# Get it Now: Ready to Use Afterschool Activity & Planning Tools

## BOOST 2011 Conference

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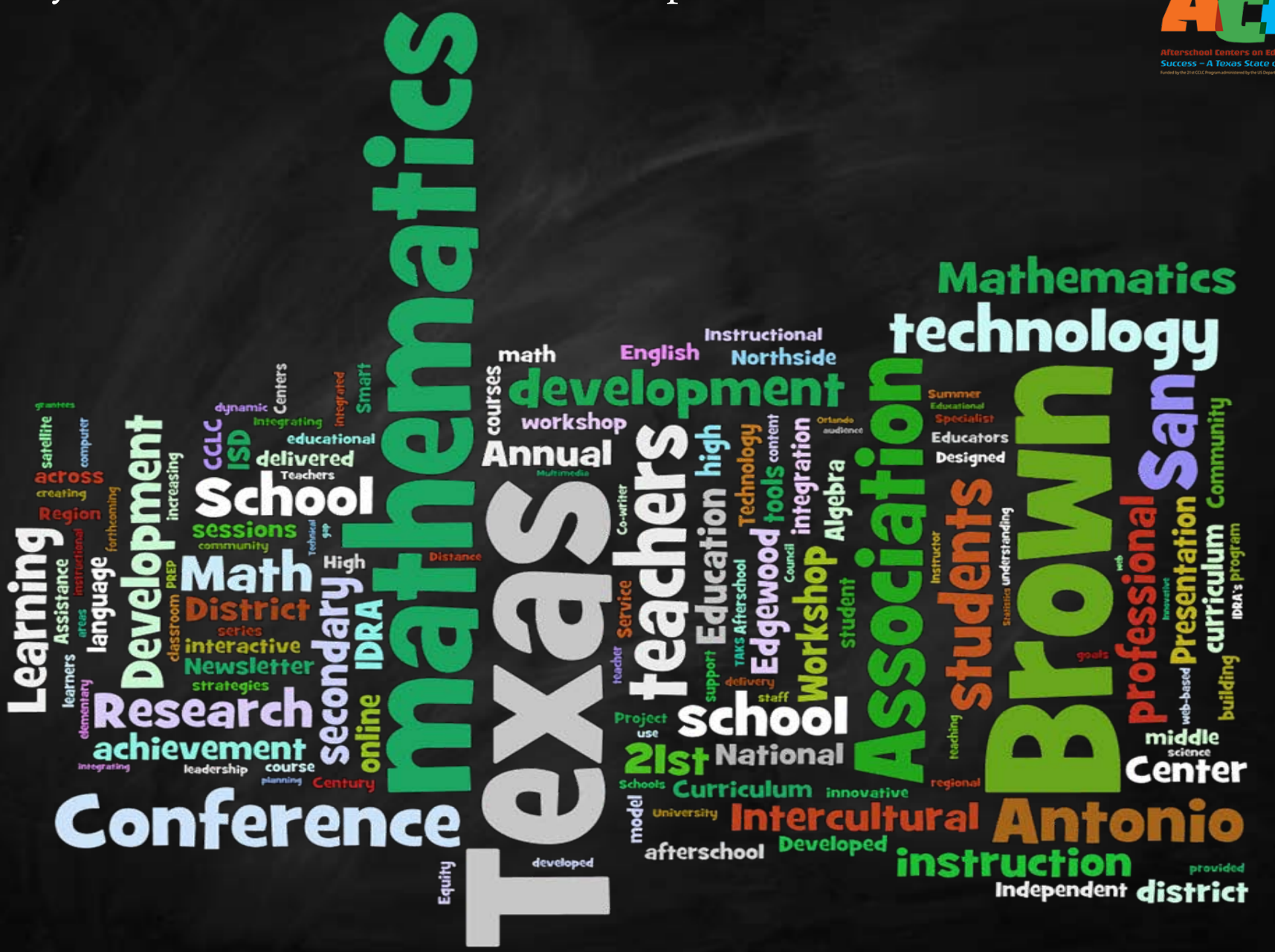

# *Edvance Research's Role*

Awarded a three-year contract with the Texas Education Agency to provide assistance for the Texas 21st CCLC Enhancement & Quality Assurance program, in the following areas:

- Technical Assistance
- Program Implementation Assurance
- Communication Network
- Outreach
- Tracking & Reporting

# What you'll walk away with…

- A first-hand STEAM *experience*
- Ready-to-use planning tools
- Online access to afterschool activities
- On-time training strategies
- Resources for scaffolding learning & integrating technology

1) Stand by a technology you cannot live without. (Limit of 5 people)

2) Write 3 features that make it impossible to live without.

3) Brainstorm a cool feature to add to this tool. Write or draw it.

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# Create new tools!

Buy Green Tech: GreenPod uses no batteries… wind it up and it can play music for 20 hours!

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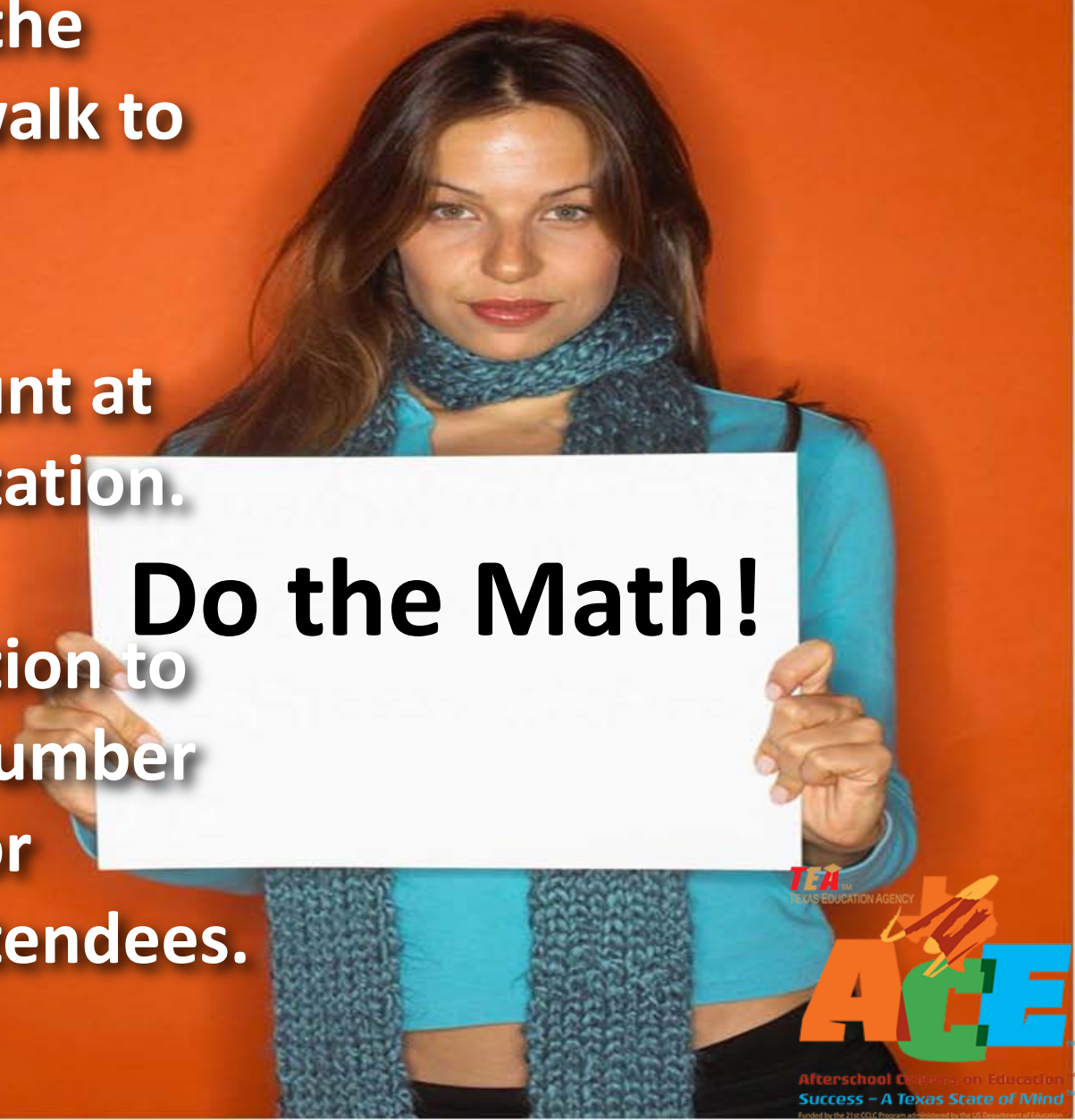
1) Write down how many are owned by the group as you walk to each station.

2) Total the amount at your original station.

3) Write an equation to estimate the number of tech tools for conference attendees.

