



Preliminary Remediation Goals (PRG) Calculator



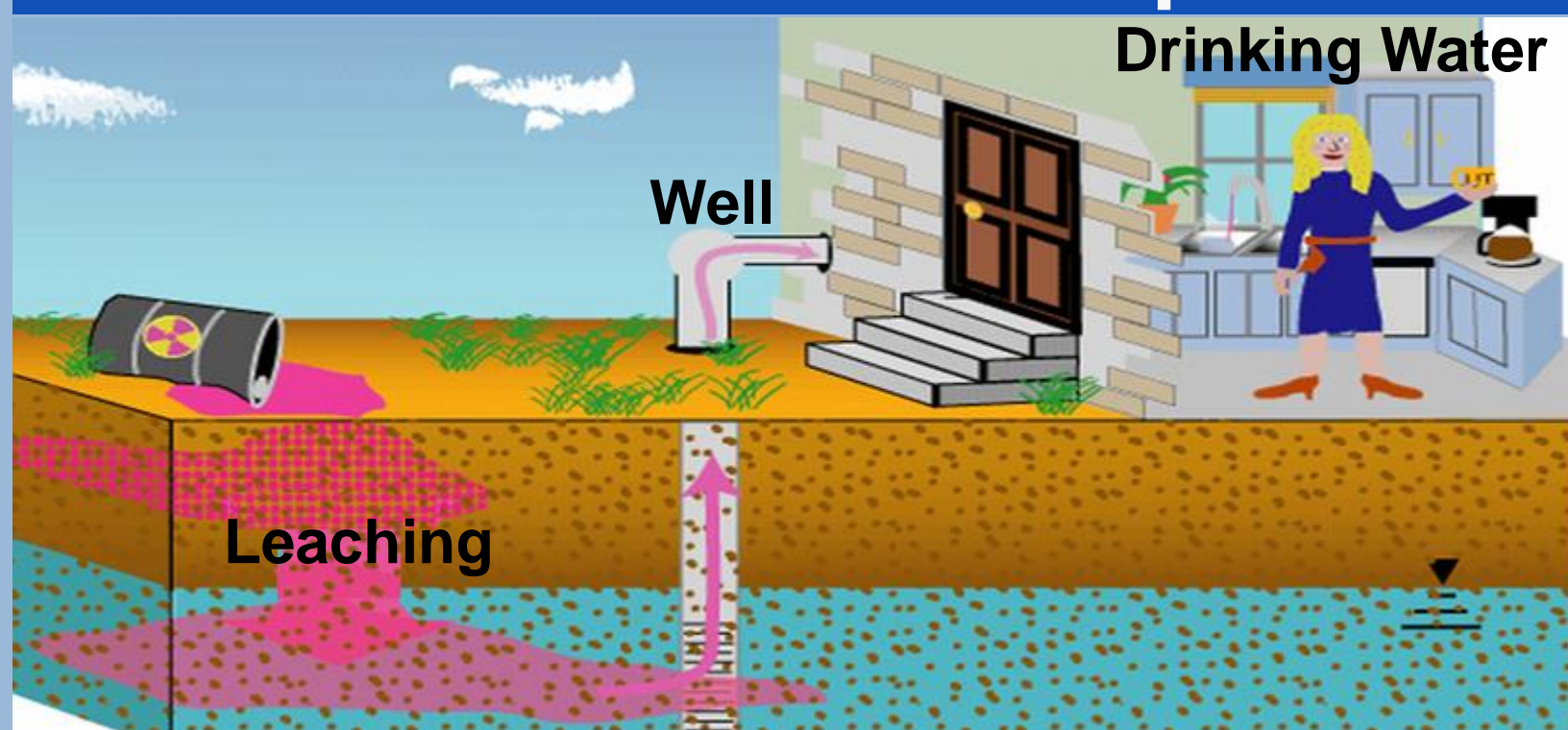
Stuart Walker – walker.stuart@epa.gov, (703) 603-8748
Office of Superfund Remediation and Technology Innovation, US Environmental Protection Agency

PRG: <http://epa-prgs.ornl.gov/radionuclides>

What is PRG?

- PRG stands for **Preliminary Remediation Goal**.
- PRGs are the initial cleanup goals at a Superfund site and usually are not final cleanup levels.
- Used when there is no appropriate government regulation of cleanup levels.

