THE STANDARD

Populations & Earth's Systems

Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

ANCHORING PHENOMENON

The Hockey Stick Population Graph

A line graph of world population from 1800 to 2025. For most of the chart, the line creeps along the bottom. Then it bends sharply upward in the 1900s and keeps climbing. World population was around 1 billion in 1800 and is around 8 billion in 2025. The shape is what students keep noticing. Why the bend? What changed?

> DRIVING QUESTION
>
> *"What changed about how humans live that turned a slow climb into a steep one, and what does that mean for Earth's systems?"*

INVESTIGATIVE 1

Two Cities, Same People, Different Footprints

Singapore and a similarly sized U.S. metro area have comparable populations. Their per-capita energy use, water use, and emissions are not comparable. Public data shows the U.S. metro uses significantly more of each per person. Same population count, very different footprints. Use this to sharpen the lens the anchor is pushing on: population is only half the story.

> DRIVING QUESTION
>
> *"If two places have the same population, why do they push on Earth's systems differently?"*

INVESTIGATIVE 2

Forest Cover and People, Side by Side

A pair of maps and graphs showing one region's population growth over the last 60 years next to its forest cover over the same period. The Brazilian Amazon, parts of Southeast Asia, and parts of Central Africa all show clear, measurable patterns. Population and resource demand rise. Forest cover drops. The chain is not subtle in the data, but it is multi-causal in real life.

> DRIVING QUESTION
>
> *"What does it take to be confident a change in Earth's systems was caused by population and consumption, and not by something else?"*