STEAM PASSPORT

STEAM PASSPORT travels from country to country combining geography, culture and STEAM issues to create meaningful, thought provoking lessons for homeschoolers, co-ops and very brave public school teachers. Lessons are suitable for a variety of age ranges. The world is ours to discover.

Follow me at STEAM PASSPORT on Facebook to see how lessons play out and for the latest adventures.

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https://www.facebook.com/groups/248299952483178/

Majority of lessons are posted in the OpenDyslexic font. Each country includes a passport page for the students to collect with facts, links, a flag to color (courtesy of Crayola.com) and map (courtesy of http://www.kenya-advisor.com/kenya-map.html).

Welcome to
The Republic Kenya

To color the flag of Kenya, use Crayola® Crayons, Colored Pencils or Markers. Color the shapes numbered 1 black, 2 red, and 3 green.

Head of State: President Mwai Kibaki

Land Area: 582,650 sq. km

Population: 49 million

Currency: Kenyan Shilling (KSh)

Capital city: Nairobi

Languages: Official language: Swahili. English spoken widely

Economics-50% of Kenyans live below the poverty line. There is 40% unemployment.

Education: Best literacy rate on the continent. 87% educated however most graduates end up jobless. 80% percent of girls are not enrolled in school.

STEM Passport Connection:

There's a paradigm shift underway in Kenya. The digital revolution is disrupting 'business as usual' and causing historic transformation. Rapid smartphone adoption in Kenya, and the access it provides to digital social networks, has given the youth a platform for self-expression and civic participation in ways that having a real impact on elections, governance and accountability.

The majority of Kenyan's live in rural areas. Smart phones may have the power to transform the lives of Kenyans, who face problems such as lack of water, high unemployment, malnutrition, poor banking, unsafe elections, multiple languages, and poor education.
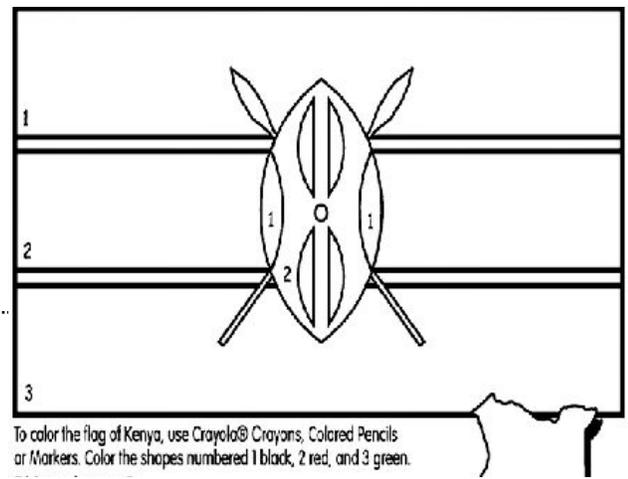
Kenyan dance & music link:

https://youtu.be/FOsmhDYVLYM

https://youtu.be/Ms6J1VD8kJ4

https://youtu.be/AVTP3vU9MLE

The culture, language, dances and music of every tribe is different from each other. The drum is the most popular musical instrument used but bells, horns, guitar, flutes and whistles are also used.

World Art Insight:
The Massai Tribe of Africa has unique meanings for the colors of their jewelry and clothing
ORANGE: hospitality, warmth, friendship, & generosity
BLUE: Sky the sky provides water (rain) for the cows
WHITE: Purity, health, holiness because it comes from the cows
RED: danger, bravery, strength and unity.
GREEN: The land provides food Also the protection of territory and being rooted in place
YELLOW: The sun sustaining life
What do the colors you wear represent about you?

STEAM PASSPORT KENYA

TECHNOLOGY Focus: Digital Revolution

Kenya was the first stop on our African journey because it contrasted traditional stereotypes about Africa with the reality of the modern continent. This is a lesson of hope and innovation. You may end up with a bunch of useless game apps or you may spark an idea that could save lives. Use the engineering cycle as the backbone of your talk when describing the project to the group.

Goal: Students will use the engineering process to brainstorm ideas for the digital revolution underway in Kenya.

Inspiration headline: https://www.newsweek.com/how-kenya-became-cradle-africas-ict-innovation-534694

1- Ask: What are the problems? What are our constraints?
   a. Extreme unemployment- most boys graduate but can not find jobs.
   b. Limited banking
   c. Scarcity of water
   d. Corrupt Politicians
   e. Diverse languages- English and Swahili plus at least 42 others
   f. 80 % of girls are not enrolled in school
   g. Majority of the population lives in rural areas

2- Imagine: Brainstorm Ideas

    a. Explain that there are no bad, silly, wrong ideas in brainstorming. We want to get all the ideas we can onto the page. If you are working with a large group or siblings this is a good time to stress kindness and not putting down others ideas.

    b. Give the students the smart phone handouts. Explain that they can think inside and outside the phone (attachments). Give them as much time as you can to come up with ideas.

    *Students may have questions about the cost of cell phones and the availability of Wi-Fi. I don't let them in on these developments because I want to see if they consider them themselves.

    Cell phone availbilty:

    https://www.huffingtonpost.com/2015/04/20/africa-phone-study_n_7081868.html

    $30 smart phone:

    https://www.businessinsider.com/onyx-connect-making-30-dollar-smartphone-in-africa-2017-5

    Wifi

    https://www.cnn.com/2018/07/27/africa/googles-free-public-wi-fi-africa/index.html

    https://www.newscientist.com/article/mg21729045-900-microsoft-brings-solar-wi-fi-to-rural-kenya/

3. Have students share their ideas. Explain that more ideas may come to them now that they have set their brains on this task. The next part of the engineering process would be developing their idea and testing. If they think they have an idea that could make an impact they should pursue it.

STEAM PASSPORT: KENYA

What can you add or invent to help improve life in Kenya?

Engineered by:

Art connection:

A contrast to the digital revolution would be to learn about the Maasai tribe of Kenya. The Maasai use color to represent the world around them in their art. Their symbolism is different from many interpretations of color in the west. This prezi does a wonderful story explaining the symbolism. https://prezi.com/yqzmzjqmnhbj/copy-of-the-massai-tribe-of-kenya-colors-and-their-meanings

After viewing and discussing the prezi allow students to make their own symbolic necklace.

Materials:
Beads of orange, blue, black, red, green, orange, yellow
You can use any type of beads you have handy- small seed beads would look the most authentic but plastic beads are fine.

String to bead them on (depending on age group you may want to pre knot the string)

 Have students design a necklace / bracelet that tells a story in color. Students may have issues with knotting bracelets. Consider how they will get the bracelet/ necklace over their head when cutting the string.

Images of Maasai Jewelery

https://pretamoda.wordpress.com/2012/06/27/the-maasai-necklace/