Soil to Groundwater Exposure



PRG Calculator

- The **PRG Calculator** is a tool that allows EPA to calculate initial cleanup levels for radiation in soil, water, and air at Superfund sites.
- Uses **slope factors** to calculate cleanup levels based on a **target cancer risk of 10^{-6}** .
 - **Slope factors** provide cancer risk posed by lifetime exposure to specific radionuclides. Slope factors also take into account the type of exposure (inhalation, ingestion, or external) and amount of exposure. For example, a resident on a site would expect to have a different exposure level than a worker on the same site.
 - **Target cancer risk of 10^{-6}** means that a person exposed to the contamination has a one in a million chance of developing cancer. (Target is based on highest estimated level of exposure. Most people will have less of a chance of developing cancer.)
- The exposure pathways calculated by the PRG calculator are shown in the diagrams below.

How does the PRG Calculator Work?

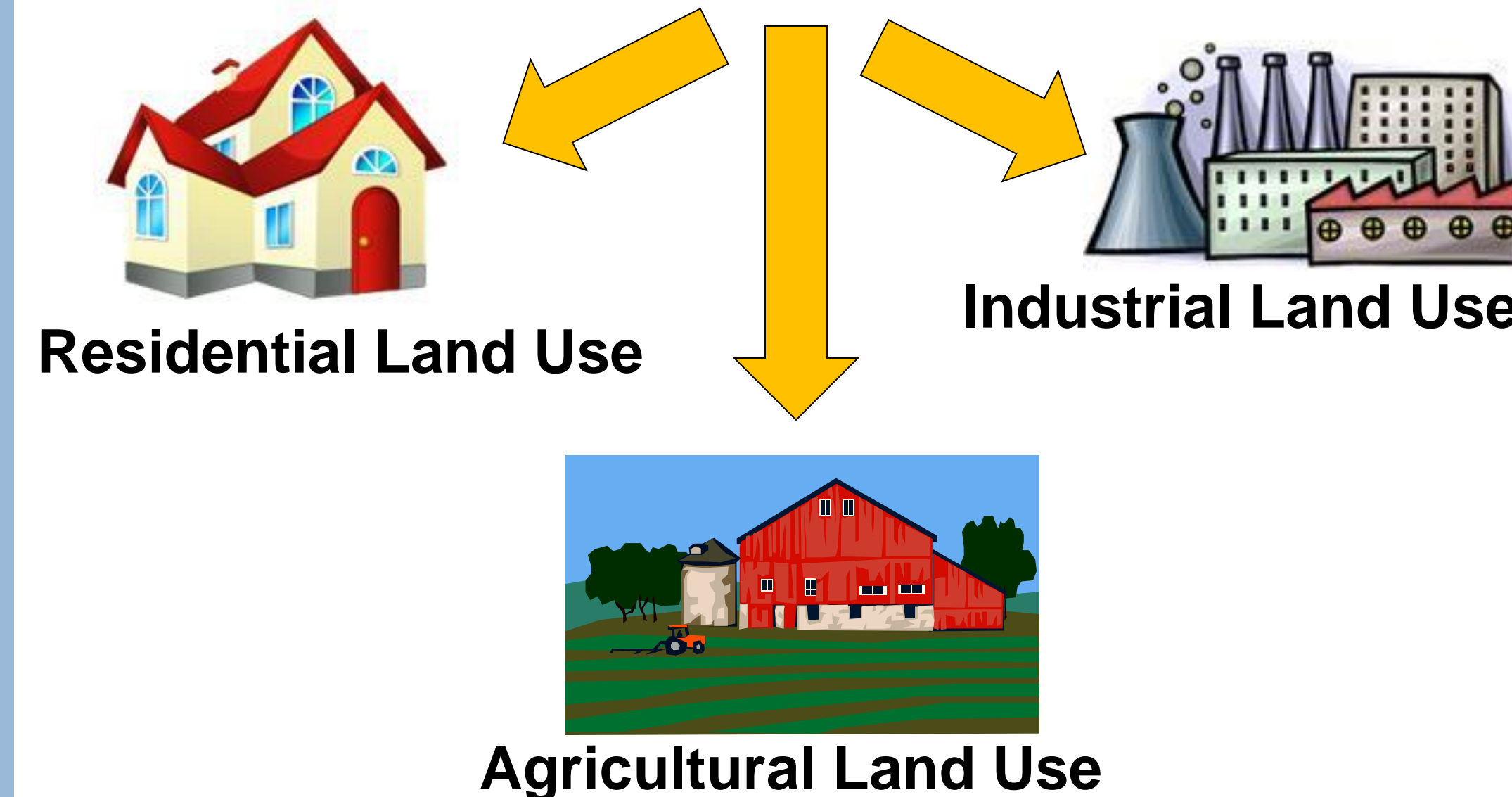
Slope Factors



PRG Equations



PRG Calculation



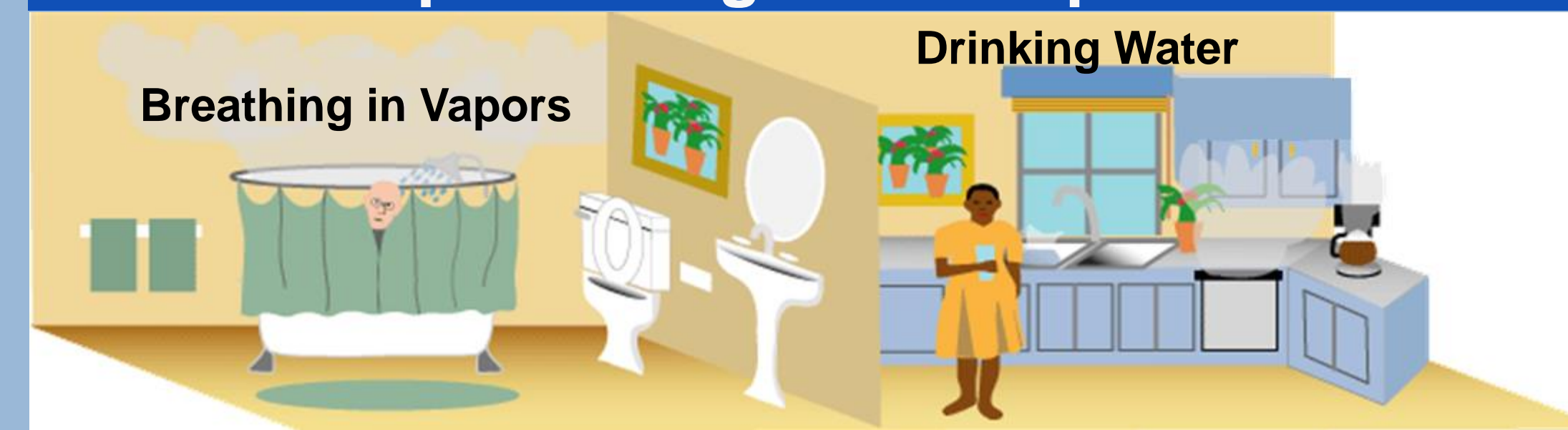
Outdoor (or Composite) Worker: Soil Exposure



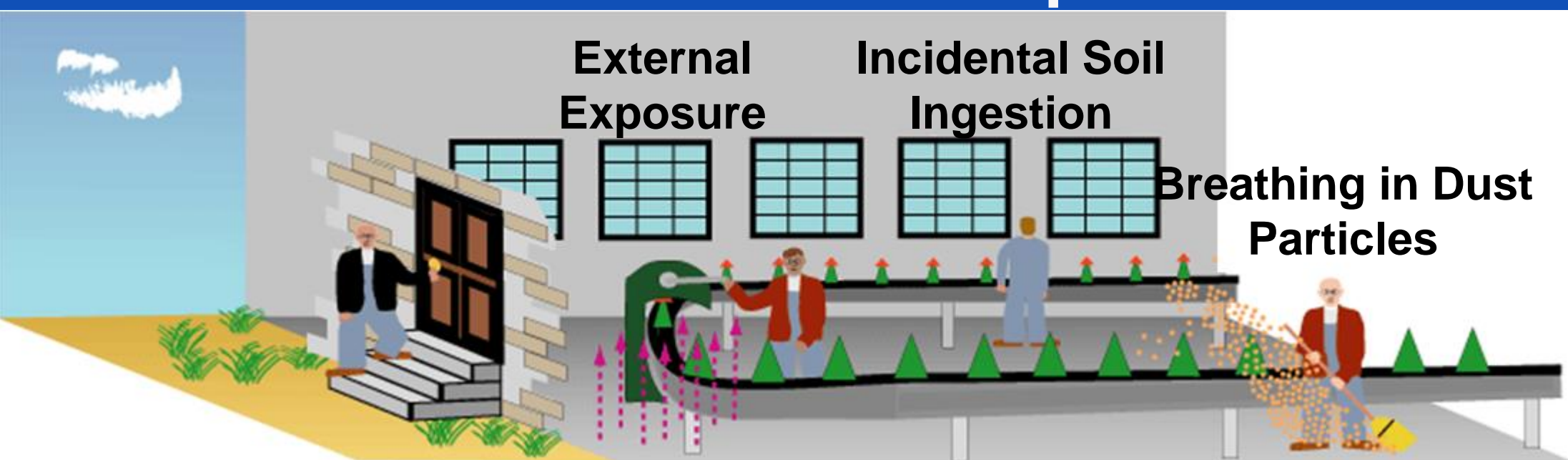
Resident: Soil Exposure



Tapwater Ingestion Exposure



Indoor Worker: Soil Exposure



Agricultural: Soil Exposure



Fish Ingestion Exposure

