

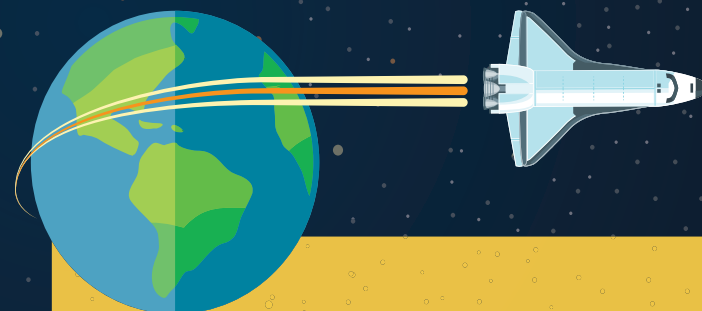
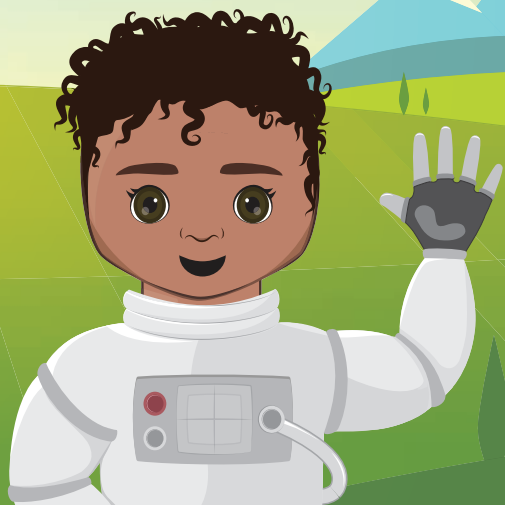
High Five for the Future



sustainABLE 
The future is in your hands

ASU Walton Sustainability
Solutions Initiatives
ARIZONA STATE UNIVERSITY

**Hi, I'm Sammy
the astronaut.**



Soon I'll be leaving my home
on planet Earth in a spaceship
that I made with my friends.

When astronauts leave the
Earth behind, they have to
think about everything they
are going to need to make
a home in space.

ACTIVITY:

What would you bring
on a trip to outer space?

Draw the things you
would need in this space.



What is a home?

A home is a special place that provides you with the things you need to live and be happy. A home keeps you safe. A home is where you find your friends and family and the things you love. Our home is planet Earth, which gives us what we need: fresh water, food, even the oxygen we breathe.

