



--MCQs using Flashcards are OUT--

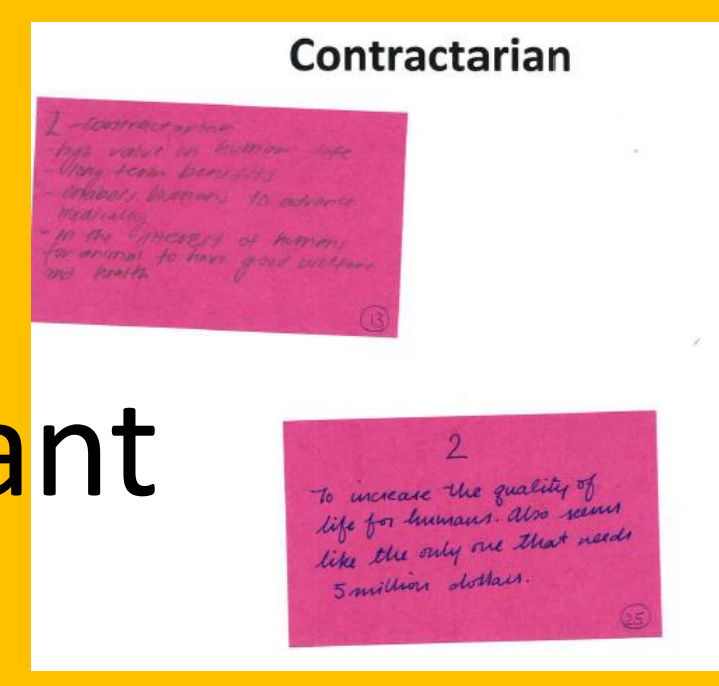
Engaging undergraduates with varied in-class activities

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IN CLASS **Post your decision**

Each team decided on a research project worth \$10 million (saving rhinos, xenotransplantation for human organ transplants, ruminant methane production, canine cancer)

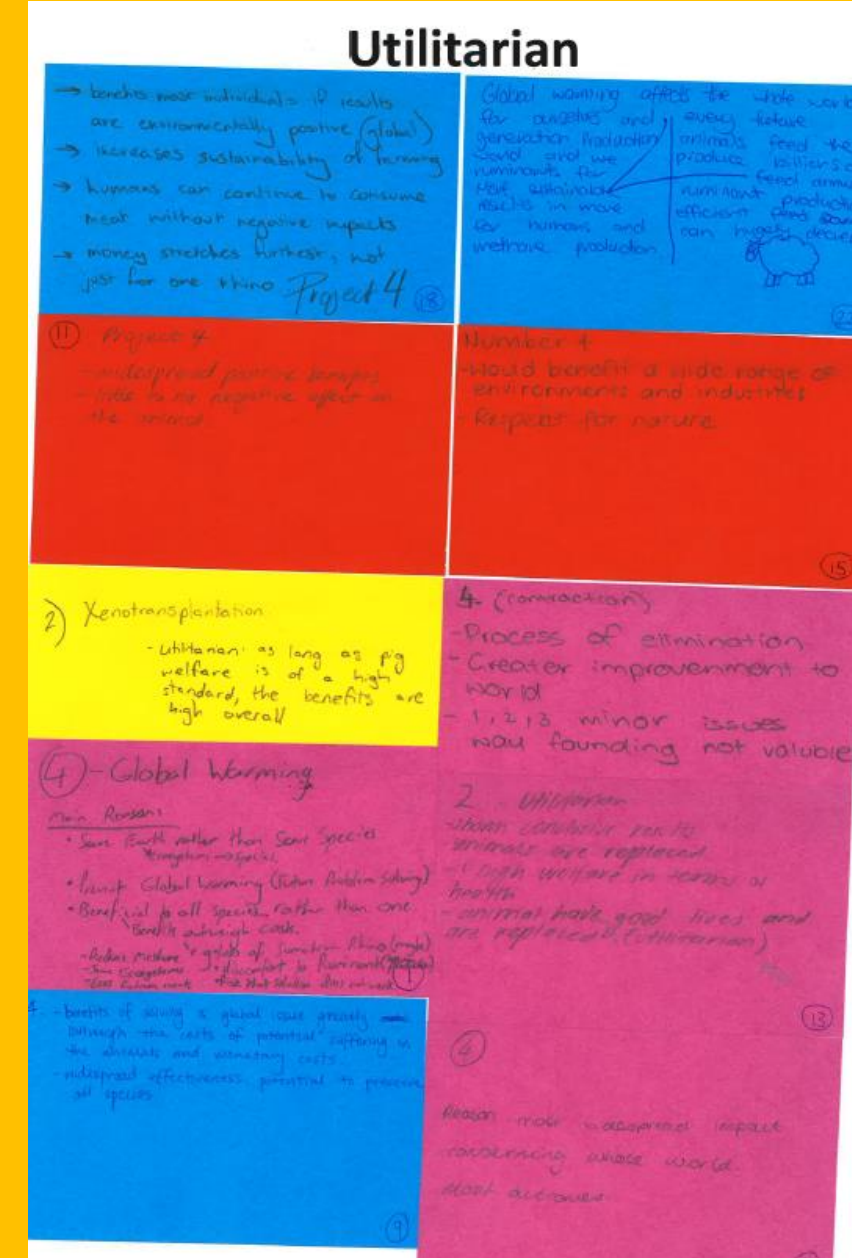


THEN

- Decide which ethical position they had used

LEARNING OUTCOME

- Applied understanding of how ethical positions on animal use influence decision making.



