

Changing the World - One Stitch at a Time

By: LeeAnn DiTomaso



Is it really possible? Can a teen or young adult really make changes in this SUBSTANTIALLY (considerably, greatly) large world? The answer, of course, is yes! From starting a recycling program, park clean ups, and ocean PRESERVATION (protection) to building homes for those in need, combating hunger, teens and young adults can certainly make big changes in this world. When it comes to making a difference, age is just a number. If you have a vision and are PASSIONATE about an issue, go out there and make a change, you can make a difference!

Spell: SUBSTANTIALLY PRESERVATION PASSIONATE

We read teens and young adults can make _____ in this world. CHANGES

Teens and young adults can start a _____ program. RECYCLING

We read teens and young adults can help combat _____. HUNGER

We read teens and young adults can help build _____ for those in need. HOMES

What is a synonym for substantially that we read? CONSIDERABLY, GREATLY

What is another word for preservation that we read? PROTECTION

Name another word for preservation. CONSERVATION, CARE, SAFEGUARD

Name another space in nature that needs preservation. RAINFOREST

Name something in nature you would like to preserve. What would your plan be to help people understand the importance of this preservation?



In her AP Human GEOGRAPHY class, Dasia Taylor learned that in developing countries, POSTSURGICAL (after surgery) infection can often lead to death. One study shows that the incidence of these infections in low-income nations are 60% higher than those of wealthier nations. The study also found this may be due to the higher usage of ANTIBIOTICS before and after surgery and antibiotic RESISTANT (opposing, defiant) bacteria. Dasia decided she needed to help, she needed to make a change.

Spell: GEOGRAPHY POSTSURGICAL ANTIBIOTICS RESISTANT

What class was Dasia in when she learned of the infection rate in developing countries? AP HUMAN GEOGRAPHY

We read postsurgical means after _____ SURGERY

Postsurgical infections can often lead to _____ DEATH

We read resistant can mean _____ or _____. OPPOSING, DEFIANT

Dasia decided she needed to _____, she needed to make a _____. HELP, CHANGE

Name a country in North America that would be considered wealthy. United States

Name a country in South America that would be considered developing. Brazil

What percent higher is the rate of postsurgical infection in developing countries than those of wealthier nations? 60%

VAKT: On the map above point to the areas of developing and developed countries



Dasia was a high school senior from IOWA City when she was armed with the knowledge of the EXPANSIVE (vast, huge) amount of surgical site infections. With this insight, Dasia decided to do some research. Through this research she DISCOVERED she could invent stitches that would change color when a wound is infected. This was a world-class BREAKTHROUGH (advance, development)! What is even more amazing is what she used to dye the stitches, beet juice!

Spell: EXPANSIVE DISCOVERED BREAKTHROUGH

Dasia was a high school _____ when she learned of surgical site infections. SENIOR

Dasia decided to do some _____. RESEARCH

Through her research she discovered she could invent stitches that would change _____ when the wound was infected. COLOR

What juice did Dasia use to dye the stitches? BEET

What is another word we read that means expansive? VAST, HUGE

What is a synonym we read for breakthrough? ADVANCE, DEVELOPMENT

What is another vegetable that can be used as a dye? SPINACH, RED CABBAGE

Name one other color can beets be? PINK, WHITE, STRIPED

VAKT: Cut up a beet and see how vibrant the color is



Stiches or suture is a piece of SURGICAL thread used to sew two ends of skin together. SURGEONS once used animal tendons, horsehair, pieces of plants or human hair to create suture. Today, sutures are made from natural or manmade materials like plastic, NYLON (silk like thermoplastic) or silk. Beet juice is a natural indicator, it changes color as PH changes this makes it perfect to use on the stitches. If a patient goes home and notices the stitches changing color they will know to contact their PHYSICIAN (doctor) and seek medical attention immediately.

Spell: SURGICAL SURGEONS NYLON PHYSICIAN

Stitches are a piece of thread uses to sew two ends of _____ together. SKIN

Today sutures are made from natural or manmade materials like plastic, nylon or _____. SILK

Beet juice is a natural _____. INDICATOR

What is the definition of nylon from what we read? A SILK LIKE THERMOPLASTIC

What is another word for physician? DOCTOR

If a patient would notice their special stitches turning color they should seek medical attention when? IMMEDIATELY

What is a surgeon? A DOCTOR OF SURGERY

What does MD stand for? MEDICAL DOCTOR

If you decided to be a doctor what kind would you like to be and why?



Dasia completed her research on VALENTINE'S Day 2020, and began entering local and state science fairs. She became a finalist at the REGENERON Science Talent Search, a national competition that challenges young scientists to develop ideas that could solve society's most urgent challenges. Her peers selected Dasia to receive the SEABORG Award (award for scientific contribution), allowing her to speak on behalf of the class of 2021 at the awards CEREMONY (decorum, formality).

Spell: VALENTINE'S REGENERON SEABORG CEREMONY

Dasia entered state and local science_____. FAIRS

Dasia became a finalist at the Regeneron science and talent _____. SEARCH

The Regeneron science talent search is a national _____. COMPETITION

Who selected Dasia to receive the Seaborg award? PEERS

What is the Seaborg award? An award for scientific contribution

What is a synonym for ceremony that we read? DECORUM, FORMALITY

What is a famous award you can think of? NOBEL PEACE PRIZE

What year did Dasia speak at the Seaborg award ceremony? 2021

If you would win an award what would it be for? Who would you thank during your acceptance speech and why?



In 2021 Dasia was trying to PATENT (copyright, license) her invention, and trying to set up COMMERCIAL lab space before starting college, where she hopes to major in political science. "I have to continue my research. These stitches literally will REVOLUTIONIZE (transform, transfigure) wound treatment in developing countries," she says. "I'm definitely not stopping until my stitches get to those who need them."

Spell: PATENT COMMERCIAL REVOLUTIONIZE

In 2021 Dasia was trying to patent her _____. INVENTION

She was trying to set up commercial _____ space. LAB

Dasia needs to continue her _____. RESEARCH

What does Dasia hope to major in when she goes to college? POLITICAL SCIENCE

What is another word for patent that we read? COPYRIGHT, LICENSE

We read transform is another word for revolutionize, what is the other word we read that means the same? TRANSFIGURE

What is another word for stitches? SUTURE

What is a common word for wound? CUT

In what year was Dasia trying to patent her invention? 2021



You may be wondering, that was a year ago what is happening now with the invention? Getting a patent can take anywhere from 2-10 years! Once the patent is GRANTED (permitted, allowed) Dasia will start on the next phase of her research. To this day she continues to work towards her end goal “getting these sutures to people who need them in developing COUNTRIES.” The wait can be long but the work doesn’t stop for such a DETERMINED (decisive, purposeful) young woman.

Spell: GRANTED COUNTRIES DETERMINED

Once she has a patent Dasia will start on the next _____ of research. PHASE

To this day she continues to work towards her end _____. GOAL

The wait may be long but the work doesn’t _____. STOP

What is another word for granted that we read? PERMITTED, ALLOWED

We read determined can mean decisive and _____. PURPOSEFUL

We read it can take 2 to _____ years for a patent. 10

If it takes 10 years from now for the patent to be approved what year will it be? 2032

Creative Writing

Think of an invention that you think would help a specific group of people. What is it? Who is it helping? Why is there a need?

What is something in your life you cannot live without? How does it help you and other on a daily basis?

Resources: <https://www.cidrap.umn.edu>

<https://people.com/human-interest/teens-changing-the-world-in-2021>

<https://pubmed.ncbi.nlm.nih.gov>

<https://www.webmd.com>

<https://magazine.foriowa.org>