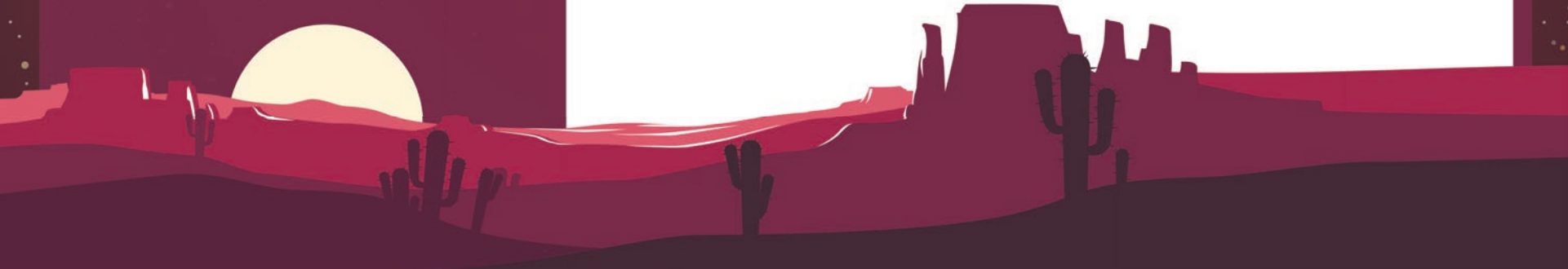


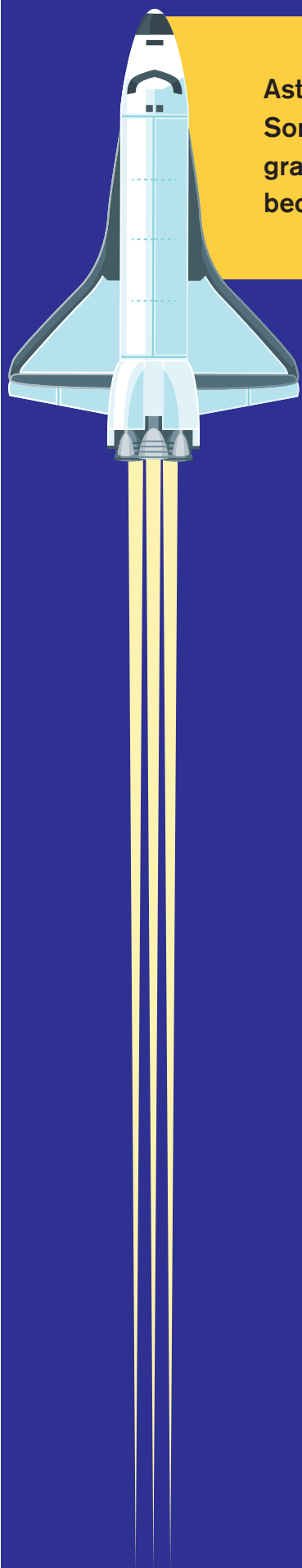
ACTIVITY:

In the space provided, tell Sammy what you love about your home.

