing essential questions:

    –   What are the differences between how a user interacts with the Web and how a software engineer interacts with the Web? Hint: You've engineered your web pages.

    –   How does HTML enable and limit your designed web pages?

Activity Pages

Week 1: Activity Pages

- Put the Design Process in order
- Web and Foundation Graphics
- The Design Process
- Website Design Requirements
- Designing Your Website
- Sketch your 1st page
- Writing on page 1
- Sketch your 2nd page
- Writing on page 2
- Sketch your 3rd page
- Writing on page 3
- Sketch your 4rth page
- Writing on page 4
- Theme Ideas

Week 3: Activity Pages

- Website Design Requirements
- Setting Up an HTML File
- Placing Images & Headers
- Hyperlinks
- Images

Week 6: Activity Pages

- Website Design Requirements Checklist
- Web Color Codes
- Color Your Web Pages Handout

- Color Cards

Week 8: Activity Pages

- WYSIWYG Drawing Checklist
- WYSIWYG Page 1
- Answer to WYSIWYG Page 1
- WYSIWYG Page 2
- Answer to WYSIWYG Page 2
- WYSIWYG Page 3
- Answer to WYSIWYG Page 3

Week 10: Activity Pages

- Website Design Requirements Checklist

Put the Design Process in order

Brainstorm it	**Build it**	**Test it**
Sketch it	**Develop design**	**Define the problem**
Research it	**Test it**	**Create prototype**

Web and Foundation Graphics

The Design Process

Define the problem

Use it

Brainstorm

Test it

Sketch it

Build it

Research it

Create prototype

Develop designs

Design Team ⟷ **Users**

Website Design Requirements

❑ Does your website have a theme?

❑ Does your theme include a need for an chat or IM feature?

❑ Does your website have at least 4 pages?

❑ Do your web pages link (connect) to each other?

❑ Does your website have at least 2 links to outside websites? Do the outside websites have to do with your theme?

❑ Do users know how to use your website or how to get around (navigate)

❑ Does one page have information about you (the engineer/ creator/ designer) of the website?

❑ Does your website have 2 images that have to do with your theme?

❑ Do your pages have a similar look? Can users tell that all pages are part of the theme?

Note: Design Requirements are adapted from Introduction to Computing Bermuda Information Technology Course Track. Developed by Stanford University Computer Science Department.

Name _____

Designing Your Website

Define the problem

Who is your audience?

_____

_____

_____

What are they looking for when they come to your website?

_____

_____

_____

Why do they want to come to your site to communicate or chat?

_____

_____

_____

Brainstorm

What theme do you think your audience will like?

_____

_____

_____

Web browser
title goes
here

Sketch your 1ˢᵗ page

Information about your theme

Sketch Check List:

❑ Where will you place your header (web page title -goes in the white space)?

❑ Where will you have your horizontal lines?

❑ Where will you place your internal hyperlinks (navigation)

❑ Where will you place your external hyperlinks (outside websites)

❑ Where will you place your text?

❑ Where will you place your images?

❑ What color is your font?

What color is your background?

Writing on page 1

Web page title:
(Header-‹hr›)

```



```

Information about your theme
(Please write in complete sentences)

```










```

Web browser title goes here

Sketch your 2nd page

Information about your theme

Sketch Check List:

- ❑ Where will you place your header (web page title -goes in the white space)?
- ❑ Where will you have your horizontal lines?
- ❑ Where will you place your hyperlinks (internal and external)?
- ❑ Where will you place your text?
- ❑ Where will you place your image?
- ❑ What color is your font?
- ❑ What color is your background?

Writing on page 2

Web page titl
(Header-<hr>)

_____

Information about your theme continues
(Please write in complete sentences)

_____

Sketch your 3rd page

Information about the designer

Writing on page 3

Web page title:
(Header-<hr>)

Information about yourself
(Please write in complete sentences)

Sketch your 4th page

Chat feature and how it fits into your website

Web browser title goes here

Writing on page 4

Web page title:
(Header-‹hr›)

Your chat feature
(Please write in complete sentences)

Theme Ideas

- Think about what interests you and your friends. Is it a topic you, your friends, and others might like to talk about? If you answered yes, that's a theme!

