

Scenario 1

You and your co-habitants use up _____ grams of glucose in cellular respiration.

How many grams of oxygen are used up in this process?

The equation for respiration is:

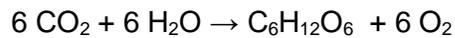


How many grams of water will be produced?

At the same time, photosynthesis uses _____ grams of carbon dioxide.

How many grams of oxygen are produced?

The equation for photosynthesis is:



Explain what effect these processes have on the availability of oxygen for you and your fellow humans.

Scenario 2

You and your co-habitants are releasing _____ grams of carbon dioxide as a product of respiration.
How many grams of oxygen are used up in this process?

The equation for respiration is:

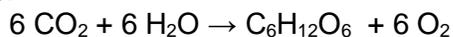


How many grams of water will be produced?

At the same time, the plants in your habitat release _____ grams of oxygen as a result of photosynthesis.

How many grams of carbon dioxide were used?

The equation for photosynthesis is:



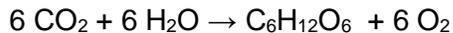
Explain what effect the net change in CO_2 has for you and your fellow humans.

Scenario 3

The plants in your HAB are consuming _____ grams of water during photosynthesis.

How many grams of oxygen are produced?

The equation for photosynthesis is:



Meanwhile, you and your co-habitants are burning _____ grams of glucose during respiration.

How many grams of oxygen are used up in this process?

The equation for respiration is:



How many grams of carbon dioxide are being produced by respiration?

Explain what effect these processes have on the availability of oxygen for you and your fellow humans.

Scenario 4

You and your co-habitants have plants that consume _____ grams of carbon dioxide during photosynthesis.

How many grams of oxygen are produced?

The equation for photosynthesis is:

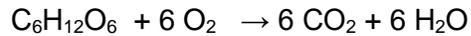


How many grams of glucose are produced?

Meanwhile, you and your fellow humans are producing _____ grams of water from cellular respiration.

How many grams of glucose are used up in this process?

The equation for respiration is:



Explain what effect these processes have on the availability of glucose for you and your fellow humans

Scenario 5

The plants in your HAB are consuming _____ grams of water during photosynthesis.

How many grams of oxygen are produced?

The equation for photosynthesis is:

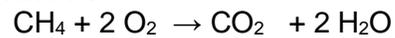


How many grams of glucose are produced?

At the same time, you are burning _____ grams of methane, CH_4 , collected from human waste to keep the HAB warm.

How many grams of oxygen are used up?

The equation for combustion of methane is:

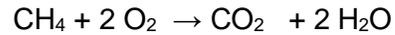


Explain what effect these processes have on the availability of oxygen for you and your fellow humans.

Scenario 6

You and your co-habitants burn _____ grams of methane, CH₄, to generate heat for your habitat.
How many grams of oxygen are used up?

The equation for combustion of methane is:

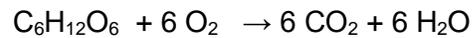


How many grams of carbon dioxide are produced?

At the same time, you humans burn _____ grams of glucose in cellular respiration.

How many grams of oxygen are used up in this process?

The equation for respiration is:



Explain what effect these processes have on the essential gases needed for you and your fellow humans.