

TEACHER KEY

Unit 7: Where do we go from here?
Activity 1: Advances in TB Research

Description:

Students (individually or in groups) will conduct research into the current companies and organizations that are seeking to develop new medications and vaccinations to treat tuberculosis. They will: a) identify an organization for further study, b) provide a brief history on the organization and its goals, and c) explain the development and testing process that new drugs and vaccinations undergo, by reporting on one research project undertaken by the organization. Students should not be expected to comment on the specifics of the vaccination and how it works, but rather on the more general scientific process that takes place (i.e. development, phase 1 testing, phase 2 testing etc.).

Time:

Site review and Handout: 45 min+
 Discussion: 15min

Objectives:

- To demonstrate media literacy.
- To learn about the scientific research and development process.

Curriculum Links:

Reading	1. Reading for Meaning	1.4 demonstrate understanding of a variety of texts by summarizing important ideas and citing supporting details
		1.6 extend understanding of texts by connecting the ideas in them to their own knowledge, experience, and insights, to other familiar texts, and to the world around them
		1.8 make judgements and draw conclusion about the ideas and information in texts and cite stated or implied evidence from the text to support their views
Media Literacy	1. Understanding Media Texts	1.1 identify the purpose and audience for a variety of media texts
Science and Technology	2. Developing Investigation and Communication Skills	2.5 use a variety of forms to communicate with different audiences for a variety of

TEACHER KEY

		purposes
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Materials:

Web-links to research organizations provided through

<http://museumofhealthcare.ca/explore/exhibits/breath/where-do-we-go-from-here.html>

Handout

Procedure:

1. Assign students to groups, as required.
2. Assign each student or student group one of the organizations listed on the “Where do we go from here?” section of the exhibition (i.e. Global Alliance, FIND, Critical Path, Aeras). Alternatively, you might require students to conduct a web-search to identify such TB research groups themselves.
3. Ask students to explore the organization’s website to learn more about how they conduct their research and development of medications and vaccinations. Stress that the focus should be on the process versus the chemical details of a project.
4. Supply students with the handout and instruct them to complete it, referencing the relevant web-site.
5. Review the hand-outs with the class, highlighting the commonalities in the scientific research process across companies/organizations.

Background Info:

Instructors should review each of the websites below to familiarize themselves with the R&D process.

- **[The Global Alliance for TB Drug Development \(TB Alliance\)](http://www.tballiance.org/)**
[<http://www.tballiance.org/>] is developing new affordable TB drugs that will dramatically shorten treatment time, work against drug-resistant TB, be compatible with HIV antiretrovirals and improve treatment of latent TB.
- **[The Foundation for Innovative New Diagnostics \(FIND\)](http://www.finddiagnostics.org/)**
[<http://www.finddiagnostics.org/>] is developing rapid, accurate, and affordable TB tests and point-of-care diagnostics to more efficiently detect TB and drug-resistant forms of TB.
- Critical Path Institute: [<http://www.c-path.org/>] is developing new TB drug regimens with shorter therapy durations.
 - Critical path to TB Drug Regimens (CPTR) [<http://cptrinitiative.org/>]
- Aeras Global TB Vaccine Foundation [www.aeras.org] is developing new TB vaccines.
- Global Fund to Fight AIDS, Tuberculosis and Malaria [www.theglobalfund.org] is a public-private partnership and international financing institution that raises and distributes funds and other resources to prevent and treat TB.

*The Museum of Health Care is not responsible for the accuracy, reliability or currency of the information provided by external sources.

TEACHER KEY

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Name of Research Group/Organization:

Web address:

Look through the “About Us” section of the website to answer the following questions about the organization.

- a) What is their mission?

- b) How is the organization funded?

When was the organization last in the news? (Hint: Find the News&Media section of the site.) Why?

Who do you think is the target audience of this website? Why?

Find the section of the web-site that discusses the organization’s work to find new TB medications and vaccinations. Explore this section to answer the following questions.

- a) Name 2 drugs or vaccinations that the organization is working on.

- b) Is the organization working with any partners on these projects? If so, name them.

TEACHER KEY

- c) As best as you can, explain the steps that are involved in these projects from the beginning (initial idea) to end (drug approval and distribution): Make note of the *different stages* each project goes through, and describe the type of *things that happen at each stage in two or three bullet points*. If you can, identify *how long* each stage usually takes. You might want to create a visual flow-chart of the process to help keep things clear in your mind.

For example, the TB Alliance shows the Pipeline that projects go through – what steps are involved in this pipeline? What steps are involved in Aeras' Approach to Vaccine Development?

Why do medications and vaccines go through such a thorough testing process?