

2015 Mathematics Teaching Institute

The Ohio State University

Day One – Brutus Buckeye Task

Adapted from Math Tasks in Three Acts by Dan Meyer

- Guess how many push-ups Brutus / Bucky would do during the course of the game.
- Write down a number of push-ups that you know is too high.
- Write down a number of push-ups that you know is too low.
- What information will you need to get an answer?  
*Make sure you stir up student interest over the question, 'Does the order of the scores matter?' If a student asks for it, tell him or her that you can give the order of the scores, but it will take some time to get it. He or she must also prove to you that the order of the scores matters! This is where students are constructing and critiquing valid arguments.*
- Review the American Football scoring system:
  - Touchdown: 6 points
  - Extra Point Kick: 1 point
  - Two-Point Conversion: 2 points
  - Field Goal: 3 points
  - Safety: 2 points
- What are some ways that Ohio State could have scored to reach 83 points in the game? (justify as many ways as you can). Are some configurations of points more 'reasonable' than others?
- In your group, use the Brutus Buckeye Points Scored and Total Push-ups Tally Sheet, How many total number of push-ups did Brutus Buckeye / Bucky do? What is the range of responses in your group? What is the range of responses in the room?
- More Questions to Consider:
  - What is the fewest number of total push-ups Bucky could have done for 83 points?
  - What is the greatest number of total push-ups Bucky could have done for 83 points?
  - How many ways can a football team score 83 points (assume there are no safeties or 2-PAT)?
- If you are Brutus Buckeye, would you rather your team score their field goals at the start of the game or the end? What is your rationale for your thinking?

- What are some numbers of pushups that Brutus will never do in any game?
- Write  $p(x)$ , where  $x$  is the number of touchdowns Ohio State scored in a game where they *only* score touchdowns, and  $p$  is the number of pushups Brutus will have done by the end of the game?
- What other questions could we ask?
- What CCSSM standards for content have we incorporated?
- Which Mathematical Practice is most exemplified by this task? You can **ONLY** choose one!

For more information and video: <http://mrmeyer.com/threeacts/buckythebadger/>

Other interesting resources:

A Math Task in Three Acts

<http://blog.mrmeyer.com/2011/the-three-acts-of-a-mathematical-story/>

My Favorite No

<https://www.teachingchannel.org/videos/class-warm-up-routine>

Brutus Buckeye Doing Pushups

<https://www.youtube.com/watch?v=XBYrmSXIAdM>