**Title:** Gender Bias in STEM Test Questions

**Overview:** These case studies measure the students' learning around recognizing, identifying, and responding to real-life examples of overt and subtle gender bias within STEM. Feel free to add these questions to any other test you may have. You do not need to use all the case studies or questions, just add the ones you believe would fit within your curriculum. These case studies and questions are a measurement of module 1 outcomes that are listed below.

**Module 1 Learning Outcomes:**

1. Describe how gender stereotypes are activated automatically and unintentionally​
2. Recognize and identify real-life examples of overt and subtle gender bias in STEM ​
3. Practice how to respond to and reduce instances of gender bias

**Case Study 1: Real-life examples of subtle gender bias in STEM [group project]**

**For the next set of questions refer to the following hypothetical event:**

Riley is a third-year electrical engineering student and is currently enrolled in Dr. Gob’s Electric Circuits lab class. She is one of only three female students in her class currently. Dr. Gob’s class has group projects every week and she has started to notice that her male students always elect themselves to be the group leader. Last week when the class was asked to form groups for a short lab project, Riley was put into a group with three other male students in her class. Riley was feeling confident about her knowledge on the lab topic and wanted to elect herself as the team leader but when she elected herself all three of her male group members shot her down and said she should stick to taking notes. Riley has wanted to be a team leader on a lab project ever since starting the class but her male students usually just shoot her down and assign her the role of note-taker. Riley is confused as to why she always faces so much pushback from her male group members when she expresses her want to be the team leader.

1. What stereotypes about women are holding Riley back from being the team leader?
2. Women are kind and nurturing
3. Women are emotional
4. Women are not fit to lead
5. Women are good with children

2. What gender bias concept does this scenario depict?

1. Sex role spillover
2. Gender socialization
3. Social identity theory
4. Cognitive dissonance

Open ended question with multiple right answers:

3. What strategy to reduce gender bias would you use?

1. Awareness
2. Redirect
3. Confrontation
4. Be silent

**Case Study 2: Real life examples of subtle gender bias in STEM [female vs. male faculty student feedback]**

**For the next set of questions refer to the following hypothetical event:**

Dr. Stacey Williams has been a tenured professor of applied statistics at her university for the past ten years. She is great friends with her male colleague Dr. Bart Baker who has also been a tenured professor for the same amount of time as Dr. Williams. Dr. Williams has noticed that the student feedback she receives from her classes is vastly different from what Dr. Baker receives. She would consider them both to have similar teaching styles focused on positive interactions with their students. However, despite the similarities, she often notices that in her student feedback the students always describe her as “nice” and “sweet.” Dr. Baker, despite their similarities in teaching styles, never gets described as “sweet” in his student feedback, instead students often describe how “funny” and “brilliant” he is. They both have discussed their student feedback with one another and they find it interesting that they don’t receive the same type of student feedback but aren’t sure what could be causing it.

1. What stereotype about women does the word “nice” represent in Dr. Williams student feedback?
2. Women are good with children
3. Women are not fit to lead
4. Women are kind and nurturing
5. Women are emotional

2. [multiple choice question about gender stereotypes being unintentional and automatic] What is important to keep in mind about gender stereotypes?

1. Gender stereotypes are activated consciously and intentionally
2. People enact gender stereotypes on purpose
3. Gender stereotypes are always true
4. Gender stereotypes are activated automatically and unintentionally

**Case Study 3: Real-life examples of Overt Gender Bias in STEM (Conference)**

**For the next case study, there will be a free-response section for the following event.**

Bret and Lacey are both representatives of their universities' biology program at a large conference. As undergrads, this is their first time at a conference as well as their first time presenting at one as well. While walking around looking at the research Lacey noticed that any questions she would ask were ignored. While standing by her team's poster with Bret talking to individuals, a man and a woman about the age of 40 walk up. They immediately walk up to Bret to ask him questions, ignoring Lacey even though Bret is currently in a conversation and Lacey is not talking to anyone at the moment. Lacey then walks up to the couple and informs them that if they have any questions they can always ask her. The woman looks at her and then looks away, but the man says to Lacey “I want my questions answered by someone who knows what they are talking about”. The thing is Lacey is actually the lead research assistant and Bret is newer to the lab so he has been directing a lot of people's questions to Lacey if he doesn’t know the answer. When Bret hears what they said, he ends his conversation with the other person and begins talking to the couple. Their first question is something Bret is not sure about, so he then directs them to Lacey, as she knows the answer. The couple then gets irritated and says to Bret “Why are you directing us, we came to you to get the answers because you clearly know more than she does.”

1. If you were in Bret’s shoes how would you respond and behave in this situation? What would you do differently? Write your response down below.