

# MassTEC

Massachusetts Technology Education/Engineering Collaborative

masstec.org

The MassTEC Express ~ Our list-serve Newsletter



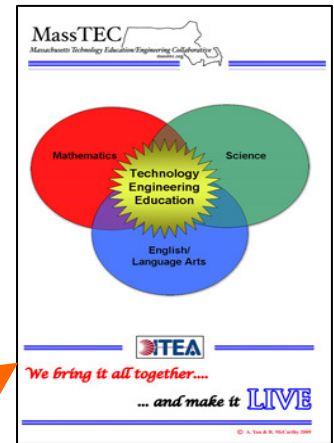
## Welcome to The MassTEC Express!

We are offering a new way to keep in touch. This newsletter will come out quarterly to spread news about our field and support you in your teaching. Please forward this to your friends (especially Technology Engineering Teachers who are not signed up for the MassTEC list-serve) who might be interested in these topics. We are looking for an **editor** for these newsletters. How about you? Our eventual goal is to have something like this: <http://www.doe.in.gov/octe/technologed/pdf/TechFlash/IndianaTechFlash-2010-02.pdf>

In this edition of *MassTEC Express*:

- President's Note
- Recent MassTEC Activities
- <http://masstec.org/>
- Hot Topics and Websites
- Free Lesson Plan

Download a free copy of this poster: <http://masstec.org/conferencefolder/conference2009/images/TechEngED%20LIVE%208x11%20poster.pdf>



### From the president's desk:

Greetings!

We've been busy working for you since our great MassTEC Conference at Fitchburg State College last October. Members of the MassTEC board have made contributions to the STEM Summit held in Sturbridge, the Science Technology/Engineering Frameworks Review Committee, the Technology/Engineering Advisory Committee, the NAEP Framework draft review, and more.

We are working with politicians, Fitchburg State College, UMASS, Northeastern University, and the Massachusetts State College system to bring Technology Engineering Education to all public school students.

I met with Lt. Governor Murray at the state house in December to discuss the future of our discipline and how we are ready to help education respond to the state's and nations STEM pipeline issues. He placed two MassTEC board members on subcommittees to help inform STEM Pipeline policy makers on our ability to help prepare the future working citizens of Massachusetts.

MassTEC board members, Don Bjorn, Brad George, Charlie Corley, and I met with Commissioner Chester in January to press for his support for our field. He supports our holistic way of teaching the Bay State's students and will be looking for ways for educating administrators and political leaders about our value in educating the whole child while helping them become technologically literate.

The Education Reform Law of 1993 stated that Technology Education is a core subject Pre-K to 12. After 17 years, many

School Boards, administrators, and fellow teachers are unaware of the valuable resource that we offer.

With all the attention on the STEM Pipeline issue, we are the discipline that unifies all the students' learning in a holistic, authentic, real world way. We all need to spread the word! Remember, "You must *be the change* you want to see in the world" ~ Mahatma Gandhi.

Also, the annual ITEA Conference is in Charlotte, North Carolina in March. I hope to see you there. Consider joining the ITEA for professional growth, support, and amazing resources like the IdeaGarden.

Write the date on your calendar, **October 15, 2010, for the annual MassTEC Conference**. We had 19 workshops last year. The only complaint was that we had too many wonderful activities all at the same time. Have a great idea you want to share? Sign-up to present at: <http://masstec.org/conference.html>.

Please join us at the monthly MassTEC board meetings held at Marlborough High School. We need new ideas, energetic leaders, and teachers who love what they do. Help us help you!

### Ray

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### *Fitchburg State College:*

Contact: Dr. James Alicata [jalicata@fsc.edu](mailto:jalicata@fsc.edu)

Undergraduate -- Spread the word that we need new Technology Education/Engineering Teachers, and in a hurry. Many veteran teachers will be retiring in the next five years. Suggest to sharp, people oriented, hands-on learners that a career in Technology Engineering Education could be rewarding and help America solve the STEM Pipeline problem.

Graduate -- *Red Alert* -- If you want future pdps or graduate courses at FSC, online, or hybrid email Dr. Jim Alicata immediately and tell him what you want to learn and how you would like to get that education. We need to convince the mid level bureaucrats at FSC that we will support campus/online/hybrid/satellite location learning experiences so Jim and his staff can get the courses approved and available.