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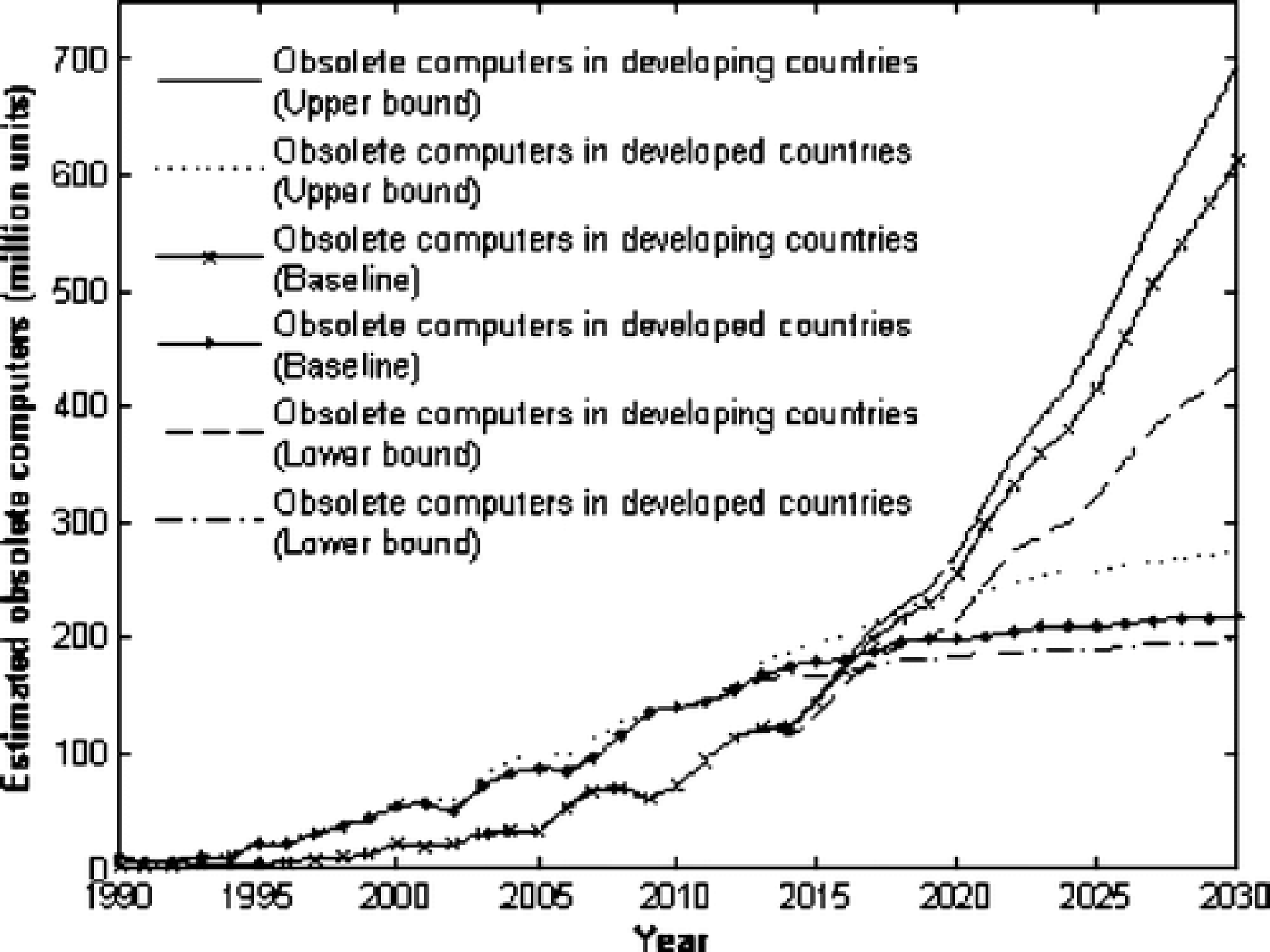
# What is your carbon footprint?

What do you do with your old technology?

What are these technologies made of?

eWaste all around us


Obsolete computers in developing countries (Upper bound)
Obsolete computers in developed countries (Upper bound)
Obsolete computers in developing countries (Baseline)
Obsolete computers in developed countries (Baseline)
Obsolete computers in developing countries (Lower bound)
Obsolete computers in developed countries (Lower bound)
Estimated obsolete computers (million units)
0
100
200
300
400
500
600
700
1990
1995
2000
2005
2010
2015
2020
2025
2030
Year

Use the **“E” support questions** to help you write a plan for the next steps in this lesson for your table’s assigned section.

What **Guiding Questions** could you ask participants? Use the Question Starters handout to help you.

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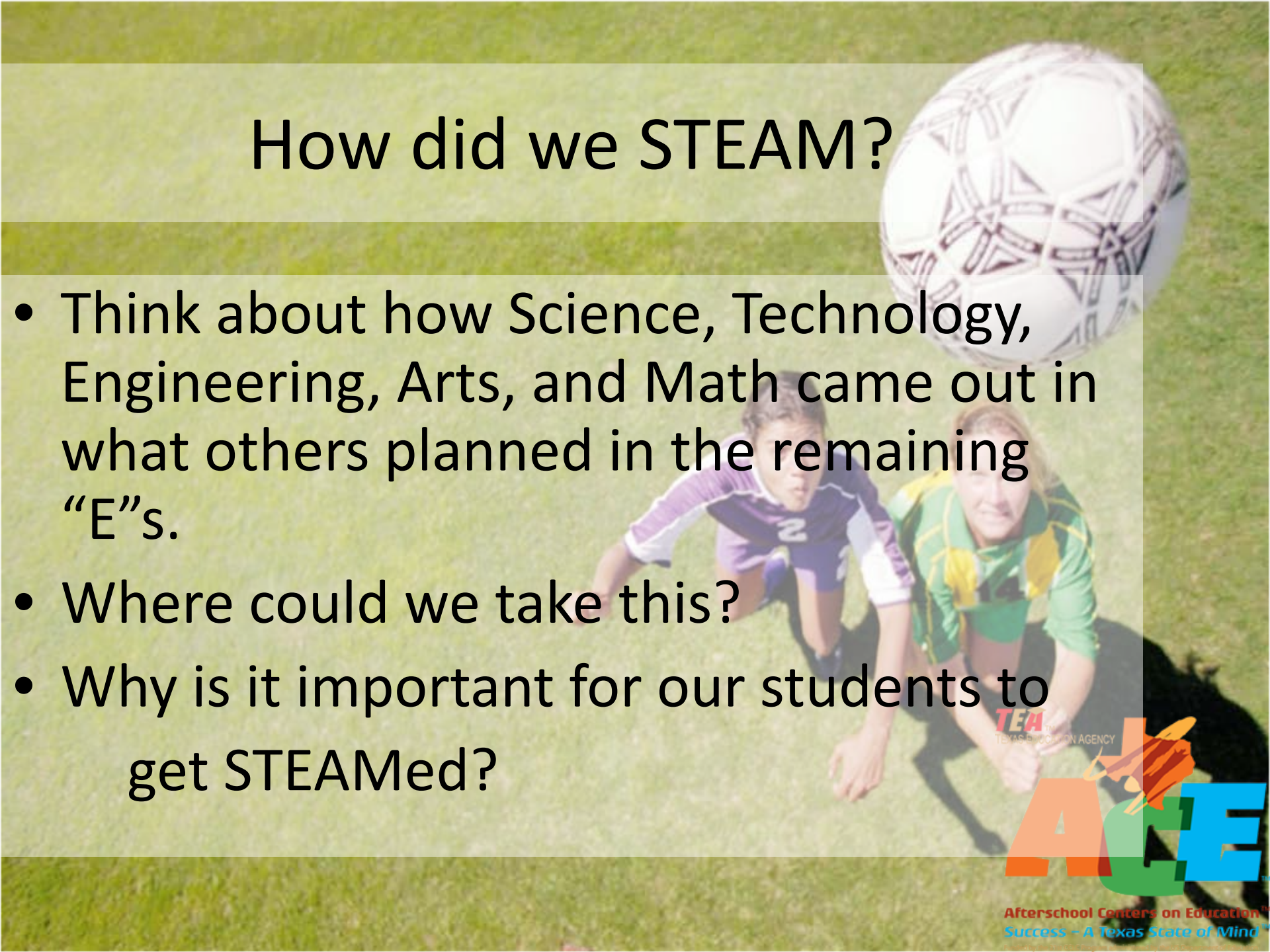
# How did we STEAM?

- Think about how Science, Technology, Engineering, Arts, and Math came out in what others planned in the remaining "E"s.
- Where could we take this?
- Why is it important for our students to get STEAMed?



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# 6th mass extinction looms but preventable, study says

**Most factors 'are caused by us,' researcher says of humanity's role**

Next story in None
**SC lawmakers take dim view of new light bulbs**
X

Below: Video Data Discussion Related

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By Stephanie Pappas
Senior writer
LiveScience
updated 3/2/2011 2:02:48 PM ET

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Are humans causing a mass extinction on the magnitude of the one that killed the dinosaurs?

The answer is yes, according to a new analysis — but we still have some time to stop it.