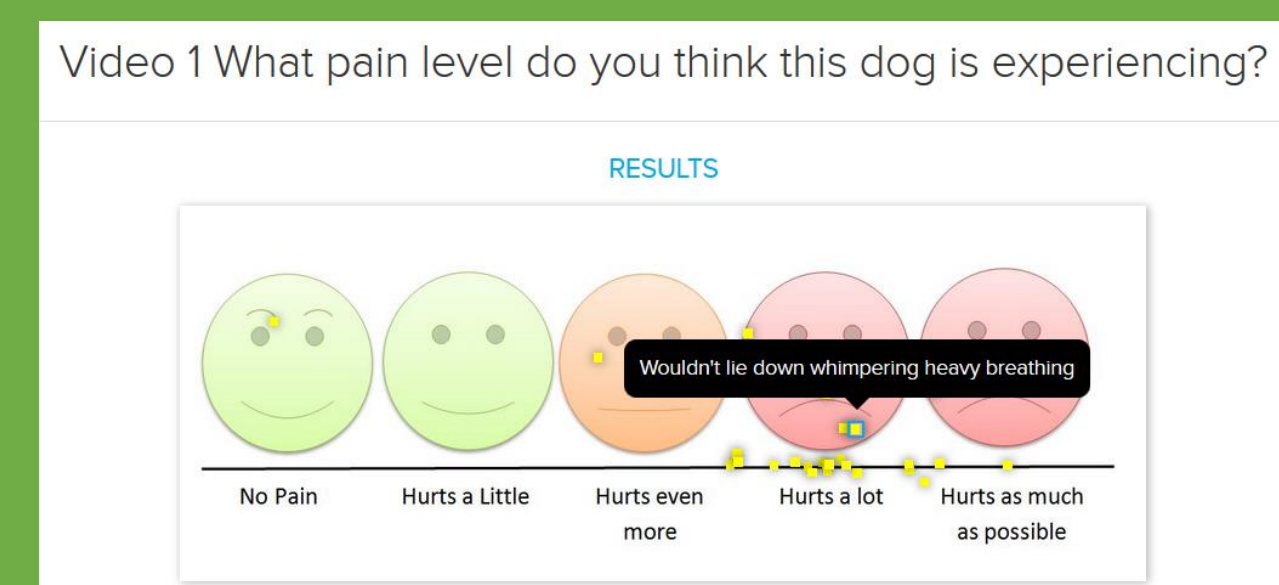
Echo 360 Active Learning Platform

IN CLASS

- In teams use a visual analogue scale to assess the level of pain of a dog pre- and post-analgesia, and a cow with mild and severe lameness (videos)

LEARNING OUTCOME

- Recognise visual and behavioural signs of pain in animals, and compare and contrast how dogs and cows display pain.



Calling all Actors: Creative and Artistic Movement

IN CLASS

- In groups of 10-15 act out oxygen transport in the body
- Groups must demonstrate:
 - Protein structure
 - Loading and unloading
 - Conformational changes
 - Enzyme activity



POST CLASS

- The final exam presents student with a question that examines their understanding

LEARNING OUTCOME:

- First semester fun icebreaker
- Applied understanding of protein structure and enzyme function

