The goal of this activity is to use a specific case study of focal brain injury that is particularly relevant to the course (e.g., damage resulting in drastic changes to social behavior) to launch a broader discussion of what neuroscientists and psychologists can learn from patients with brain damage and what limitations should be kept in mind. Actually traveling to the museum to see the damage to Gage's skull in person provides the students with a unique, hands-on experience that is more impactful than simply viewing photographs in textbooks and Powerpoints.

“The equilibrium or balance, so to speak, between his intellectual faculties and animal propensities, seems to have been destroyed. He is fitful, irreverent, indulging at times in the grossest profanity (which was not previously his custom), manifesting but little deference for his fellows, impatient of restraint or advice when it conflicts with his desires, yet capricious and vacillating, devising many plans of future operations, which are no sooner arranged than they are abandoned in turn for others appearing more feasible. Previous to his injury, although untrained in the schools, he possessed a well-balanced mind, and was looked upon by those who knew him as a shrewd, smart businessman, very energetic and persistent in executing all his plans of operation. In this regard his mind was radically changed, so decidedly that his friends and acquaintances said he was *‘no longer Gage.’*”

-J. Harlow, physician

What do you think is the most shocking part of Phineas Gage’s story? Why?

What does the case of Phineas Gage teach us about the role of the prefrontal cortex/orbitofrontal cortex in social behavior? Why is this case still of interest to psychologists and neuroscientists today?

What limitations should we keep in mind in drawing conclusions and inferences from Gage’s case (or any other single patient case study)?

Why do patient/lesion studies typically include groups of patients with damage to other parts of the brain (e.g., parts of the brain that are not the focus of the research) in addition to healthy, neurotypical control patients?

If you could talk to Phineas Gage today, what is one question you would ask him and why?