Mass extinctions include events in which 75 percent of the species on Earth disappear within a geologically short time period, usually on the order of a few hundred thousand to a couple million years. It's happened only five times before in the past 540 million years of multicellular life on Earth. (The last great extinction occurred 65 million years ago

Where can I download
STEAM and other activities?
activity.mytexasace.org

# Getting STEAMed

- Students and families as **creators and activists**
- Global and Cooperative Learning – 21st Century Skills
- Skype/Email with experts or others across the world
- Contests (thinkquest.org, re-burbia.com, google)
- Interactive Graphics (home of the future)

# Groovy Tools

***Google Earth***

***Google Sketchup***

***Google 3D Warehouse***

***Building Maker***

***Animoto***

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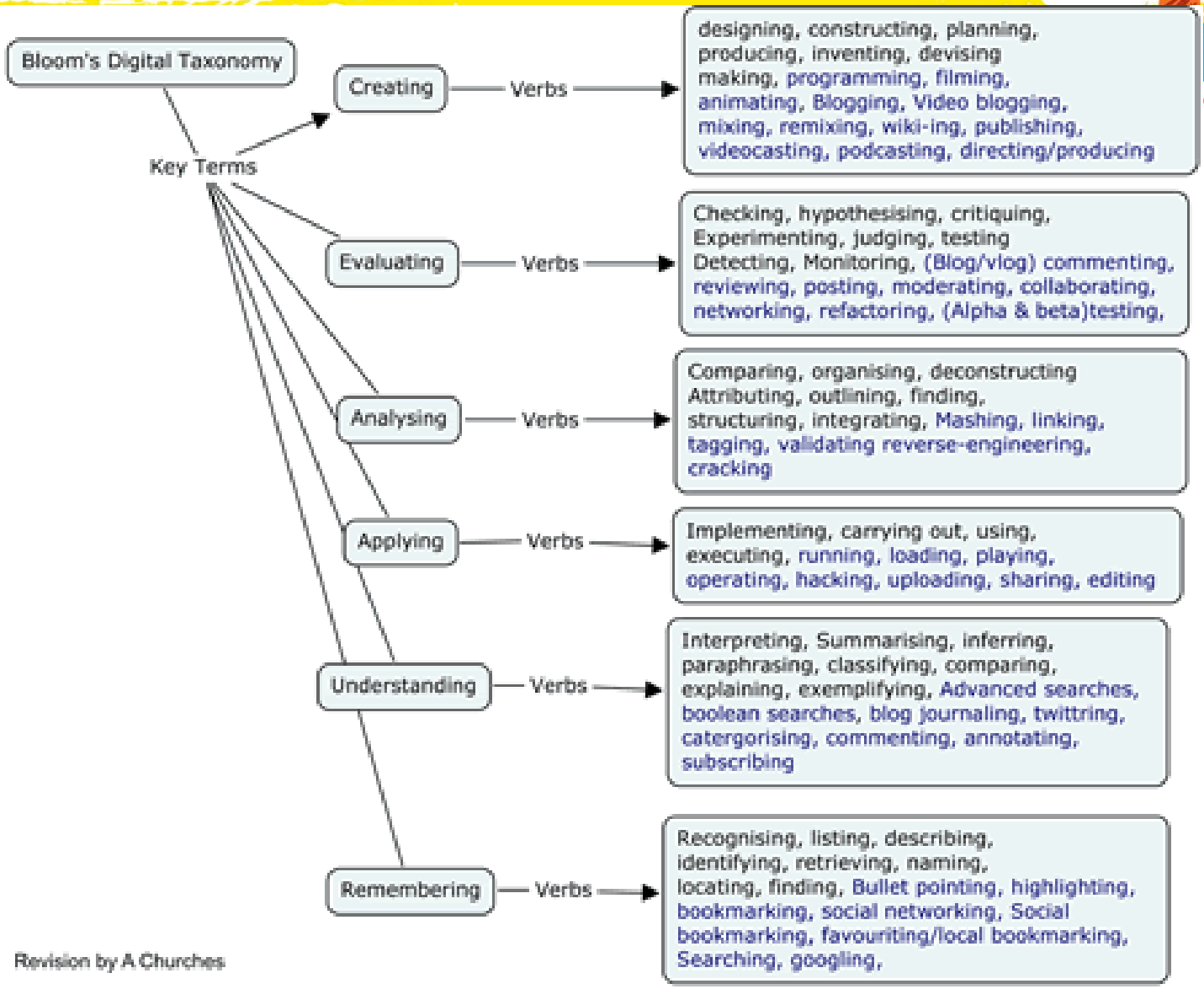


http://edorigami.wikispaces.com/

# Being in a place of possibility

- Biomedicine and wireless technology converging for remote-health-monitoring market -- expected to more than double to $7.7 billion a year by 2012 -- to combat obesity, heart disease, and other illnesses.

# Being in a place of possibility

Waterproof

Solar-powered

Sold in Japan

# Being in a place of possibility

A cell phone that

Opens up to show

video

# Being in a place of possibility

# *Texas 21st CCLC (ACE) Program*

- Branding
  Afterschool Centers on Education
- Statewide expectations
- Requirements
- Tools created for grantees (templates and database)
- Training provided
  - Innovative Learning, Web 2.0, PBL, Planning

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- Candace Ferguson, TEA
  candace.ferguson@tea.state.tx.us
- State Coordinator/Program Manager
  21st Century Community Learning Centers

# Texas ACE Grantees

- Current Cycles being served (each cycle is 5-years):

| 4 | 5 | 6 |
|---|---|---|
| **31** Grantees | **27** Grantees | **61** Grantees |

# Texas ACE Grantees

- Overall
  - Total grantees 119, centers 716
    - 91 ISDs
    - 25 Non-profit Agencies
    - 3 Education Service Centers

- Students Served in 2010-11

  181,225

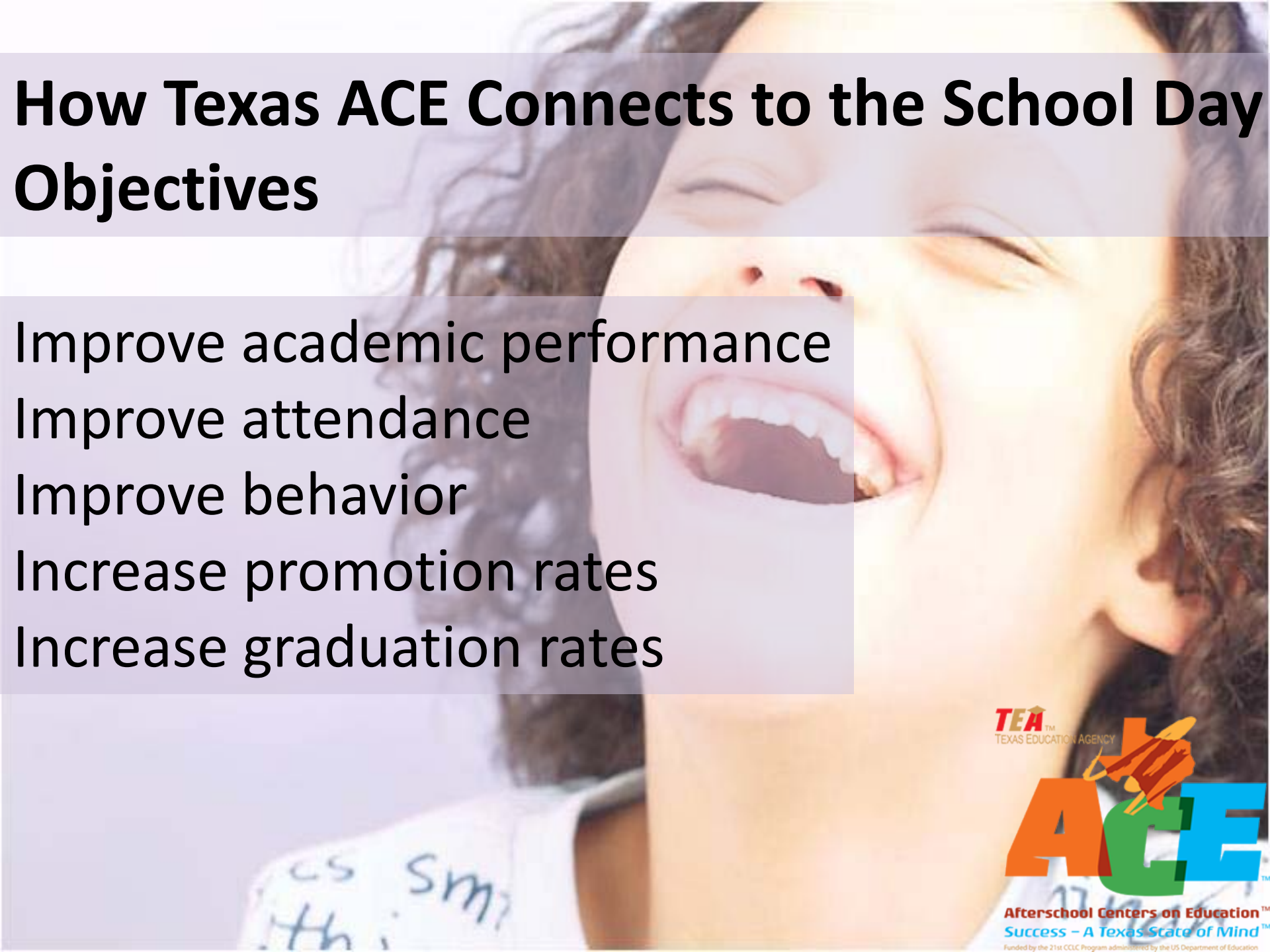
# Critical Success Model

Four Critical Success Factors

1) Student and Family Engagement
2) School Involvement
3) Assessment Data
4) Professional Development Impact