Suggested email note should include:

1. Level of course you are interested in.
2. Topics in Technology Education that is your interest.
3. Type of course setting: campus/online/hybrid/satellite location.
4. How many courses you need or if you want to enrolled in a Master's program.
5. Tell him that you heard this from MassTEC! *Do this today!*

### Hot Topics and Websites:

- <http://masstec.org/>
- <http://www.iteaconnect.org/>
- [http://www.youtube.com/watch?v=Izegg\\_iVFDM](http://www.youtube.com/watch?v=Izegg_iVFDM)
- <http://www.youtube.com/watch?v=dX9GTUMh490>

Recent additions to MassTEC.org you may be interested in

**Teaching Biotechnology: New Tools** and Resources for the STEM Career Pipeline Need a way to refresh you lessons in genetics through multimedia resources? [Click here for a link to more information](#)

15th Annual **Symposium on Biotechnology** Education, Monday, March 29th [click here for more information](#)

**The annual LEGO symposium** is back June 8-10, 2010, at Tufts University, Medford MA. Registration to open February 1. [For more information click here](#)

Do you want to hitch a ride on NASA's next climate-monitoring satellite? Join the Glory mission, which will launch no earlier than October 1, 2010, [Click here for more information](#)

**2010 NASA Postdoctoral Program Accepting Applications**, [click here for more information](#). Applications for the NASA Postdoctoral Program are due on March 1, 2010

The American Society for Engineering Education (ASEE) is offering a **newsletter of interest to the STEM community**. Check out *eGFI: Dream Up the Future* News For Teachers Newsletter at the eGFI (Engineering: Go For It) website: <http://teachers.egfi-k12.org/newsletters/>.

Science and Technology/Engineering in Massachusetts: **Using Learning Progressions to Support STE Learning, and Development and Scoring STE MCAS Items workshop**, February 26, 2010 [click here for more information](#)

## ***Northeastern University Engineering Exercise***

~ Sophomore Jerry Crossan -- Email: [crossan.jerry@gmail.com](mailto:crossan.jerry@gmail.com)

Students and teachers can contact Jerry to ask questions about being a Northeastern University engineering student and what he hopes to do in the future in his career. Thank you, Jerry!

### ***Description Activity***

- This activity touches on the innovation aspect of engineering.
- Ask a student to bring an object from home (or you could supply them yourself to make it easier)
- [Ask] the students to draw the item from three angles: ( front, side, top)
- Then make the students list three positive aspects of the item, three items that are negative, and three ideas for improvements.

### ***Deconstruction Activity***

- This was another activity we did in my design class.
- Ask students to bring in an item from home (or again you can provide them).
- Get the students to take the item apart, label each item and take photos of the process.
- Have students pick one part of the item and have them research how it's made.
- Have students take measurements of each part and what it does.

### ***Construction Activity***

- Put students in groups of 4
- Give each student 20 straws, scissors to modify the straws (or pre cut them for younger classes) and some blue tack.
- Give the groups some time to draw out ideas and plan.
- Then give them 15 minutes to build.
- Then at the end make them stand back and wait 60 seconds.
- Measure the heights of the towers.
- Then lead a discussion on the different plans and what [worked and what didn't].

## **Masstec.org**

### **Latest News and Information 2-5-2010**

The West Point Bridge Design Competition is under way. The Boston Society of Civil Engineering is running a local contest ,[The Ralph Salvucci On-Line Bridge Contest](#). This is a great contest and the program has been updated for 2010.

They will running some additional programs this school year, click on the following links to find out more information, [Future City](#), [BSCES Model Bridge Competition \(the testing is in February\)](#) and the 2-4-2010 PBS Teachers Innovation Awards

Where, oh where is innovation in education? Let's uncover and reward cutting-edge educators. Please help us spread the word...we're looking for innovative teachers. TEN winners will travel to Austin, TX for the PBS annual showcase event - a coveted invitation in the PBS universe! Entry due between January 25 - March 12 [Click here for more information](#)

A MassTEC member found a great set of videos from YouTube about Georgia Engineering and Technology Education / STEM, [to link to these video's click here](#). MassTEC's president Dr. Ray McCarthy would like to create something similar for the Commonwealth of Massachusetts. If you would like to contribute in any way please [contact Ray by clicking here](#).

Please feel free to edit, slice & dice this assignment to fit your needs. Click here to get the WORD©2003 version for editing purposes: <http://masstec.org/curriculum.htm>

Everyone at Monument Valley Middle School works to develop a spirit of inquiry, encourage personal excellence, and reach her/his potential based on individual learning style in a climate of understanding, compassion, and respect.

