



## Air Supply System

Brainstorm and write your answers in your Mission Journal

1. Our earthly atmosphere is a combination of several gases; research what gases are in Earth's atmosphere. What gas do humans need to breathe in? What primary gas do humans and animals breathe out?
2. What is photosynthesis? During the process of photosynthesis, what gas must green plants take in? What gas do they produce?
3. A process called electrolysis can separate water ( $H_2O$ ) into hydrogen gas ( $H$ ) and oxygen gas ( $O_2$ ). Another process is being developed which can extract oxygen from rocks and soil that contain it. Do you think these processes could be useful on Mars?
4. Research Mars facts. Will the Mars colony inhabitants automatically be able to breathe the atmosphere or will special provisions need to be made?

Identify four "Mars Facts" that impact the design of an Air Supply System and write them in your Mission Journal.

5. Design an Air Supply System to be used by the Mars colony inhabitants, which will rely on oxygen and carbon dioxide available only from Martian resources. Sketch a blueprint of your design in your Mission Journal and include labels explaining how it will work.