- Here are a few ideas you can use to get started or you can refine an idea you already have:

- **HipHop Music** (or any specific type of music). You could share music, performance schedules, and discuss the bands that you like.

- **Softball League**. You could share local game schedules, scores, and discuss strategies.

- **Labrador Retrievers**. Share photos, training tips, and get advice on raising your Labrador.

- **Teenagers from Mexico**. Users can share their Mexican heritage; discuss where they live now and their Mexican connection.

- **Beyoncé Fan Club**. You can share his music and discuss his songs and performances.

Website Design Requirements

- ❑ Does your website have a theme?

- ❑ Does your website have at least 4 pages?

- ❑ Do your web pages link (connect) to each other?

- ❑ Does your website have at least 2 links to outside websites? Do the outside websites have to do with your theme?

- ❑ Do users know how to use your website or how to get around (navigate)

- ❑ Does one page have information about you (the engineer/ creator/ designer) of the website?

- ❑ Does your website have 2 images that have to do with your theme?

- ❑ Do your pages have a similar look? Can users tell that all pages are part of the theme?

Setting Up an HTML File

Start by typing this in your blank page.

```
<html>
    <head>
    </head>
    <body>
    </body>
</html>
```

Every new page should begin with the <html> tag

＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿ ＿

* The tags should always go in this order.

Placing Images & Headers

Place images on the left, right, top, bottom, or middle.

Appears as:

Type in where you want to place the image.

Want to place headers in the center?

<h1 align= "center"> Summer Fun </h1>

Appears as:

Hyperlinks

Use the anchor tag to create a hyperlink.

Text Wrangler: Google

Website: Google

- -

Make a link to a web page in your folder.

Text Wrangler: Main

Website: Main

Type in the name of your HTML file.

Images

Want a | Border | around your image?

Appears as:

(style= "border-color: yellow")

Want a thicker border? Put a bigger number.

Want to change the size of an image?

On Website:

Change the size by entering the percentage of the original image size that you want your image to be.

Website Design Requirements Checklist

Top of Form

☐ Does your website have a **theme**?

☐ Does your website have at least **4 pages**?

☐ Do your web pages **link (connect) to each other**?

☐ Does your website have at least **2 links to outside** websites? Do the outside websites have something to do with your theme?

☐ Do users know **how to use** your website or how to get around (navigate)?

☐ Does one page have **information about you (the engineer/creator/designer)** of the website?

☐ Does your website have **2 images** that have to do with your theme?

☐ Do your pages have a **similar look**? Can users tell that all pages are **part of the theme**?

Web Color Codes

There are 16 "official" colors to use on the Web that W3C (also known as the World Wide Web Consortium, the governing body for web standards) recommends. See them all here at http://www.w3.org/TR/html401/types.html#h-6.5

Color names and sRGB (standard red green blue) **values**

Black = "#000000"   Green = "#008000"

Silver = "#C0C0C0"   Lime = "#00FF00"

Gray = "#808080"   Olive = "#808000"

White = "#FFFFFF"   Yellow = "#FFFF00"

Maroon = "#800000"   Navy = "#000080"

Red = "#FF0000"   Blue = "#0000FF"

Purple = "#800080"   Teal = "#008080"

Fuchsia = "#FF00FF"   Aqua = "#00FFFF"

Color Your Web Pages Handout

Activity 1. Predict how many combinations you could make if you had these 16 colors for background and the same 16 colors for text.

Activity 2. How many color schemes (combinations) are there, all together? We can figure out using math. But let's break it down into steps. Figure out each of these with your color cards.

1. Choose **2 text** colors and **2 background** colors.
2. Predict how many combinations you can have? _____
3. Using your cards, find out if your prediction was correct.

3. Choose **3 text** colors and **3 background** colors.
    4. Predict how many combinations you can have. _____
    5. how them using your color cards.

4. Now choose **2 title** colors, **2 text** colors and **2 background** colors.
    6. Predict how many color combinations you will have. _____
    7. Lay out your possible color schemes using your color cards. How do you know you have all of the schemes? How many color schemes will you have?

5. Now choose **3 title** colors, **3 text** colors, and **3 background** colors.
    8. Predict how many color schemes you can have? _____
    9. How do you know? Show your work without using the color cards.
    10. Verify your answer. Lay out your possible color schemes using your color cards.
    11. How many color schemes will you have? _____

6. Now look back at your work for a, b, c, and d. What patterns do you see?

   Do the number of color choices you have tell you how many color combinations or color schemes you will get? Is there some kind of math that can help you figure it out?