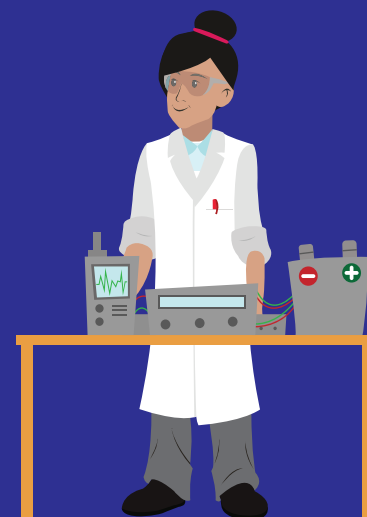


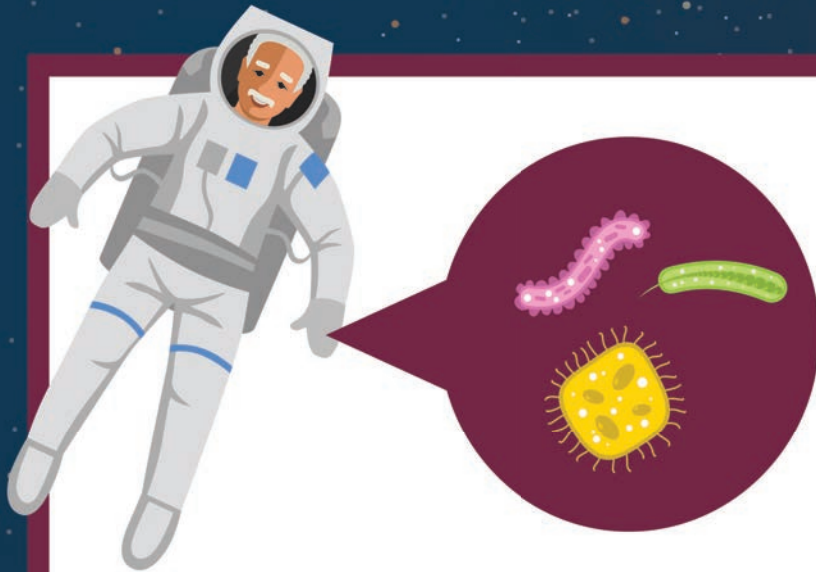
from: to: Sammy the Astronaut



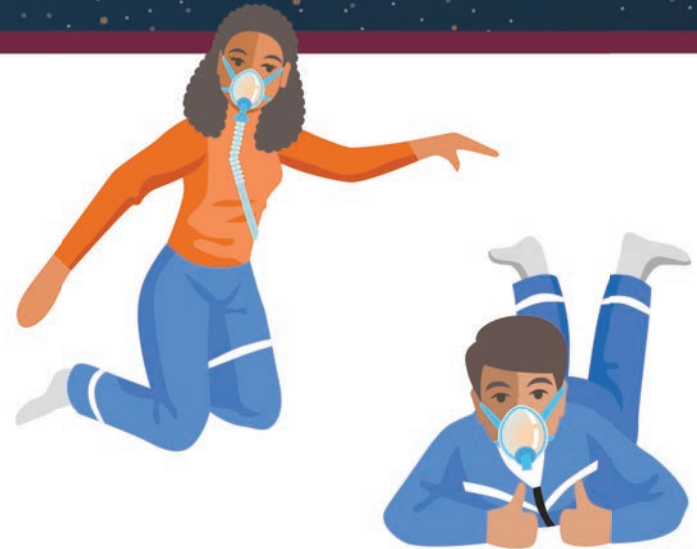


Astronauts are people who voyage through outer space, but they come from all sorts of other jobs. Some are pilots, but most are scientists who get to do research and create environments where gravity barely exists! People such as biologists, chemists, doctors, engineers and teachers have all become astronauts to perform experiments, conduct research and complete missions in space.

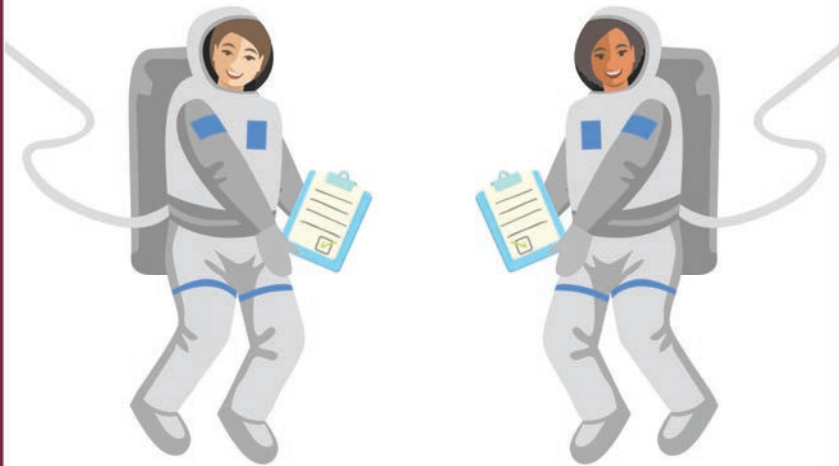




Bacteria, dust and mold doesn't just exist on Earth - astronauts take them into space! Sometimes they mean to take them to study, but they also coincidentally take them on their clothes, skin, hair and other things from Earth. Once they are in space, they study how the microbes behave.



Astronauts rely on a lot of equipment to make sure they live comfortably. They use a device to monitor their breathing and make sure their lungs are healthy. Because there is little gravity in space, dust stays in the air of the space station. Breathing in dust can make an astronaut sick. This same device is also used on Earth to monitor and help people with asthma.



Astronauts also study each other! They research how being in space with low gravity affects their muscles, bones and overall health. They also examine how they behave with each other as a community.



Astronauts can even grow and harvest their own food in space! Back on Earth, the sun helps the plants grow, but in space they have to use red and blue LED lights. In space it takes only 33 days to grow lettuce. Even though it's grown in space, the lettuce tastes just like it does in my garden!


ACTIVITY:

Find and circle below all the items listed on the next page. Then match parts of Sammy's spaceship to systems on Earth that do the same job.

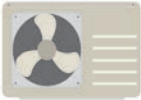


ACTIVITY:


My spaceship is more than a way to travel - it's my home that keeps me safe and healthy on my long trip into space. Many of the parts of my spaceship do the same jobs as important systems on Earth. See if you can guess how.




THERMAL CONTROL SYSTEMS
Keep the inside of my ship the right temperature.




AIR REVITALIZATION
Keeps the air in my spaceship fresh and safe to breathe.




KITCHEN
Stores all the food I will need for my trip in ready-to-eat packages.



