

Pathways to Careers in

Counseling Tools for
Student Engagement
STEM

ASEE K-12 Workshops | June 22, 2013



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NAPE
National Alliance for
Partnerships in Equity

- Learn about the **NAPE Counselor Toolkit** for Equitable STEM Career Counseling
- Complete 2 **activities** & discuss
- Write an **action plan** for how you will integrate these tools into your job

Agenda

Napequity.org/count selors



Building the Toolkit



Counselors make a difference



STEM professionals are in demand



Women are underrepresented in most STEM disciplines



STEM professionals make a world of difference
and help shape our future



Focused intervention efforts targeting
women make a difference

Unpacking the Toolkit

Explore STEM Careers Booklet

Lesson Plans & Activities

Special Tools

Engineering
Our World

STEM Career
Scavenger
Hunt

Health,
Happiness,
and Safety

Work Values
& STEM
Careers

Kudos
Cards

Student
Resource
Website &
Handout



create a list of all
the items you have
used today that
have
been
engineered

Identify **ONE** thing
you used today
that has **NOT** been
engineered in
some way

Changing the Conversation

STEM Professionals

make a world of difference and help shape the future.

STEM Careers

are essential to our health, happiness, and safety.

STEM Professionals

are creative & collaborative problem-solvers.

There are multiple pathways to & opportunities in STEM careers

Certificate

Associates

Bachelors

Masters

Doctorate

An Education in
STEM enables
many career options
& opportunities

STEM
Degree

Technical
Marketing
& Sales

Business
Leadership

Educator

Patent
Law

Entrepreneur



STEM Career Exploration Resources


Objective: Through this activity, participants will increase their awareness of opportunities and pathways to STEM careers.

Use your smart phone or device to connect to one of the following websites.


ACTIVITY STEM Careers Scavenger Hunt

Explore STEM Careers!

Want to learn more about careers in Science, Technology, Engineering, and Math (STEM)? Browse through detailed information of hundreds of careers to discover what STEM professionals really do, what they earn, and what it takes to prepare for these careers.



Occupational Handbook




www.bls.gov/ooh

Review these occupation groups for STEM careers:

- ENGINEERING AND ARCHITECTURE
- COMPUTER AND INFORMATION TECHNOLOGY
- HEALTHCARE
- LIFE, PHYSICAL, AND SOCIAL SCIENCE
- MATH
- PRODUCTION


Science Buddies




www.sciencebuddies.org

Select the green tab labeled science careers. You will then see below the colored tabs, five grey tabs labeled:

- EARTH AND PHYSICAL SCIENCES
- LIFE SCIENCES
- ENGINEERING
- MATH AND COMPUTER SCIENCE
- HEALTH



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Download at www.napequity.org/counselors
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STEM Career
Scavenger
Hunt

STEM Career Matrix (Activity Part 1)

1. Work alone or in pairs.
2. Complete the following table by selecting STEM Careers that are **new & interesting** to you.
3. Discuss with those around you what you learned or discovered.

ACTIVITY

STEM Careers Scavenger Hunt

STEM Career Search Matrix

Instructions: Complete the following table by selecting Science, Technology, Engineering, and Math (STEM) careers or occupations from ScienceBuddies.org or BLS.gov/OOH that are new and interesting to you. Each row suggests a different education level: Associate's degree (may also include a learned trade or certificate), bachelor's degree, or graduate degree (master's or doctoral). An example is provided.



	Which STEM occupation or career is new and interesting to me?	How much could I earn in this job and what is the outlook?	How can I summarize the job that I might do in this occupation or career?	What would I need to do if I wanted to pursue this occupation or career? What would I study in college? How could I prepare now?
EXAMPLE	Environmental Engineer	\$78,740 / year 22% growth	Environmental engineers use the principles of engineering, soil science, biology, and chemistry to develop solutions to environmental problems. They are important for protecting our environment!	Must have a bachelor's degree in environmental engineering or related field, such as civil, chemical, or mechanical engineering. Employers value practical experience, so I should seek an internship. In high school, I should take related sciences. Environmental engineers should be creative, inquisitive, analytical, and detail oriented. They should work well as part of a team and communicate well. I can start developing those skills now.
ASSOCIATE'S (learned trade or certificate)				
BACHELOR'S				

7 out of 10 of the fastest growing occupations
(requiring at least a 2 year degree) are in STEM




STEM Career Scavenger Hunt (Activity Part 2)

1. Work in small groups.
2. Complete the following worksheet by selecting **15 different** STEM Careers that are **new & interesting**.
3. *Write your findings on the wall*

ACTIVITY STEM Careers Scavenger Hunt

Careers in Science, Technology, Engineering, and Math (STEM) make a **world of difference and help shape our future!**



Instructions: Complete the following worksheet by selecting 15 different STEM careers that are new and interesting.

