

Solutions

Each answer shows the steps, then the **result**.

2.1

- A concentrated animal feeding operation where animals are densely confined and fed grain

2.2

- Energy is lost moving up a trophic level, so feeding grain to animals is inefficient

2.3

- Methane

3.1 A

- the 10% rule

3.2

(a)

- Any two: concentrated waste/water pollution, methane emissions, high land/water/grain use

(b)

- Only ~10% of the grain's energy becomes animal tissue, so much more grain is needed to yield the same food energy as meat

3.3

- Advantage of free-range: waste is spread out (less concentrated pollution) and better animal welfare; disadvantage: it needs much more land per animal