00_Intro to Power On! Lingo & CS

Unit: LET'S POWER ON EQUITY FOR CS UNIT
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Duration: 90 MIN (2-45 Min periods)

Objective

Students will gain an understanding of some of the larger concepts and terms that will be critical to their understanding of the text Power On, by using computational thinking skills to match words to their definitions.

Standards

4-6.CT.4 Decompose a problem into smaller named tasks, some of which can themselves be decomposed into smaller steps.

4-6.CT.10 Describe the steps taken and choices made to design and develop a solution using an iterative design process.

Prior knowledge/Background:

Students have read and discussed the text: Our Skin: A First Conversation About Race**.** Students have also already watched and discussed the Brainpop Jr. video on computational thinking and Brainpop video on computational thinking. They have also engaged in hands-on computational thinking activities.

Resources/Materials:

- Power on book by Jean J. Ryoo and Jane Margolis
- A set of vocabulary words cut up for each group in a baggie with an accompanying definitions cut up and in another baggie.
- Pre-planned student partnerships/groups

Mini-Lesson(Model/Think Aloud):

Read Chapter 1 of “Power On” book by: Jean J. Ryoo and Jane Margolis

Frontload a review of the vocabulary with definitions.

Model/think aloud how to decompose a vocabulary word to try and determine it’s meaning (Prefix, Root word, Suffix).

Model/think aloud how to abstract information out of the definition to try and match it to the word.

Partner Work (In class exercises):

Student partnerships will each be given a baggie with just the vocabulary words. They will first try and decompose the words and discuss how this decomposition may help them understand the meaning of the words.

Observe and support students. Choose 1-2 partnerships share effective strategies they are using and what they think the words mean as a result.

Give students the second baggie with the definitions. Have them abstract information from the definitions that help them match the definitions with the words.

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Share:

Students jigsaw share their definitions. Vocabulary words will be combined into a Scratch Studio for future student reference.

Early Finishers:

Sketch their character sprite plan.

Assessment:

- Teacher can take anecdotal notes or use a checklist to track use of computational thinking strategies
- Take photos of students' word/definition match.
- Plickers questions

Key Terms and Definitions

Algorithm A process or set of rules to be followed in calculations or other problem-solving operations especially by a computer

Artificial Intelligence The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with human beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience.

Bias *Prejudice* in favor of or against one thing, person, or group compared with another, usually in a way considered to be unfair.

Ethnicity While this is a contested term among anthropologists, sociologists, and others, this generally refers to identification based on shared culture, where people live, language(s) spoken, etc.

Identity How one defines oneself in relation to qualities, beliefs, cultural practices, and more. This may or may not be defined according to racial/ethnic identity, gender identity, family origins, etc.

Latinx Refers to the ethnicity of people who are from or have a background in a Latin American country. Since “Latino” is a masculine adjective in the Spanish language and does not give visibility to those who do not identify as men, the term “Latinx” was created with the intention to be inclusive of all gender identities.

Nationality A legal identification of a person in international law, establishing the person as a subject, a national, of a sovereign state. It affords the state jurisdiction over the person and affords the person the protection of the state against other states.

Race A social construct that is not rooted in science, but has been created by humans to identify groups based on shared physical characteristics. Race does not clearly delineate identification based on ancestry, heritage culture, etc.

Racism A system that gives power to some and oppresses others based on race. It is the result of social and institutional powers working in tandem with racial prejudice. There are different forms of racism, for example interpersonal, internalized, institutional, and structural to name a few. Interpersonal racism occurs between individuals. Internalized racism is when people apply the system of power and oppression to oneself, resulting in self-hatred and believing that one deserves to be disadvantaged. Institutional racism refers to how policies and practices either within or across institutions favor a specific group and disadvantages others. Structural racism involves a system of institutional practices, public policies, and belief systems creating structures of power for some and oppression for others.

Racist Actions, measures, ideas, policies, etc. that produce and sustain that one racial group is superior to another racial group, thereby supporting systems of power and oppression that elevate some and oppress all others.

Teacher Lesson Notes

Extension Activities (Assignments)

Students can try to design/create a psedocode algorithm for decomposing words and abstracting information from definitions in order to match a word to its definition.