UNIVERSITY OF LEICESTER

Interactive E-learning for Metabolic Pathways

Dr. Kath Clark[1] and Stephanie R.M. Bidwell[2].

Problem:
How to make learning metabolism interesting so that its relevance can be applied to real world problems.

- How fast can you run?
- Why is diabetes such a problem?
- Where is obesity coming from?

Need a basic understanding of metabolic pathways before applying concepts of regulated control and these questions can be answered

What do we want the students to learn:

- Glycolysis is the initial pathway for glucose metabolism
- Essential pathway for aerobic and anaerobic production of energy
- Overall and complete pathway needed to be able to understand the control and energy production

Overall reaction:

Glucose + 2 Pi + 2 ADP + 2 NAD^+

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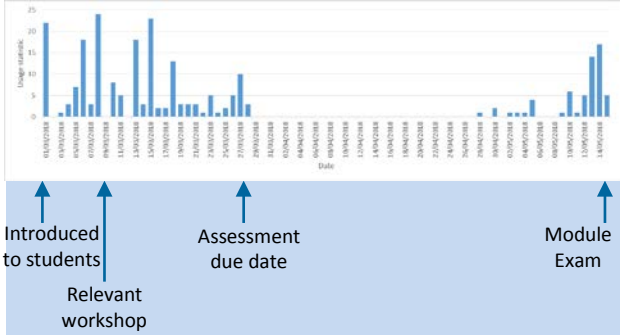
2 pyruvate + 2 ATP + 2 NADH + 2 H^+ + 2 H_2O

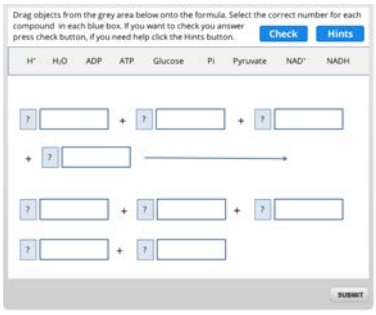
Digital Goal:

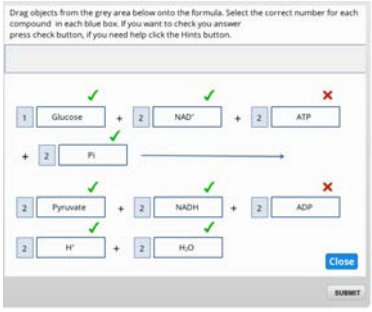
- A learning task for students to engage with glycolysis so that teaching can be about control and application
- Drag and drop system where answers can be marked as correct/incorrect and allocated a score
- Part of Digital Innovation Partnership, student input to the usability, language and information required
- Student feedback to be used to improve activity and version released before exam revision period

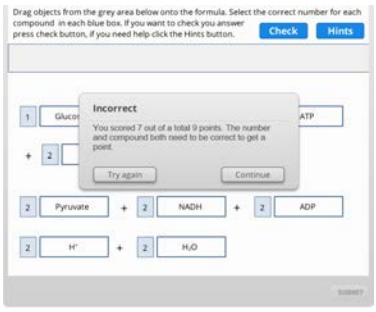
Student Usage:

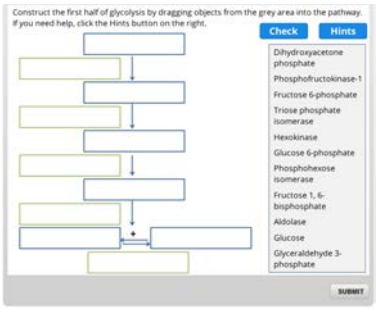
Introduced to the students 1st March.
Relevant to questions to be answered for workshop 9th March
Part of assessment presented as a poster on 28th March
Module Exam 15th May

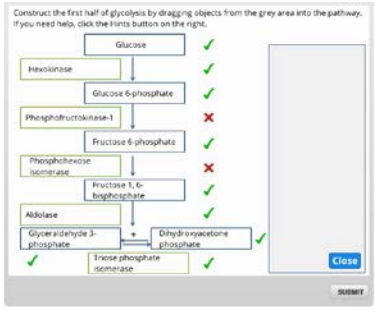


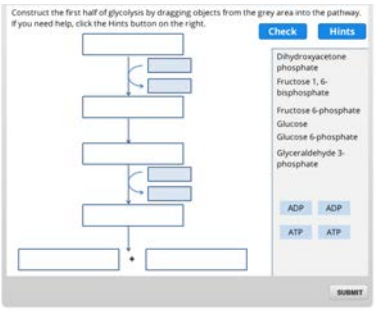


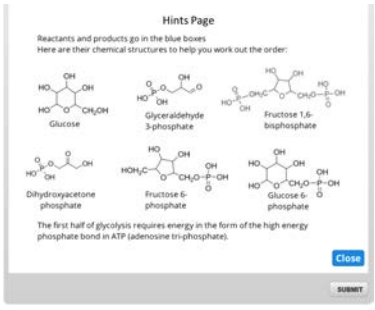


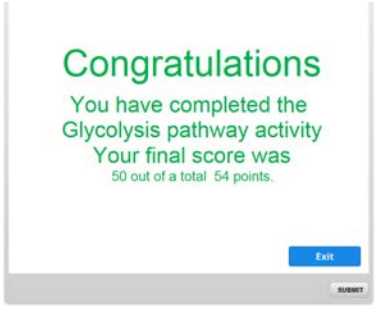












Acknowledgments
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Natural Science second year students

[1] Dept. of Molecular and Cell Biology, [2] Natural Science, Dept. of Physics

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