# How Texas ACE Connects to the School Day Objectives

Improve academic performance
Improve attendance
Improve behavior
Increase promotion rates
Increase graduation rates



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# Four Component Activity Guide

www.TexasACE21.org

# PRIME Blueprint for Texas ACE

# Intentional Programming & Templates: The Why, What, & How

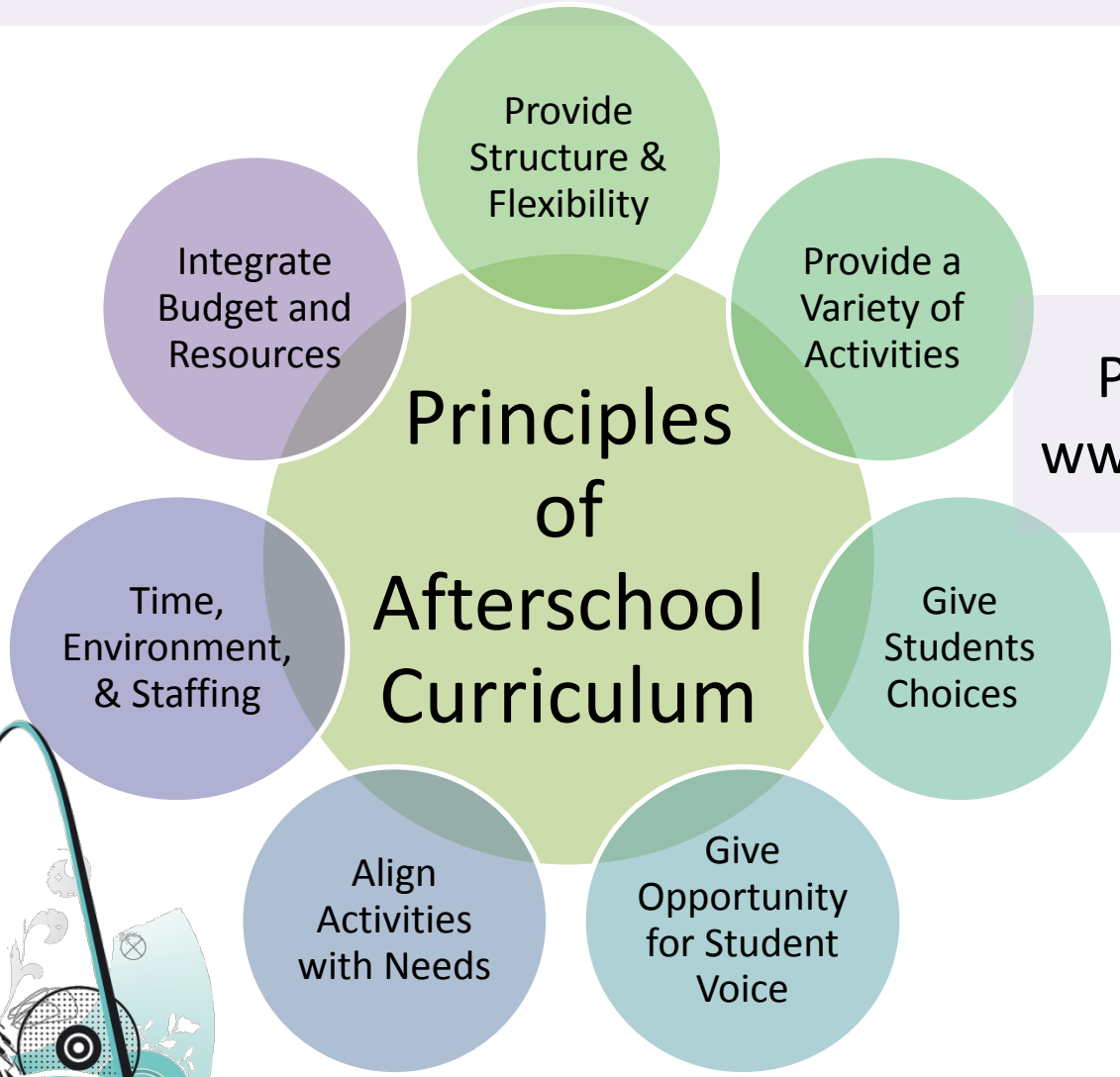
- The Vision
  - Meaningful, Purposeful, and Intentional Programming
  - Share and Reflect
  - Communication tool

# Intentional Programming & Templates… The Why, What, & How

- The Vision
  - Highly interactive and engaging
  - Creative
  - Student & Family Voice
  - Consistency
  - Rigorous and challenging
  - Connects to School Day

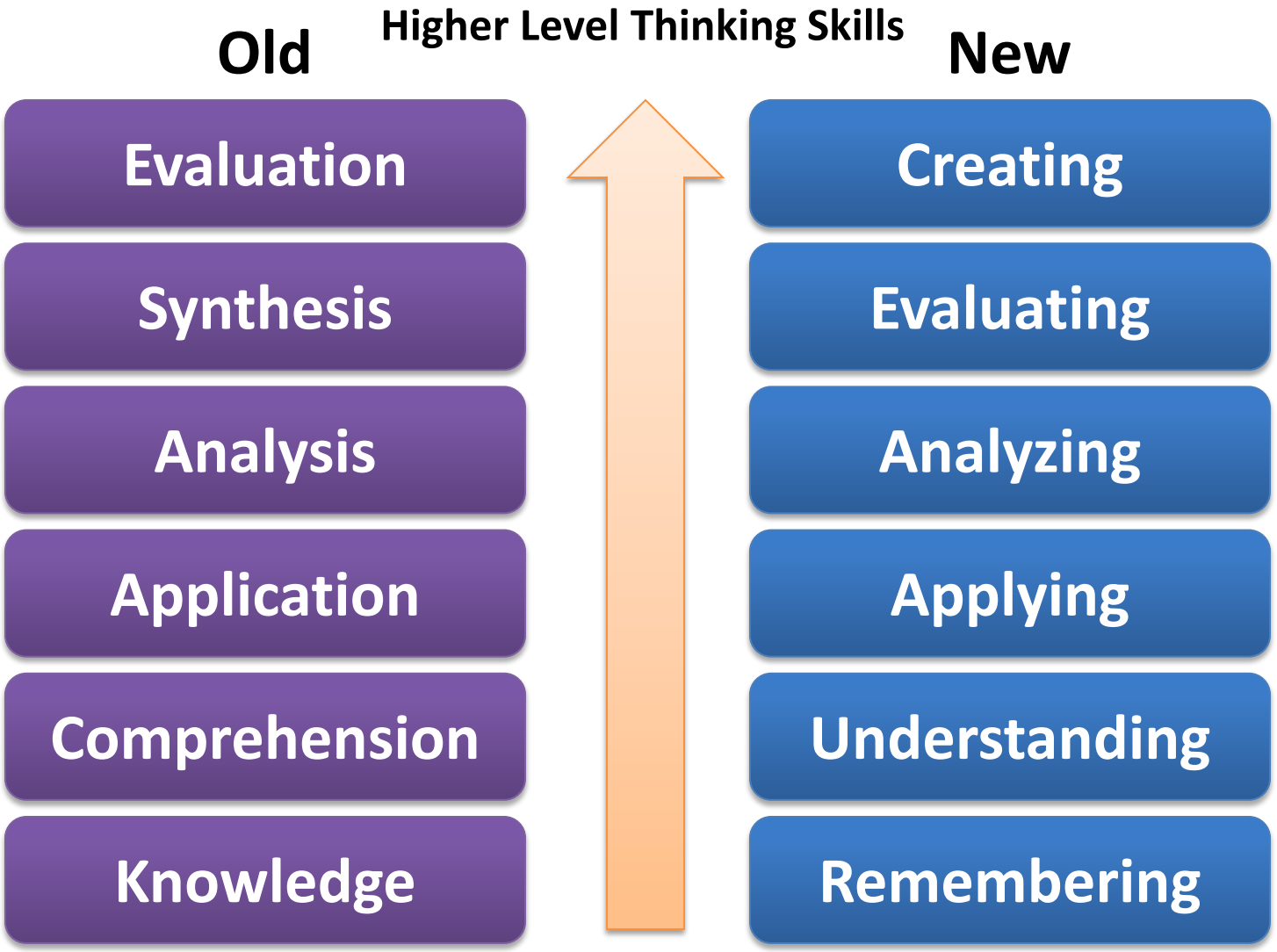
# Big Ideas For Texas 21st CCLC Intentional Programming

# Key Principles for Afterschool




PRIME Blueprint
www.texasace21.org

# Bloom's Taxonomy




Source: http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm

# In Action: Voices from the Field

- Intentional planning meetings with principals & school day staff
- Curriculum Roadmaps
- Staffing
- Focusing on Outcomes
- Youth Planning Quality Assessment

# Are You Ready to Experience Learning Afterschool Style?

## Alka Seltzer Pop Activity

# Strategies for Building Your Afterschool Curriculum

- Provide vendors with the planning templates
- Non-Profits and Other Organizations have Curriculum
- Use your district's curriculum resources (questions and resources)
- Attend team planning meetings and help assist
- Supplement the school-day learning in Afterschool – do the other parts that they didn't do during the day
- Internet & Resources
- Students & Families as resources
- Incorporate PBL strategies to create activities & plan

# On-Time Training for Your Staff

- Built in questions to guide development
- Helping staff speak the language
- Hand-over and do
- Train frontline staff by walking them through it; they can break it into each piece and do a training on each section (ie, reflection)
- Use as follow-up for observations and accountability
- Build up staff

# Tips for Planning Engaging Activities

- Collaborate
- Start with what you are excited about
- Engage Experts
- Search the Internet
- Keep a creative mind always
- Use participants for ideas
- Think about creating
- Integrate technologies

Get in 2 lines facing each other, and reflect on 1 thing you will take back and do.