Plickers

IN CLASS

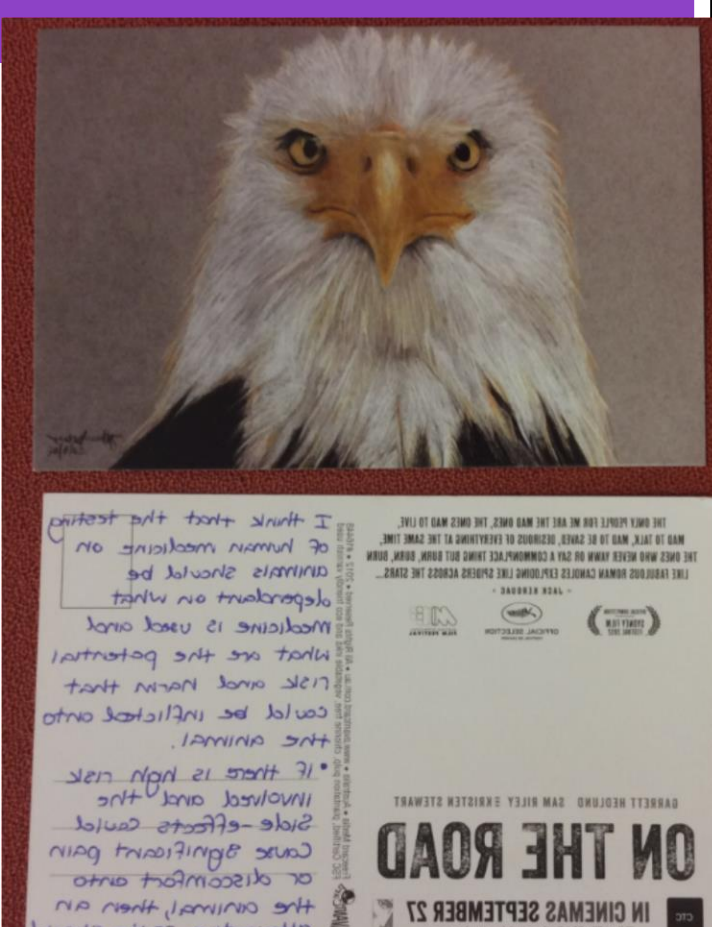
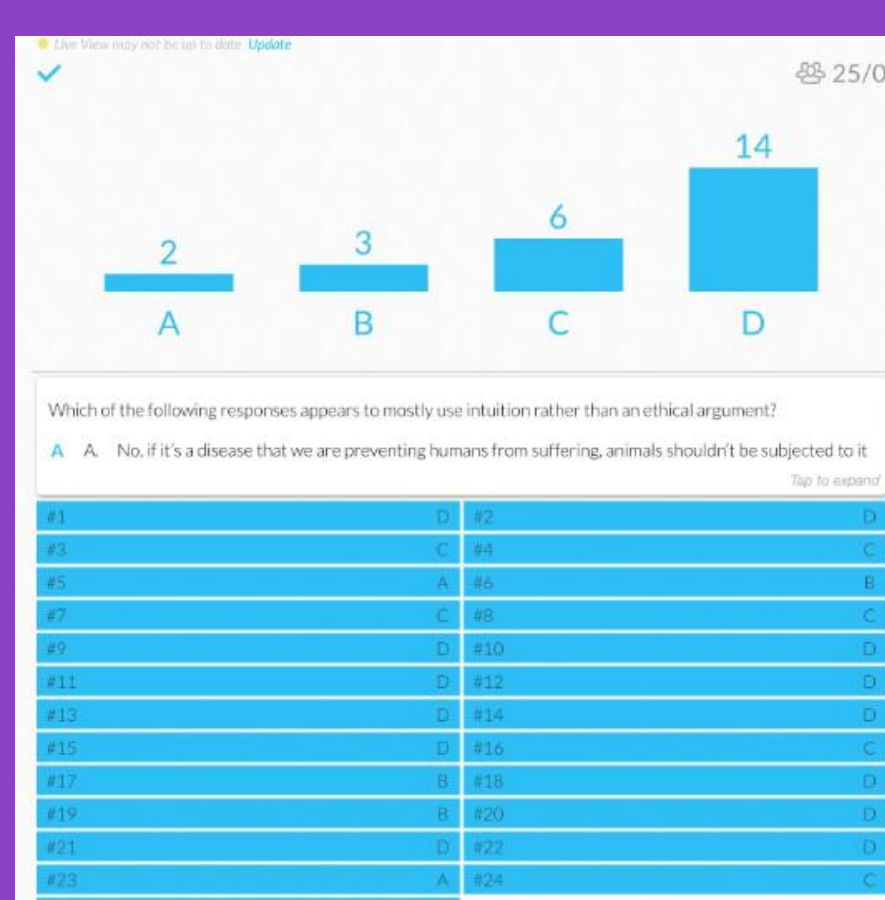
Which of the following responses uses mostly intuition rather than an ethical argument?

'Should animals be used to test human medicines?'

- A. No, if it's a disease that we are preventing humans from suffering, animals shouldn't be subjected to it either.
- B. Yes, the use of animals has contributed to many vaccines and cures to fatal and detrimental diseases.
- C. Yes, as we can't use humans sometimes. And many results involve behaviours which cannot be replaced by artificial organs.
- D. No, I find it unfair the animals are being used for testing a human treatment.

LEARNING OUTCOME

Interpret which ethical framework is used In an argument.



Hypotheses & Experimental design

AIM To reduce total methane productions from intensive ruminant production systems

- Develop an approach for how you could potentially reduce methane productions from cattle.
- You must develop a **hypothesis** and the **biochemical rationale** to defend the approach.
- Be creative, there are **NO WRONG ANSWERS!!**

Ruminant Biochemistry: Exercise Two Methane Production	
Approach One:	
Hypothesis:	
Biochemical Rationale	

Use reporting sheets to maintain the 4 S's

- Same
- Specific
- Simultaneous
- Significant