   What is a rule for figuring out how many color schemes there are, if you know the number of choices for title, text and background? (Use words, symbols or both to figure it out).

7. Test out your rule by making up another set of choices.

   Choose **2 title** colors, **5 text** colors, and **1 background** color.

   Use your rule and also lay out the color cards. Does your rule work?

8. Now, go back to the first question we had. How many color combinations can you have if you have 16 background colors and 16 text colors? How do you know? What if you had 16 background colors, 16 text colors, and 16 title colors?

Color Cards

Use the following template and colored construction paper to cut out and color 16 backgrounds, 16 titles, and 16 texts in one of each of the 16 colors. [Alternatively, print these templates on colored paper.]

Background color

Title Color

text color text color text color
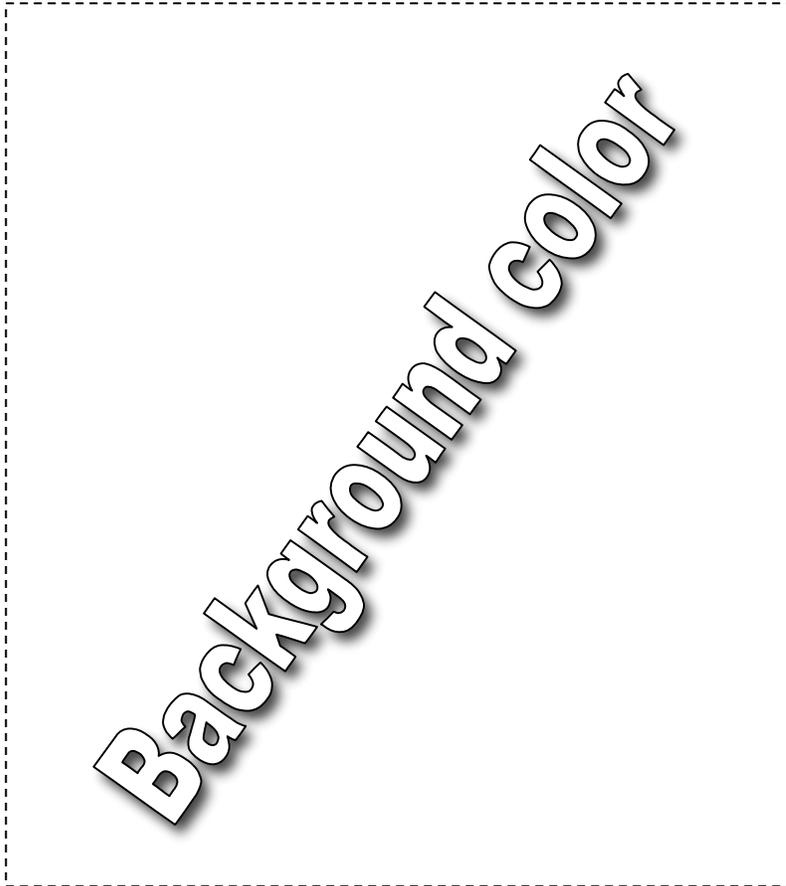
WYSIWYG Drawing Checklist

Your Drawing Should:

☐ Show all of the elements depicted in the code

☐ Show the elements in their proper placement on the page

☐ Correctly identify font sizes and colors

☐ Correctly identify format of the text (eg. plain, italics, or bold)

☐ Correctly identify any images and draw (roughly) what they look like

When Your Group Has Finished, You Should:

☐ Know what WYSIWG means

WYSIWIG Page 1

```
<html>
	<head>
		<title>Singing about Race</title>
	</head>
	<body>
		<h1><font color="red">Singing about Race</font></h1>
		<center>
			<font color = "red" size="+1">
				<p>"Can you feel it<br>
				Tension in the air<br>
				Racism, violence everywhere<br>
				Davis, Howard Beach<br>
				Bumpers and Brawley<br>
				It appalls me<br>
				Now is there really racial justice<br>
				It's time that we discussed this<br>
				I'm disgusted and I don't trust this"<br>
			</font>
			<font size="-1"><b>Kool Moe Dee, "Pump Your Fist"</b></p></font>
			<img
			src="http://o.scdn.co/300/31b4eac621c2aac0cda8c49fe2ebd776ca3ef592"
			width="20%">
			<font color = "black" size="+1">
				<p>"Emancipate yourselves from mental slavery<br>
				None but ourselves can free our minds<br>
				Have no fear for atomic energy<br>
				Cause none of them can stop the time"<br>
				<font size="-1"><b>
					Bob Marley, "Redemption Song"
				</b></font></p>
				<img src="http://bobmarleyredemptionsong.com/wp-
				content/uploads/2013/02/redemptionsong.jpg" width="20%">
		</center>
		<font size="-1">
			<p>To find more inspiring songs, go to <a
			href="http://www.edchange.org/multicultural/arts/race_songs.html">
			EdChange</a></p>
			<p><b>WYSIWYG</b> means <i>What You See Is What You Get</i>.
			When something on a computer is WYSIWIG, it means that what you see
			on the computer screen is what you would see if you printed it or displayed
			it somewhere else.</p>
		</font>
	</body>
</html>
```

Answer to WYSIWIG Page 1

Singing about Race

"Can you feel it
Tension in the air
Racism, violence everywhere
Davis, Howard Beach
Bumpers and Brawley
It appalls me
Now is there really racial justice
It's time that we discussed this
I'm disgusted and I don't trust this"

Kool Moe Dee, "Pump Your Fist"

"Emancipate yourselves from mental slavery
None but ourselves can free our minds
Have no fear for atomic energy
Cause none of them can stop the time"

Bob Marley, "Redemption Song"
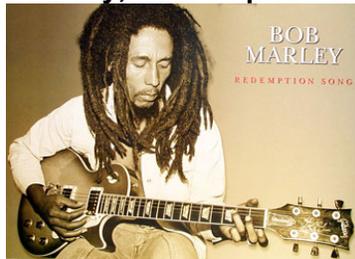
To find more inspiring songs, go to EdChange
(http://www.edchange.org/multicultural/arts/race_songs.html)

WYSIWYG means *What You See Is What You Get*. When something on a computer is WYSIWIG, it means that what you see on the computer screen is what you would see if you printed it or displayed it somewhere else.
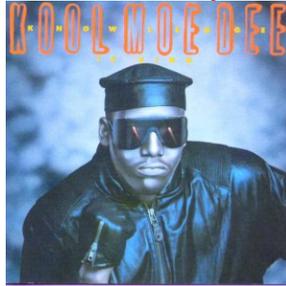
WYSIWIG Page 2

```
<html>
     <head>
          <title>Singing about Immigration</title>
     </head>
     <body>
          <h1><font color="green"> Singing about Immigration</font></h1>
               <p><img src="http://cdn.songonlyrics.com/wp-
               content/uploads/2012/02/The-Battle-Of-Los-Angeles-1999-Rage-Against-
               The-Machine.jpg" align="left" width="20%"></p>
               <font color="green" size="+2" align="left">
                    <p>"Tha sun ablaze as Maria's foot<br>
                         Touches tha surface of sand<br>
                         On northern land<br>
                         As human contraband<br>
                         Some rico from Jalisco<br>
                         Passed her name to tha boss<br>
                         She stuffed ten to a truckbed<br>
                         She clutches her cross"<br>
                         <font size="-1"><b>Rage Against the Machine,
                         "Maria"</b></font></p>
               </font>
               <p><img src="http://images4.fanpop.com/image/photos/22300000/Lady-
               GaGa-Americano-Gif-lady-gaga-22386387-500-499.gif" align="right"
               width="20%"></p>
               <font color="red" size="+2" align="right">
                    <p>"I met a girl in east LA <br>
                         In floral shorts as sweet as May <br>
                         She sang in eights in two barrio chords <br>
                         We fell in love, but not in court"<br>
                         <font size="-1"><b>Lady Gaga, "Americano"</b></font></p>
               </font>
          <font size="-1">
               <p>To find more inspiring songs, go to <a
               href="http://www.edchange.org/multicultural/arts/race_songs.html">EdCha
               nge</a></p>
               <p><b>WYSIWYG</b> means <i>What You See Is What You Get</i>.
               When something on a computer is WYSIWIG, it means that what you see
               on the computer screen is what you would see if you printed it or displayed
               it somewhere else.   </p>
          </font>
     </body>
</html>
```