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# Resources

Texas ACE Public Site
www.texasace21.org

ACE Activity Database
activity.mytexasace.org

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# Ticket Out

Your input is important.

1. Did this session meet your expectations?
2. What would you like to have seen more of?
3. What made the most impact on you and your program?

# Contact Information

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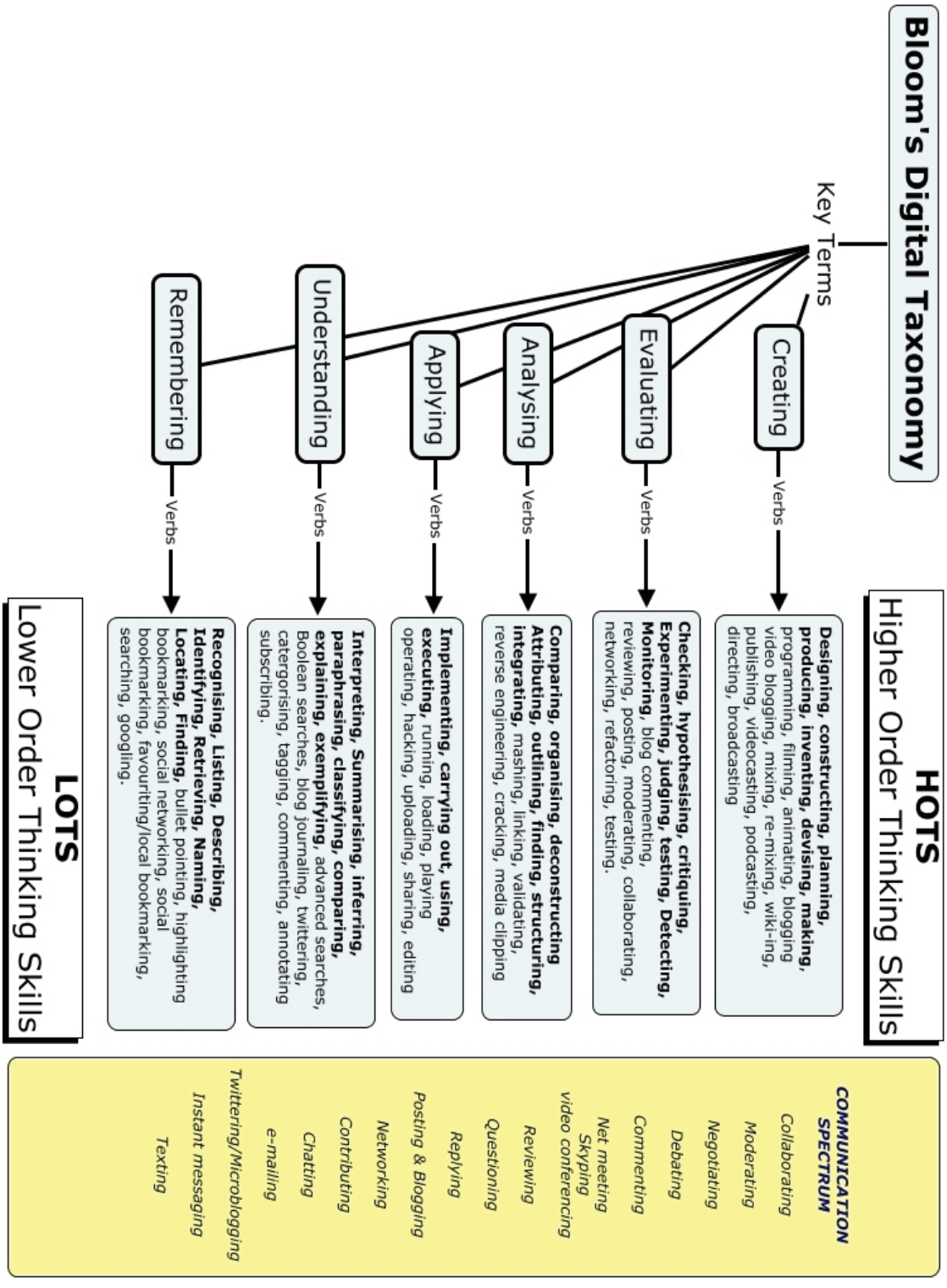
State Coordinator/Project Manager, Texas Education Agency

# Bloom's Digital Taxonomy

## *Bloom's revised digital taxonomy map*



# Bloom's Taxonomy with new terminology

## QUESTION STARTERS

### *Level I: REMEMBER (Recall)*

1. What is the definition for…..?
2. What happened after…..?
3. Recall the facts.
4. What were the characteristics of…?
5. Which is true or false?
6. How many…?
7. Who was the…?
8. Tell in your own words.
9. Describe the…

### *Level II: UNDERSTAND*

1. Why are these ideas similar?
2. In your own words retell the story of…
3. What so you think could happen?
4. How are these ideas different?
5. Explain what happened after.
6. What are some examples?
7. Can you provide a definition of…?
8. Who was the key character?

### *Level III: APPLY* (applying without understanding is not effective)

1. What is another instance of…?
2. Demonstrate the way to …
3. Which one is most like…?
4. What questions would you ask?
5. Which factors would you change?
6. Could this have happened in…? Why or why not?
7. How would you organize these ideas?

## POTENTIAL ACTIVITIES

### *Level I: REMEMBER (Recall)*

1. Make a time line of events
2. Make a facts chart
3. Write a list of …steps in…facts about…
4. List all the people in the story.
5. Make a chart showing…
6. Make an acrostic
7. Recite a poem

### *Level II: UNDERSTAND*

1. Cut out or draw pictures to show an event.
2. Illustrate what you think the main idea was.
3. Make a cartoon strip showing the sequence of…
4. Write and perform a play based on the…
5. Compare this_____with____
6. Construct a model of _____.
7. Write a news report.
8. Prepare a flow chart to show the sequence…

### *Level III: APPLY* (applying without understanding is not effective)

1. Construct a model to demonstrate using it.
2. Make a display to illustrate one event.
3. Make a collection about…
4. Design a relief map to include relevant information about an event.
5. Scan a collection of photographs to illustrate a particular aspect of the study.
6. Create a mural to depict…

# Bloom's Taxonomy with new terminology

## QUESTION STARTERS

### *LEVEL IV: ANALYZE*

1. What are the component parts of …?
2. What steps are important in the process of …?
3. If…then…
4. What other conclusions can you reach about…that have not been mentioned?
5. The difference between the fact and the hypothesis is …
6. The solution would be to …
7. What is the relationship between …and …?

### *Level V: EVALUATE*

1. In your opinion…
2. Appraise the chances for…
3. Grade or rank the …
4. What do you think should be the outcome?
5. What solution do you favor and why?
6. Which systems are best? Worst?
7. Rate the relative value of these ideas to …
8. Which is the better bargain?

### *Level VI: CREATE*

1. Can you design a …?
2. Why not compose a song about…?
3. Why don't you devise your own way to …?
4. Can you create new and unusual uses for…?
5. Can you develop a proposal for …?
6. How would you deal with…?
7. Invent a scheme that would …

## POTENTIAL ACTIVITIES

### *LEVEL IV: ANALYZE*

1. Design a questionnaire about …
2. Conduct an investigation to produce…
3. Make a flow chart to show…
4. Construct a graph to show…
5. Put on a play about…
6. Review…in terms of identified criteria.
7. Prepare a report about the area of study.

### *Level V: EVALUATE*

1. Prepare a list of criteria you would use to judge a … Indicate priority ratings you would give.
2. Conduct a debate about an issue.
3. Prepare an annotated bibliography...
4. Form a discussion panel on the topic…
5. Prepare a case to present your opinions about…
6. List come common assumptions about… Rationalize your reactions.

### *Level VI: CREATE*

1. Create a model that shows your new ideas.
2. Devise an original plan or experiment for…
3. Finish the incomplete
4. Make a hypothesis about…
5. Change … so that it will…
6. Propose a method to …
7. Prescribe a way to …
8. Give the book a new title.

