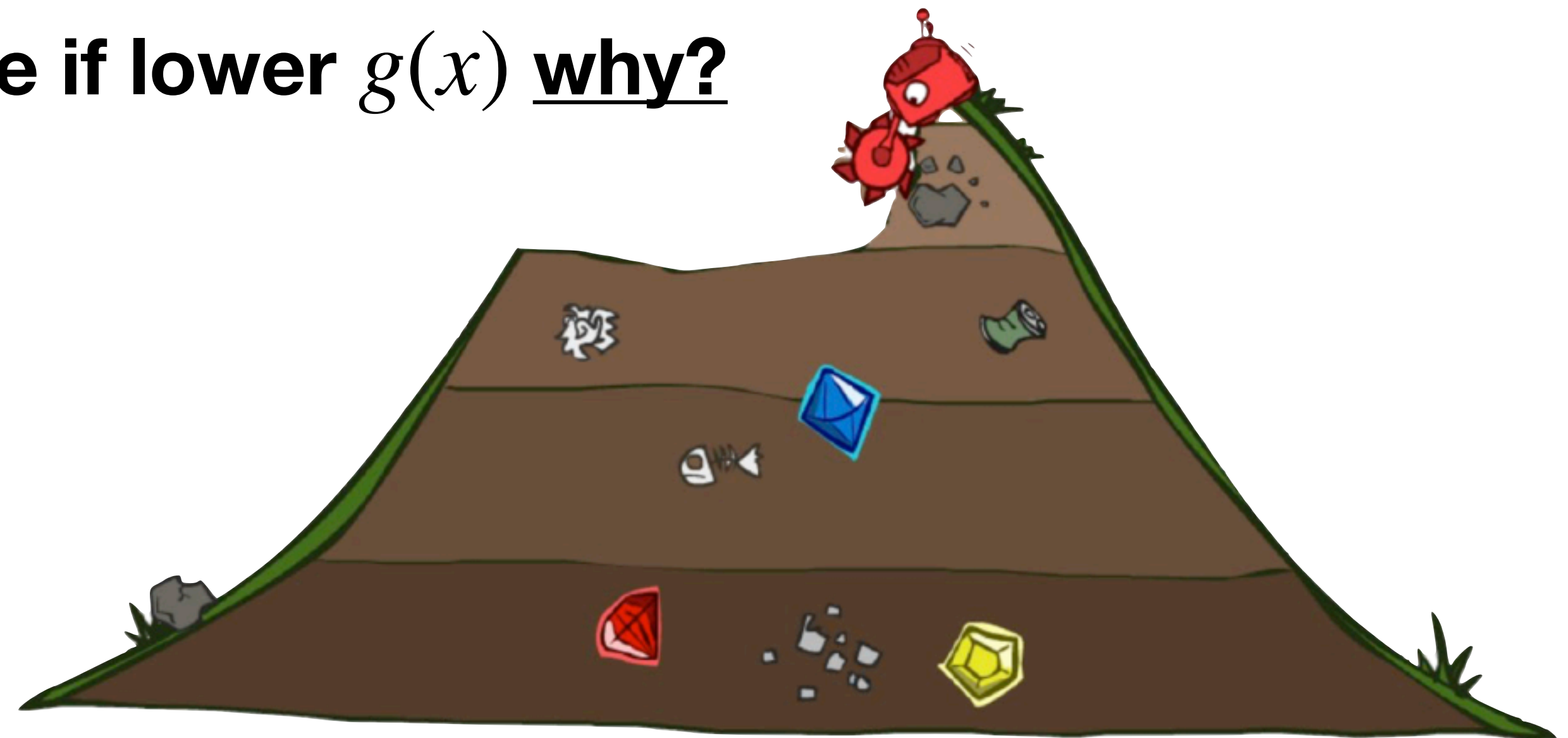


Uniform Cost Search (using g)

Important aspect

- The order of the nodes in fringe **Smallest** $g(x)$
- Should the same state be generated?
 - Same as the EXPANDED states **NO (reached)**
 - Same as the states IN fringe **Replace if lower** $g(x)$ why?
- When to report the goal?
 - When generated? **No (why)**
 - When expanded? **Yes**



Uniform Cost Search

- Solution cost C^* , incremental arc cost ϵ
- Similar with BFS:
 - Space complexity: $b^{C^*/\epsilon}$
 - Time complexity: $b^{C^*/\epsilon}$
- Optimal: Yes
- Completeness: Yes

C^*/ϵ “tiers”

