

Food Webs & Energy Flow

Name:

Date:

INQUIRY

China produces 30% of the world's rice. If all that energy was passed to humans, why is only ~10% used for growth?

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Trophic level	Feeding level in a food chain.
10% rule	~10% of energy passes to next level.
Biomass pyramid	Shows mass of organisms at each level.

Part A — Energy Calculations

1. Rice paddy: 80,000 kJ from Sun. Calculate energy at each trophic level (4 levels) using 10% rule. [3 marks]

Show your working:

2. Explain where the 'lost' 90% of energy goes at each level. [3 marks]

Part B — Food Web Analysis

3. In a Korean ocean food web: phytoplankton → krill → anchovy → tuna → shark. If a disease killed all krill, predict effects at every other level. [4 marks]