# MVRMS Tech Ed

## Design Brief: *You at Your Ten Year High School Reunion*

~ Nancy Kane & Ray McCarthy

**Your Mission:** Pretend you are older and attend your Ten Year High School Reunion.

Tell **two (2)** stories to a friend or former classmate/teacher about how you became who you are now in the year \_\_\_\_\_.  
Look back at your travels through life, education, and work experiences to summarize you -- some years hence.

- 1. Compare two options for your personal career: **one (1)** must be **Technology or Engineering** related.
- 2. **Make a Concept Map** with at least 20 bubbles
- 3. **You must Research** and cite three (3) sources
- 4. You will create **EITHER**:
  - a) **A Paper**
  - b) **A Three (3) PowerPoint** slideshow that explains the "**key**" or most important points about your career choices.
  - c) **A Poster** to show the keys or most important points that a person needs to know to be in your career choices.
  - d) **A student designed technique** to teach the rest of the class (See Dr. Mac before you choose this one).
- 5. You could have pictures that help tell your story
- 6. You must discover the "5W's and an H" of both careers
- 7. You need to complete this ASAP!
- 8. You will be the best student there **ever was!** Share your enthusiasm, ideas, and FUN!



### References:

Career profiles

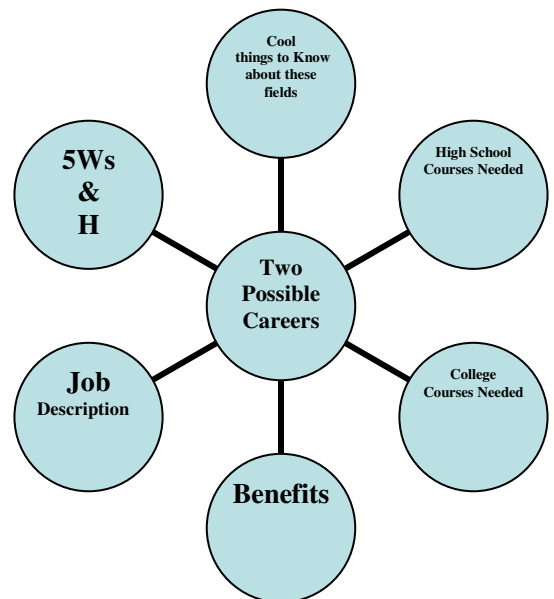
[http://www.dreamit-doit.com/content/toolkit/career\\_profile.php](http://www.dreamit-doit.com/content/toolkit/career_profile.php)

Career Calculator

<http://www.dreamit-doit.com/content/toolkit/ccalculator.php>

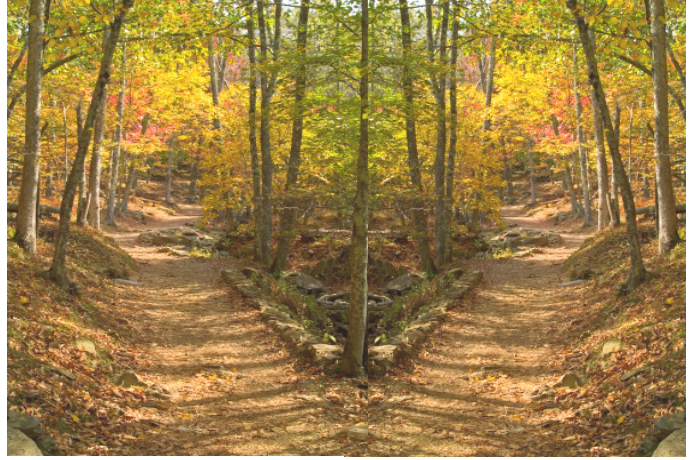
Dream Career Quiz

<http://www.dreamit-doit.com/content/toolkit/quiz.php>



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## Career Exploration



### **The Road Not Taken (Frost, 1920)**

**“Two roads diverged in a wood,  
and I—I took the one less traveled by,  
And that has made all the difference.”**

Design Brief: *You at Your Ten Year High School Reunion*

- Compare two options for your personal career
- One career must be Technology or Engineering related
- You must discover the “5W’s and an H”
- Details to follow!

**Submit your ideas/articles/tips to share!**

This newsletter is yours! Help it grow.

Deadline for the next edition: March 26, 2010.