# Texas ACE Lesson Plan
## *Our Technology Toys*

**Lesson Description:** *Give a brief description about the lesson. What is the big picture and purpose? What are the lesson goals and objectives?*

The students will gain an introduction to ewaste and the electronics they have purchased. They will be able to:

- Create awareness around the ewaste we generate and electronic devices we use
- Identify relationships between the amount of technology purchased and the amount of ewaste generated
- Write equations and create graphs that represent the amount of ewaste generated and costs for recycling electronic products

**Date(s):** **Grade Level(s):** 6 - 8 **Lesson Duration (Hours/Sessions):** 3 hours over 2 sessions

Lesson Description

**Focused TEKS:**

Science (Grades 6-8):

Scientific Investigation and reasoning

- Develops a rich knowledge of science and the natural world
- Becomes familiar with different modes of scientific inquiry, rules of evidence, ways of formulating questions, ways of proposing explanations, and the diverse ways scientists study the natural world
- Proposes explanations based on evidence derived from their work

Math (Grades 6-8):

Number, Operation, & Quantitative Reasoning

- Uses estimation to approximate reasonable results,

Probability & Statistics

- Understands the way a set of data is displayed influences interpretation
- Measures of central tendency and range to describe a set of data
- Evaluate predictions and conclusions based on statistical data

ELA/Reading (Grades 6-8):

Reading

- Interpret messages in various forms of media
- Evaluate various ways media influences and informs audiences

Listening & Speaking

- Use comprehension skills to listen attentively to others
- Speak clearly and to the point
- Work productively with others in teams

Oral & Written Conventions:

Understand the function of and use the conventions of academic language when speaking and writing

Standards & Language Objectives

**Language & Technology Objectives:**

**ELPS (English Language Proficiency Standards):** If applicable

☐ ELL Learning Strategies:

☒ Listening: ☒ Reading:

☒ Speaking: ☒ Writing:

**Technology:** If applicable; use short descriptive statements

**Foundations:** uses technology terminology, promotes understanding relevancy of technology in daily living

**Information Acquisition:** acquires electronic information in a variety of methods and formats

**Solving Problems:**

**Communication:** employs technology specific to purpose and audience

**Key Vocabulary Terms/Academic Language:** *What are key words and terms that students should use as part of their discussions, written work, and in showing understanding in this lesson?*

ewaste, mobile device, electronic device, function, equation, independent variable, dependent variable, linear, non-linear, relationship, toxic chemicals, global awareness, PVC (Polyvinyl Chloride), Carbon Footprint, greenhouse gas emissions

**Lesson Materials:**

variety of electronic devices (cell phone, gaming devices, portable gaming devices, mp3 player, chargers etc.) - you can ask students to bring these materials, computer and projector, eCards, music, Excel spreadsheet with headers for data from Engage, graphing calculators or spreadsheet program, stopwatch, masking tape

**Lesson Resources:** *These can include people, web sites, references, etc.*

- Carbon Calculator at http://calc.zerofootprint.net/youth/iearn
- eWaste PSA Video http://www.youtube.com/watch?v=L7GHYfwzf9E (search on YouTube for others)
- Dell Commercial
- Wiki Encyclopedia http://en.wikipedia.org/wiki/Carbon_footprint
- Epals http://www.epals.com/cgi-bin/search.cgi

**Room Preparation/Materials Set-Up:**
*How should the room and materials be arranged?*

- Desks arranged in groups of 3
- Table with arranged technologies (optional)
- eCards posted around the room; easel sheets/large paper & Markers @ each eCard station
- Access to computer lab or COW (Computers on Wheels) for Explore section

**Grouping of Students/Parents/Family:** Select those that apply *How will you group students/parents/families for each section of the lesson to structure peer-to-peer interaction? How will you get them into these groups (e.g., counting off, common interests, etc.)?*

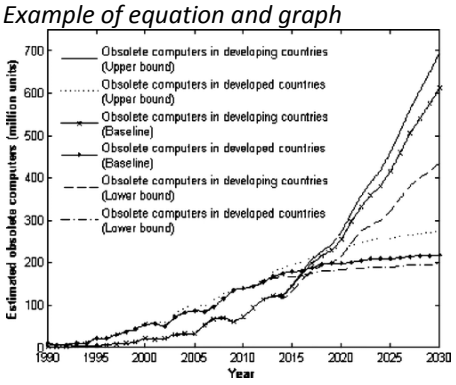
- ☒ Whole Group
- ☐ Pairs
- ☒ Triads
- ☐ Groups of _____
- ☐ Other: _____

**Grouping Strategy**

- ☐ Counting Off
- ☐ Common Interests
- ☐ Self-chosen
- ☐ Common Tasks
- ☒ Other: Teacher Assigned

**Lesson Resources & Set-Up**

| **Procedures:** (Describe each section, step-by-step. Adjust the number of steps needed. Incorporate best-practices.) | **Guiding Questions:** (Questions you want them to be able to answer and think about, using the New Bloom's Taxonomy.) | |
|---|---|---|
| **Engage** **Length (Time):**<br>*How will you capture their attention?*<br>*How can you elicit their previous knowledge? What do they already know about this topic?*<br>*How does this topic connect to their world?*<br>*<u>Service Learning:</u> How will you guide them in identifying a service learning project? How will you guide them in learning about their selection and assessing needs?*<br><br>Step 1) Tell students we are going to explore a unit on technology and the world around them. Begin the lesson by asking students to stand by the technology tool they cannot live without. This will help create groups of students of 3 or 4 depending on the number of students. If there are already 3 students at that eCard, they have to choose their next favorite to stand by. This strategy helps create groups and also allows for student choice.<br><br>Step 2) Ask each group to write on the paper 3 features of the technology that makes it impossible to live without. What are the "cool" features? Ask them also to write a "cool" feature they would recommend the manufacturer to make. Facilitate group discussion by walking around and monitoring groups.<br><br>Step 3) Ask each group to share their ideas.<br><br>Step 4) Gallery Walk Information. Beginning with the eCard technology tool they are at, ask students to write down the number of those items that are in their household and then call time to move to the next eCard. Give about 1 to 2 minutes at each station until each group has rotated to each eCard.<br><br>Step 5) When a group returns to their starting eCard, ask them to find the total for that number and report it to you.<br><br>Step 6) Use the Interactive Whiteboard to create a bar chart (or Excel) of the class data. Ask a student to help you enter the data or a representative from each group to enter the data and let a student create the visual representation.<br><br>Step 7) Ask each group to work together to make observations about the data from the class. | *Your facilitation questions should elicit prior knowledge and help make a connection to the day's topic.*<br><br>*Prediction: Which device do your think most people have?*<br><br>*If you could modify this technology, what feature would you add to it? What would be the "wouldn't it be cool if" feature that would surpass anything that is out there on the market?*<br><br>*Do you know anyone who doesn't own this technology? What would your life be like without it?*<br><br>*Was there anything you found surprising in your group discussions?*<br><br>*What visual do you think would be best to show the data we just collected?*<br><br>*What is the mean, median and mode; what number best describes the set of data? Why did you choose that one?*<br><br>*What observations can you make about the data? What is something you didn't realize before you saw this data?* | **Engage** |

| **Procedures:** (Describe each section, step-by-step. Adjust the number of steps needed. Incorporate best-practices.) | **Guiding Questions:** (Questions you want them to be able to answer and think about, using the New Bloom's Taxonomy.) | |
|---|---|---|
| **Explore** **Length (Time):**<br>*What hands-on/exploration activities will they do?*<br>*How will they be working – groups, individually?*<br>*<u>Service Learning:</u> How will they explore key components and possibilities around the community issue? What are some causes behind the issues? What is the academic connection?*<br><br>Step 1) For this section we are going to look at their "footprint" in our world. Ask students the following questions to answer in their groups:<br>• What do you do with your old technology when you buy a new one?<br>• What do they think their electronics are made out of?<br>Students should find the best way to present their collective information<br><br>Step 2) Show the eWaste PSA video to students. Ask them to write down at least one numerical fact from the video. From this information write equations to represent each situation. Identify the independent and dependent variables and write equations and create graphs using graphing calculators or graph paper.<br><br>Step 3) Students will go online and research eWaste facts and write 3 equations and create their graphs, writing statements about the information they found and some predictions using their equations and graphs about their world if we continue at this rate of ewaste. Students can use Excel or a graphing calculator to write the equations and create graphs.<br><br>Step 4) Students will research what their favorite technology is made out of. Key things for them to find: Materials and Chemicals, and its effect on the environment and population. This information will be used in the "Explain" section later.<br><br>Step 5) Tell students we are going to find their Carbon Footprint and give some background information about the definition of Carbon Footprint.<br><br>Step 6) Go to the iEarn web site Carbon Footprint Calculator. Students will go to this web site and find their own Carbon Footprint and compare it to others (gender, their age, and countries).<br><br>Step 7) Ask students to reflect on the Carbon Footprint tool. What features would they like to see added? | *Your facilitation questions should help connect to a hypothesis/theory and lead them to constructing their ideas and thoughts.*<br><br>*Do you consider how "green" an electronic device is when purchasing it?*<br><br>*What are some companies that promote green technologies? (iPod, HP)*<br><br>*Example of equation and graph*<br>  <br><br><br>*What chemicals are used in creating your favorite technology?*<br>*How do these chemicals affect your body?*<br>*Why do you think they use these chemicals in electronic devices?*<br><br>*What are some things that reduce your carbon footprint value? Are these things they can do? Why or why not?*<br><br>*If they cannot walk to school, what might they consider doing as an alternative?*<br><br>*Is this Carbon Footprint online tool useful? How would they change it up?* | **Explore** |