Answer to WYSIWIG Page 2

Singing about Immigration

"Tha sun ablaze as Maria's foot
Touches tha surface of sand
On northern land
As human contraband
Some rico from Jalisco
Passed her name to tha boss
She stuffed ten to a truckbed
She clutches her cross"

Rage Against the Machine, "Maria"

"I met a girl in east LA

In floral shorts as sweet as May

She sang in eights in two barrio chords

We fell in love, but not in court"

Lady Gaga, "Americano"

To find more inspiring songs, go to EdChange (http://www.edchange.org/multicultural/arts/race_songs.html)

WYSIWYG means *What You See Is What You Get*. When something on a computer is WYSIWIG, it means that what you see on the computer screen is what you would see if you printed it or displayed it somewhere else.

WYSIWIG Page 3

```
<html>
    <head>
        <title>Singing about Stereotypes</title>
    </head>
    <body>
        <h1><font color="blue">Singing about Stereotypes</font></h1>
        <center>
            <font color="blue" size="+2" align="right">
             <p><img src="http://www.soulbounce.com/soul/assets_c/2011/11/queen-
             latifah-nature-of-a-sista-thumb-473xauto-9018.jpg" align="right"
             width="20%"></p>
                <p>"Some think that we can't flow (can't flow)<br>
                Stereotypes, they got to go (got to go)."<br>
                <b>Queen Latifah, "Ladies First"</b></p>
            </font>
            <font color = "orange" size="+2" align="left">
                <p><img
                src="http://popcultureblog.dallasnews.com/files/import/138021-
                En_Vogue_-_Funky_Divas_Cover-thumb-620x617-138020.jpg"
                align="left" width="20%"></p>
                <p><i>"Oh now attitude, why even bother<br>
                    I can't change your mind<br>
                    You can't change my color<br>
                    Free your mind and the rest will follow"
                </i><br>
                <b>Funky Divas, "Free Your Mind" </b></p>
            </font>
        </center>
        <p>
        <font size="-1">
                To find more inspiring songs, go to <a
                href="http://www.edchange.org/multicultural/arts/race_songs.html">
                EdChange</a>
                <p>
                <b>WYSIWYG</b> means <i>What You See Is What You Get</i>. When
                something on a computer is WYSIWIG, it means that what you see on
                the computer screen is what you would see if you printed it or displayed it
                somewhere else.
        </font>
    </body>
</html>
```
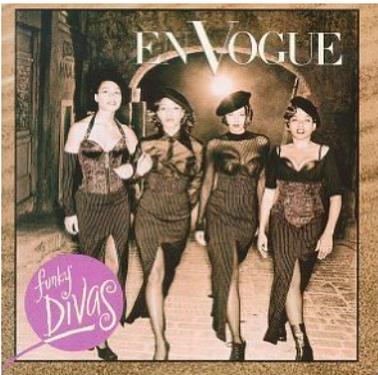
Answer to WYSIWIG Page 3

Singing about Stereotypes

"Some think that we can't flow (can't flow)
Stereotypes, they got to go (got to go)."

Queen Latifah, "Ladies First"

"Oh now attitude, why even bother
I can't change your mind
You can't change my color
Free your mind and the rest will follow"

Funky Divas, "Free Your Mind"

To find more inspiring songs, go to EdChange
(http://www.edchange.org/multicultural/arts/race_songs.html)

WYSIWYG means *What You See Is What You Get*. When something on a computer is WYSIWIG, it means that what you see on the computer screen is what you would see if you printed it or displayed it somewhere else.

Website Design Requirements

❑ Does your website have a theme?

❑ Does your theme include a need for an chat or IM feature?

❑ Does your website have at least 4 pages?

❑ Do your web pages link (connect) to each other?

❑ Does your website have at least 2 links to outside websites? Do the outside websites have to do with your theme?

❑ Do users know how to use your website or how to get around (navigate)

❑ Does one page have information about you (the engineer/ creator/ designer) of the website?

❑ Does your website have 2 images that have to do with your theme?

❑ Do your pages have a similar look? Can users tell that all pages are part of the theme?