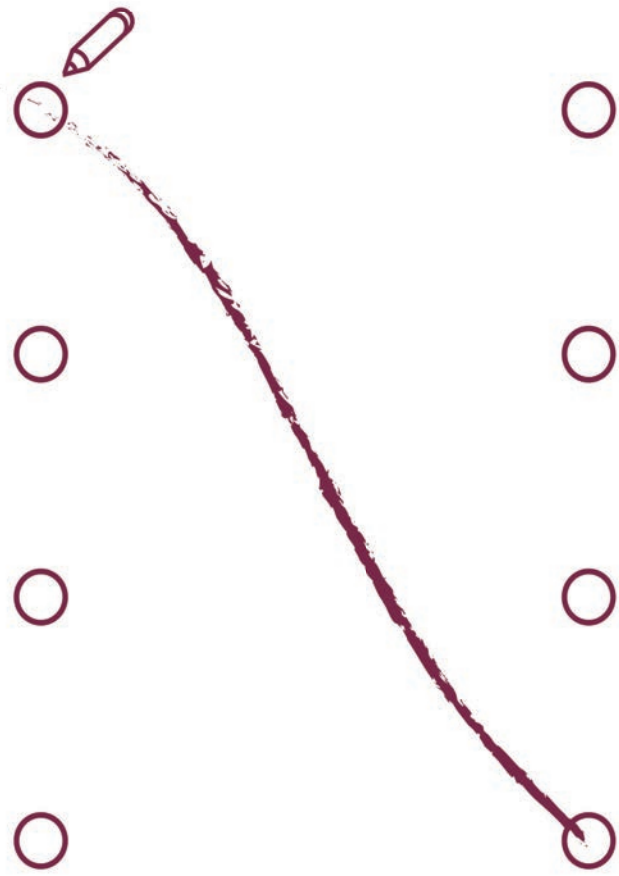
WATER RECYCLING SYSTEM
Collects water I have used already, and cleans it so I can use it again

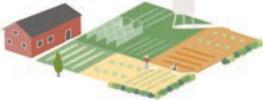


SOLAR PANELS
Use sunlight to create electricity to run my spaceship




SHIELDS
Protect me from powerful solar radiation







FARMS




FORESTS




RIVERS AND STREAMS



ATMOSPHERE



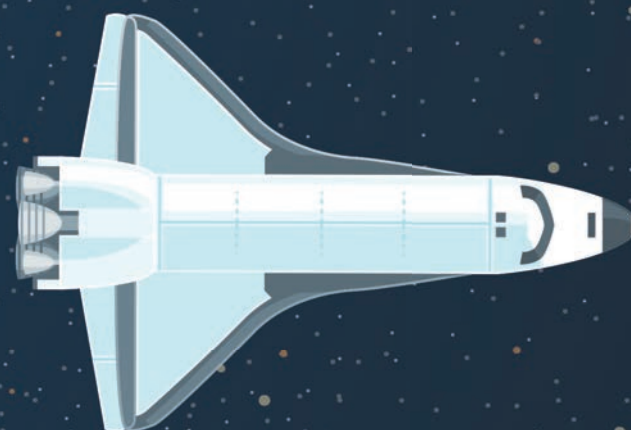
SUN AND TREES



OZONE LAYER



LOOK! IT'S SAMMY'S NEIGHBORHOOD!



Right now, we've got a good view of the neighborhood where I live.

Can you find all the different ways a neighborhood is built to help keep people happy and healthy?

Do you know where drinking water comes from?

How does it get to our homes?

How does a home get electricity?

What happens to the waste people produce?