STEM careers are in demand Identify 3 STEM careers that are in demand.

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STEM careers are creative Identify 3 STEM careers that benefit from creativity.

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STEM Careers are essential to our Health, Happiness, and Safety
Identify STEM careers with work that contributes to our Health, Happiness, and Safety (cannot include health professions).

Health	Health	

STEM Careers are Collaborative
Identify 3 collaborative STEM careers.

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To improve equity and accessibility, messaging matters.

Kudos Cards

You are curious and love to learn.

Here's how I know...

You learn from your mistakes.

Here's how I know...

You are a generous helper.

Here's how I know...

You are an excellent collaborator.

Here's how I know...

You are super creative.

Here's how I know...

Did You Know?

Careers in Science, Technology, Engineering, and Math (STEM) allow for limitless imagination. You can make a world of difference by choosing a career in STEM!

Did You Know?

Careers in Science, Technology, Engineering, and Math (STEM) value failure that results in learning. Have the courage to innovate in a world of difference and choose a career in STEM!

Did You Know?

Careers in Science, Technology, Engineering, and Math (STEM) are essential to our health. Professionals work with a world of difference and choose a career in STEM!

Did You Know?

Careers in Science, Technology, Engineering, and Math (STEM) require collaborative problem solving. You can collaborate to turn ideas into reality by choosing a career in STEM!

Did You Know?

Careers in Science, Technology, Engineering, and Math (STEM) require creative problem solving and innovative design. You can collaborate to turn ideas into reality by choosing a career in STEM!



Learn more about careers in Science, Technology, Engineering, and Math at www.napequity.org/STEMcareers



Funded by a grant from the National Science Foundation, GSE/EXT: STEM Equity Pipeline Project, Grant No. HRD-1203121



NAPE | Developed by Melissa Pollock

Napequity.org/counselors

Order the Toolkit

(or download)

Explore STEM Careers Booklet

Lesson Plans & Activities

Special Tools

Engineering
Our World

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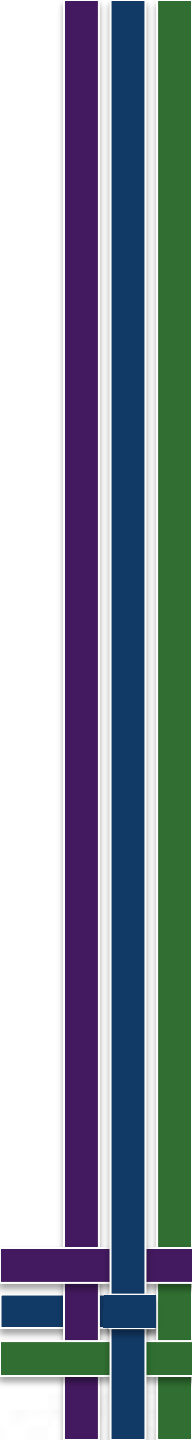
Health,
Happiness,
and Safety

