**STEM Education: Strategies for Success FIG**

**Fall 2018- Meeting 1**

**September 26, 2018**

**Concept Inventories**

**Physics**: Force Concept Inventory <https://www.physport.org/assessments/assessment.cfm?A=FCI>

Hestenes, D, Wells, M, and Gregg Swackhamer, G. 1992. Force Concept Inventory The Physics Teacher, Vol. 30, March, 141-158.

**Calculus** concept inventory: <https://www.physport.org/assessments/assessment.cfm?I=57&A=CCI>

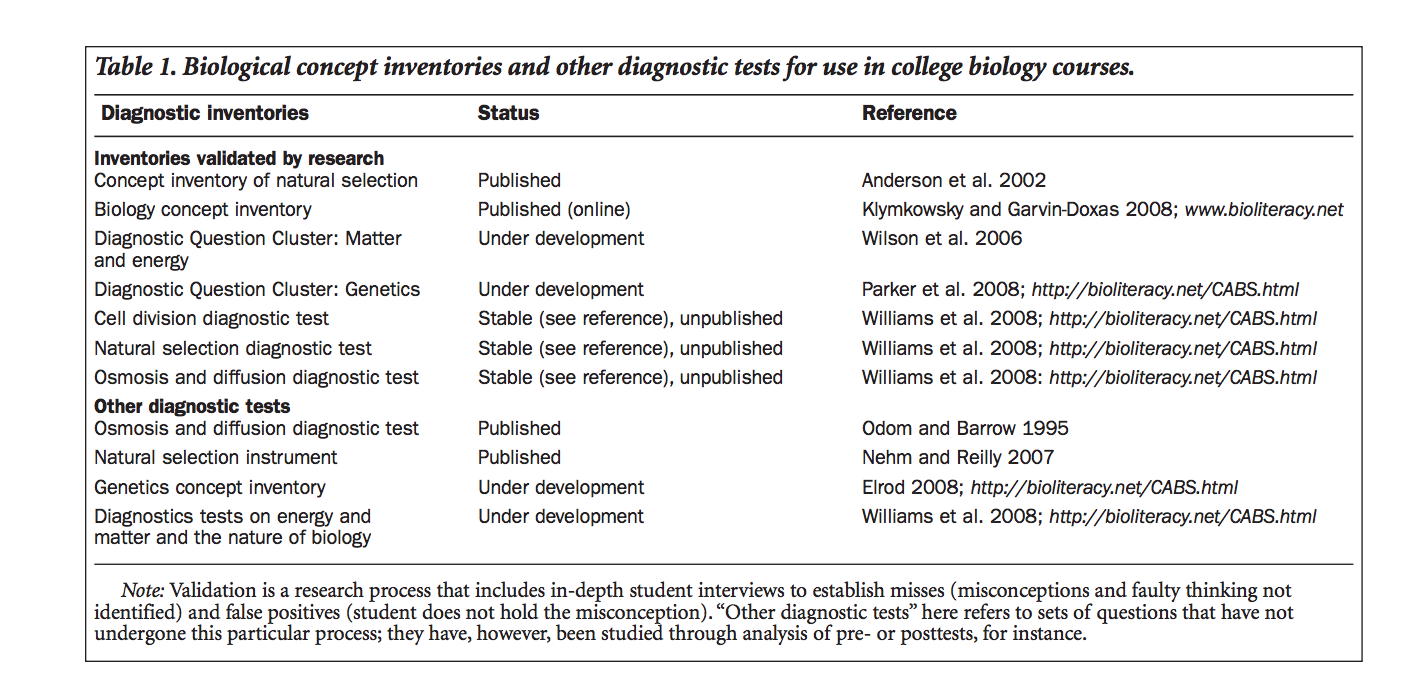
**Chemical Concepts Inventory:** <https://www.chemedx.org/JCEDLib/QBank/collection/CQandChP/CQs/ConceptsInventory/CCIIntro.html>

**Chemistry:** Pavelich, M, Jenkins, B., Birk, J, Bauer, R, Krause, S. 2004 Development of a chemistry concept inventory for use in chemistry, materials and other engineering ASEE Annual Conference Proceedings pp. 3445-3452

**Genetics**: Smith, Wood, and Knight The Genetics Concept Assessment: A New Concept Inventory for Gauging Student Understanding of Genetics. CBE Life Sciences Education Vol 7 No. 4

**General Microbiology: Citation:**Paustian T, Briggs A, Brennan R, Boury N, Buchner J, Harris S, Horak R, Hughes L, Katz-Amburn D, Massimelli M, McDonald A, Primm T, Smith A, Stevens A, Yung S. 2017. Development, validation, and application of the microbiology concept inventory [†](http://www.asmscience.org/content/journal/jmbe/18/3?#fn1-jmbe-18-49). J. Microbiol. Biol. Educ. 18(3): doi:10.1128/jmbe.v18i3.1320

**Allied Health Microbiology Citation:**Seitz H, Horak R, Howard M, Kluckhohn Jones L, Muth T, Parker C, Rediske A, Whitehurst M. Development and validation of the microbiology for health sciences concept inventory [†](http://www.asmscience.org/content/journal/jmbe/18/3?#fn1-jmbe-18-54). J. Microbiol. Biol. Educ. 18(3): doi:10.1128/jmbe.v18i3.132

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**Creation**

* True false questions
* Students answer and were asked to explain their reasoning
* Misconceptions were identified
* Multiple choice questions were generated using the misconceptions as distractors.