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| **Procedures:** (Describe each section, step-by-step. Adjust the number of steps needed. Incorporate best-practices.) | **Guiding Questions:** (Questions you want them to be able to answer and think about, using the New Bloom's Taxonomy.) | |
|---|---|---|
| **Explain** **Length (Time):**<br>*How will they show understanding, observations, and hypotheses of the topics/concepts in their own words?*<br>*Introduce students to models, laws, theories and ask them to connect knowledge from the Explore phase using the new terms/vocabulary.*<br>*How will they explain their thoughts/ideas (to a partner, small group, whole class)?*<br>*<u>Service Learning:</u> What is a possible design or model that explains the issue?*<br><br>The teacher will need to divide the class into three groups (A, B, C). Assign group A to do step 1. Group B will complete step 2 and Group C will complete step 3.<br><br>Step 1) Students will explain their Carbon Footprint number and things they will do to reduce this number.<br><br>Step 2) Students will explore what are some of things they do to create their Carbon Footprint value and how this value would compare if they changed what they were doing.<br><br>Step 3) Students will research alternatives to existing technologies (ie, GreenPod and XO Laptop by One Laptop Per Child).<br><br>Step 4). Afterwards, students can teach each other what they learned without a huge investment of time. | *Your facilitation questions should allow them to make justifications and connect to new knowledge, information, or ways of thinking.*<br><br>*What did you find most surprising?*<br><br>*What are some things you will do differently when buying technology?*<br><br>*Why do you think it's cheaper for us to send our ewaste to other countries?*<br><br>*What would you tell your friends about ewaste?* | **Explain** |

| **Procedures:** (Describe each section, step-by-step. Adjust the number of steps needed. Incorporate best-practices.) | **Guiding Questions:** (Questions you want them to be able to answer and think about, using the New Bloom's Taxonomy.) | |
|---|---|---|
| **Elaborate (Create)** **Length (Time):**<br>*They should be able to process what they learned and share what they learned in a variety of ways (verbally, visually, kinesthetically, etc.).*<br>*How will they extend their learning and transfer their knowledge to new situations/applications? What will they create?*<br>*Service Learning: How will they design, plan and implement the service?*<br><br>Step 1) Students will begin their eWaste Campaign planning and identify key issues and areas that need to be researched for their community effort.<br><br>Step 2) Students will propose an environmental issue that is often overlooked in their community with guidelines for exploration with a culminating activity.<br><br>Step 3) Students will determine group roles and responsibilities (assigning tasks) and determine their "voice" for writing and what numbers, equations, and graphs back up their claims. | *Your facilitation questions should guide them in applying their knowledge to new areas or fields and forming new hypotheses, and to other content areas/applications. What are some "what if" types of questions that can be asked (changes in conditions, parameters, materials, etc.)?*<br><br>*What are some things we should consider when buying technology?*<br><br>*What should your peers know about how technology is made?*<br><br>*What are other countries doing to eliminate ewaste?* | **Elaborate** |
| **Evaluate** **Length (Time):**<br>*How will they demonstrate their understanding throughout each of the above phases?*<br>*How will you assess knowledge at the end of the lesson?*<br>*Service Learning: How will they know if the service had an impact on the community?*<br><br>Step 1) Students will present their initial ideas/plans for the ewaste campaign.<br><br>Step 2) Their peers will ask questions for clarification and for presenting possible issues.<br><br>Step 3) Be sure to listen closely and highlight the different approaches and specific issues students are presenting. | *Your facilitation questions should help you determine whether you have met the lesson goals and objectives.*<br><br>*Why do you think this issue or topic you selected is important?*<br><br>*What words would help you persuade others to join the campaign and see the importance of this issue.* | **Evaluate** |
| **Closing Activity/Reflection:** (Can be part of the Evaluate section above)<br>*This should be a focused activity where students/parents/families reflect on their learning. It can include such strategies as Accountable Talk, 3-2-1 (3 things you liked, 2 things you learned, and 1 comment or question you have), or another type of strategy that brings forward their opinions and ideas about what they learned and how to enhance the lesson.*<br><br>Students will do a 3-2-1 Activity where they will reflect on:<br>3 things they learned<br>2 things they need to accomplish the next day<br>1 question they still have | | **Lesson Reflection** |
| **Instructor:** (Select who is delivering this activity by right-clicking on the appropriate box below and selecting *Properties* and select *Checked*)<br><br>☒Certified Teacher ☐College Student ☐Volunteer ☐Para-professional ☐Other: | | |

| **Procedures:** (Describe each section, step-by-step. Adjust the number of steps needed. Incorporate best-practices.) | **Guiding Questions:** (Questions you want them to be able to answer and think about, using the New Bloom's Taxonomy.) | |
|---|---|---|
| **Lesson Reflection:** (Please complete after the lesson.)<br>*What are some modifications you made along the way? How would you assess student/parent/family learning and understanding? What are some things you would do differently?* | | |

# Texas ACE Activity/Unit Planning Worksheet
## *eWaste Not Want Not*

Activity Description

**Activity Description:** *Describe what the activity is about. What is the big picture and purpose of the activity/unit? What are the goals and outcomes for students and parents/family? What products will students, parents, and/or families create?*

The purpose of this activity is to bring awareness about environmental issues surrounding electronic purchases and recycling habits. Students will apply their knowledge and research to planning and implementing an annual ewaste recycling event and an *eWaste Not Want Not Awareness Campaign,* grounded in making appropriate personal economic choices and global recycling awareness. This activity will connect students to experts, research, and other students across the world and connect concepts across Math, Reading, and English Language Arts content areas.

**Texas 21st Century Learning Center Objectives:** *How does this activity/unit connect to the Texas 21st CCLC Goals & Objectives?*

Check most relevant:

- ☒ Improve Academics
- ☒ Improve Attendance
- ☐ Improve Behavior
- ☐ Increase Promotion Rates
- ☐ Increase Graduation Rates

**Needs Assessment Activity Statement:** *What need(s) are being addressed through this activity/unit as informed by your campus needs assessment?*

- Math TAKS scores significantly drop from 6th grade to 8th grade and students' writing scores are in need of improvement.
- Connecting of school to community as defined by the District and Campus Needs Assessments
- English Language Learners need opportunities for building academic language within a real-world context as identified by TAKS scores and analysis of TAKS objective data across assessments (reading, math, ELA).
- Economic awareness and models for technology integration across the content areas is a need as indicated by the Campus Needs Assessments, in particular teacher training

**Term:** Spring **Duration** (days/hours/sessions)**:** 15 days or 7 weeks/1.5 hours per session **Grade Level(s):** 6 - 8

**Frequency:** (Select One)

- ☒ Every week
- ☐ 1 to 3 times per month
- ☐ Less than 1 time per month
- ☐ One-time event

**Target Audience:** (Select One)

- ☒ Students
- ☐ Adult Family

**Target Area(s) Addressed:** Check those that are most relevant.

*Core Content Areas:*

- ☒ Reading/ELA
- ☒ Math
- ☐ Science
- ☐ Social Studies

*Other Areas:*

- ☐ Fine Arts
- ☒ Economic Literacy
- ☒ Technology
- ☒ Global Learning
- ☐ Health Literacy
- ☐ Cultural Activities
- ☐ Service Learning
- ☐ English Language Proficiency Standards
- ☐ Other:

**TEKS:** *What are the state standards that this activity addresses?*

Science (Grades 6-8):

Scientific Investigation and reasoning

- Develops a rich knowledge of science and the natural world
- Becomes familiar with different modes of scientific inquiry, rules of evidence, ways of formulating questions, ways of proposing explanations, and the diverse ways scientists study the natural world
- Proposes explanations based on evidence derived from their work
- Uses scientific inquiry methods during laboratory and field investigations. The student is expected to:

Knowledge and Skills

- The student, for at least 40% of the instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices
- demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards
- Practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials
- plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology
- design and implement experimental investigations by making observations, asking well-defined questions, formulating testable

hypotheses, and using appropriate equipment and technology
- collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers
- construct tables and graphs, using repeated trials and means, to organize data and identify patterns
- Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends

Math (Grades 6-8):

Number, Operation, & Quantitative Reasoning
- Uses estimation to approximate reasonable results,
- Uses appropriate operations to solve problems involving unite rates and proportional relationships

Patterns, Relationships, & Algebraic Thinking
- Solves problems involving direct proportional relationships
- Makes connections among various representations of a numerical relationship
- Uses graphs, tables, and algebraic representations to make predictions and solve problems

Probability & Statistics
- Understands the way a set of data is displayed influences interpretation
- Measures of central tendency and range to describe a set of data
- Evaluate predictions and conclusions based on statistical data

ELA/Reading (Grades 6-8):

Reading
- Read grade level-text with fluency & comprehension
- Analyze, make inferences, and draw conclusions from informational text
- Interpret messages in various forms of media
- Evaluate various ways media influences and informs audiences