Work Values
& STEM
Careers

Kudos
Cards

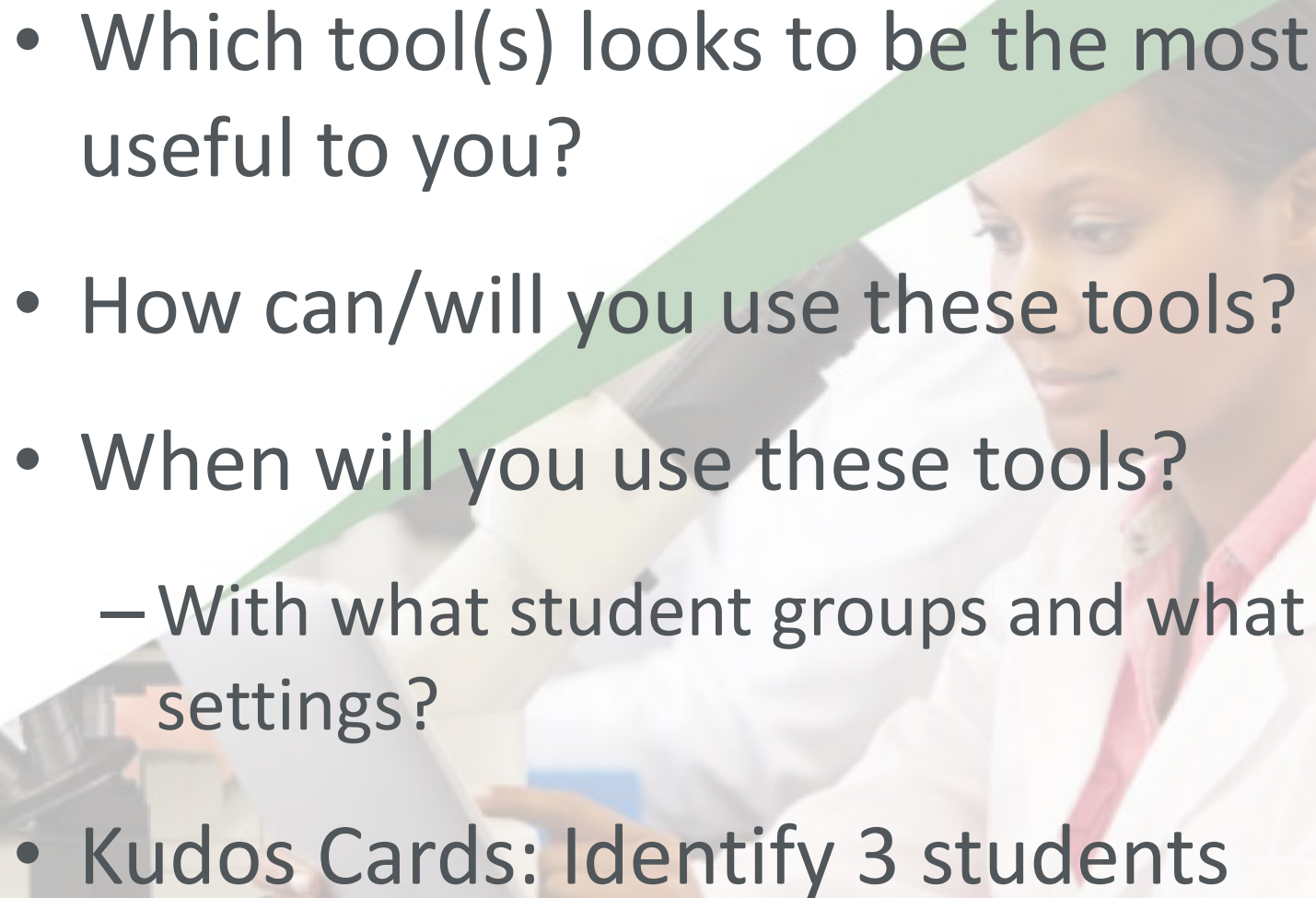
Student
Resource
Website &
Handout

Napequity.org/counselors



NAPE has developed a series of workshops for *counselors* that integrate *current research-based* counseling practices to ensure the *academic success* and *college and career preparedness* of *underrepresented students* in CTE and STEM courses and programs of study.

STEM Career Workshops

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- A female scientist with dark hair in a ponytail, wearing a white lab coat over a pink shirt, is looking at a tablet device. She is in a laboratory setting, with a microscope visible in the foreground. The background is slightly blurred, showing other laboratory equipment and a clean, professional environment.
- Which tool(s) looks to be the most useful to you?
 - How can/will you use these tools?
 - When will you use these tools?
 - With what student groups and what settings?
 - Kudos Cards: Identify 3 students

Action Plans

Backup



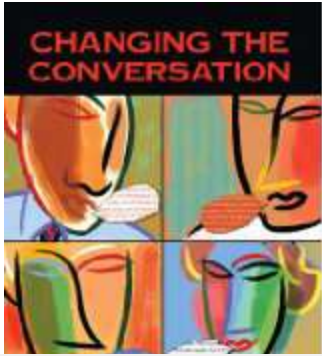
Health, Happiness, & Safety Activity



Work Values Activity



Student Resource Website & Handout



Engineering is essential to our
health, happiness & safety



Engineers are **creative &**
collaborative problem-solvers



Engineers make a **world of difference**
and help **shape the future**



STEM careers are essential to our
health, happiness & safety



STEM professionals are **creative &**
collaborative problem-solvers



STEM professionals make a **world of**
difference and help **shape the future**