Writing
- Use elements of the writing process to compose text
- Write about their own experiences, focusing on communicating the importance of or reasons for actions and/or consequences
- Write persuasive texts to influence the attitudes or actions of a specific audience on specific issues

Oral & Written Conventions:
- Understand the function of and use the conventions of academic language when speaking and writing

Research
- Use open-ended research questions and develop a plan for answering them
- Determine, locate, and explore the full range of relevant sources
- Evaluate and synthesize collected information
- Organize and present ideas and information according to the purpose and their audience

Listening & Speaking
- Use comprehension skills to listen attentively to others
- Speak clearly and to the point
- Work productively with others in teams

**Lessons at a Glance:** Give a brief statement for each Lesson's Objective.

| | |
|---|---|
| Lesson 1: **Our Technology Toys** – Students will gain an introduction to ewaste and the electronics they have purchased. | Lesson 5: **Eco-Friendly Technology** – Students will investigate eco-friendly technologies and compare costs and recycling fees with their counterparts using equations. |
| Lesson 2: **The Effects of Recycling** – Students will learn the effects of recycling compared to not recycling and express these algebraically. | Lesson 6: **Media and Technology to Communicate** – Students will create eco-friendly ewaste technology messages using a variety of technology to advertise their ewaste campaign and raise awareness. |
| Lesson 3: **Connecting Across Our World** – Students will communicate with other students in Africa and China and learn about their recycling practices and brainstorm ewaste solutions. | Lesson 7: **Our School's Awareness** – Students will collect recycling data and analyze their school's electronic purchasing practices and make a recommendation for future purchases. |

| | | |
|---|---|---|
| | Lesson 4: **eWaste PSA** – Students will plan their eWaste campaign and their strategy for advertising their campaign. Students will learn about valid resources of information and persuasive writing/communication strategies. | Lesson 8: **eWaste Not want Event** Students will hold their eWaste recycling event that includes educational posts for younger students. To help students and community comprehend issues surrounding electronic waste in our society and how its disposal affects our quality of life as well as the environment.. |
| | **Culminating Activity:** *What is the final closing event or lesson that connects the lessons of this activity/unit together and brings closure?*<br>• Students will design, plan, and implement an annual/regular electronic recycling event that involves the community, parents and families, and the school as part of the process.<br>• Students can also hold a virtual recycling symposium using technologies they select. | |
| **Materials & Resources** | **Materials:** *This is a complete list for all the lessons in this activity/unit including Technology Tools (computers, internet, gaming systems, etc.)*<br>eCards, markers, paper (large sheets), stop watch, masking tape, interactive white board, Excel spreadsheet, graphing calculators, web cam, COW (computers on wheels) w/multimedia tools for creating video and Powerpoints, video cameras, digital cameras, Skype set up on computer with web cam | **Resources:** *These can include web sites, people, books, etc.*<br>• iEarn www.iearn.org<br>• Skype www.skype.com<br>• Zero Footprint www.zerofootprint.net/youth/iearn<br>• Global School www.globalschoolnet.org<br>• Wikipedia<br>• YouTube (eWaste PSA and related videos)<br>• Turn your trash into cash http://www.necn.com/Boston/Business/2009/01/19_/Turn-your-trash-into-cash-/1232401630.html<br>• E-waste management in Africa http://www.dsf-fsn.org/cms/documents/en/pdf/EWasteGB51.pdf<br>• Green peace- http://www.greenpeace.org/usa/campaigns/toxics/hi-tech-highly-toxic/e-waste-goes<br>• The Natural edge http://www.naturaledgeproject.net/EWasteHome.aspx<br>• Step Solving the problem http://www.step-initiative.org/news.php?id=0000000119<br>• The digital Dump Official trailer http://www.youtube.com/watch?v=a0xpRk7MYNg<br>• Fair trade http://www.youtube.com/watch?v=EFl2XrWPTHA&feature=pyv&ad=4828602055&kw=e-waste<br>• Save a life http://www.youtube.com/watch?v=xF_x9yNGcYQ&feature=related<br>• (search on YouTube for others)<br>• eWaste resource conservation http://www.epa.gov/osw/conserve/materials/ecycling/donate.htm<br>• Wiki Encyclopedia –Solving the e-waste problem http://en.wikipedia.org/wiki/Solving_the_E-waste_Problem<br>• E-waste Eddy http://video.yahoo.com/watch/190618/804008<br>• PSA How to Create a Public Service Announcement Film \| eHow.com http://www.ehow.com/how_2241597_create-public-service-announcement-film.html#ixzz0upZMHcQC<br>• GreenPeace www.greenmyapple.org<br>• Eco-friendly computing http://www.expresscomputeronline.com/20090119/greenit05.shtml<br>• "Environmental Management in a Society That Recycles" **video** http://www.hds.com/uk/solutions/storage-strategies/eco-friendly.html<br>• Choosing an electronic waste facility to be recycle http://www.videojug.com/interview/electronic-waste-facilities-2<br>• Wikianswers http://wiki.answers.com/Q/What_is_eco-friendly_technology |

- Eco-friendly technology Video http://www.youtube.com/watch?v=beGGSVMaka8 (search on YouTube for others)
- Did You Know 3.0 video http://www.youtube.com/watch?v=beGGSVMaka8
- Green Innovation http://www.greeninnovation.co.uk/
- campus technology coordinator
- math and English teachers

**Activity Preparation Information:**

*What information is important in preparing for this activity/unit? Is there any scheduling or things that require you to plan with others? Will other adults need to be notified about certain events (e.g., Campus/District Parent Liaison might need to know about the Family Connections).*

- Identify other groups of students to communicate with and dates/times through iEarn or Global School.
- Schedule presentation times from local/remote.
- Schedule virtual field trip to recycling plant.

**Support**

**Providers/Partnerships:** *Who will you partner with to support activity/unit goals and objectives?*

- Local company representatives (Best Buy, Radio Shack, Recycling Companies)
- City/County Recycling Entity

**Educational Field Trips:** (If applicable)

*What are some real and/or virtual field trips that provide students with learning experiences that are difficult to duplicate in the classroom?*

- Virtual/Actual Field trip of a recycling plant
- Skype communication with recycler in India
- Skype communication with students in China or India

**Outcomes & Best Practices**

College Readiness Cross-Disciplinary Standards: Check those that apply

**Key Cognitive Skills**

- ☒ Intellectual Curiosity
- ☒ Reasoning
- ☒ Problem Solving
- ☒ Academic Behaviors
- ☒ Work Habits
- ☒ Academic Integrity

**Foundational Skills**

- ☒ Reading across curriculum
- ☒ Writing across curriculum
- ☒ Research across curriculum
- ☒ Use of data
- ☒ Technology

**Partnership for 21st Century Skills** (for Student Activities only): Check those that are most relevant

*Learning & Innovation Skills*

- ☒ Creativity & Innovation
- ☒ Communication & Collaboration
- ☒ Critical Thinking & Problem Solving

*Information, Media, & Tech. Skills*

- ☒ Information Literacy
- ☒ Media Literacy
- ☒ Information, Communication, & Technology Literacy

*Life & Career Skills*

- ☒ Flexibility & Adaptability
- ☒ Initiative & Self-Direction
- ☒ Social & Cross-Cultural Skills
- ☒ Productivity & Accountability
- ☒ Leadership & Responsibility

**Texas 21st CCLC Components**

**Texas 21st CCLC Component:** Check only one component

- ☒ Academic Assistance
- ☐ Enrichment
- ☐ Family/Parental Support Services
- ☐ College & Workforce Readiness

**Academic Assistance Tutoring Activities**

Pre-test(s): District TAKS Benchmark

Post-test(s): District TAKS Benchmark

**Principles of Effectiveness:** Select those you applied

- ☒ Assessed data of before- and after-school programs and activities in the school and community.
- ☒ Established set of measurable goals and objectives and designed activity to meet them.
- ☒ Integrated scientifically based research that provides evidence that activity/program will help meet student achievement standards.

**School Day & Family Connection**

**School Day Connection:**
*What did you do to connect to the school day?*
Check those that apply

☒ Attended Team Meeting with Teachers
☐ Referenced School TAKS Schedule
☒ Referenced School/District Curriculum
☐ Developed with School/District Teachers
☐ Consulted with District/School Content Area Specialist(s)
☐ Other:_____

**Family Connections:** If applicable
*How does this activity include family and address family involvement? What parent/family lessons do you have planned and where would they occur throughout this activity?*

Families and parental involvement will happen in the home and as well as part of an ongoing ewaste recycling campaign. They will begin with the initial evaluation of their e-purchasing practices and what they have in their home through the culminating activity. Parents will assist students as they review their previous electronic purchases and methods for recycling them.

**Reflections**

**Activity Reflections**: Please fill out after the last lesson of this activity/unit.

*What are some modifications you made along the way? How did you know students learned? How did you know parents/families learned or were engaged? How would you assess student/parent/family impact on the community or results of this (service-learning) activity? What are some things you would do differently?*

*Participant Voice: It is important to get student reflections and ask them about their thoughts. Ask your participants: What things did they like/dislike? How would they change this activity (to make it better)? What are possibilities for this activity to extend it? How can parents/families be brought into it more?*