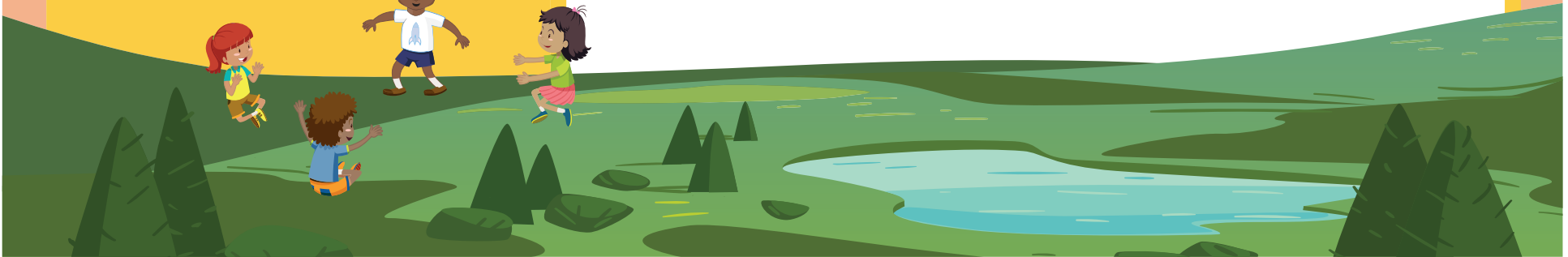


ACTIVITY:

To answer the questions on this page, find and circle all the parts of a neighborhood that keep you happy and healthy.



- Where does your electricity come from?
- How is food produced?
- Where can you go to learn new things?
- Where do people work?
- Where can you buy things you need?
- How do you travel around town?



Earth is our home.

As I orbit around the Earth and am high above Arizona, I can see a variety of life-supporting ecosystems: oceans, deserts, forests, jungles, rivers and lakes, all relying on our planet's important resource - water.

In Arizona, where I am from, our water comes from the mountains. Every winter in Northern Arizona and across the Rockies, snow falls high in the mountains making snow pack. When the snow pack melts, it seeps into the ground and runs into streams and rivers that flow across the state. Water from these river systems is then cleaned and filtered by your city's water treatment plants..



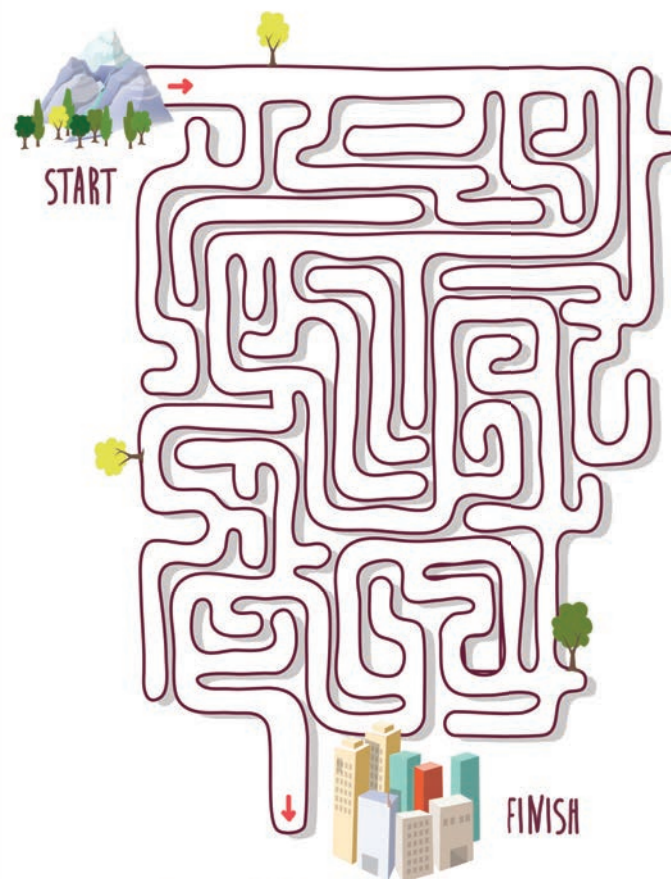
Finally, the fresh water gets pumped to your home through a system of underground pipes. But, did you know that healthy forests are an essential part of keeping water fresh and clean?

The soil in a healthy forest acts like an enormous filter, cleaning the water as it passes through a million microscopic holes and tunnels formed by the roots of plants, burrowing animals like insects and earthworms and the microscopic bodies of fungi and bacteria. As water flows through these tiny tunnels, dirt and debris get trapped and left behind and toxic substances are eaten by bacteria and other organisms until all that's left is clean, fresh water.

Scientists, policy makers and utilities, like the Salt River Project, work together to keep our forests healthy so that the water people need is fresh and clean. This means carefully monitoring forest health to prevent disease and severe forest fires, replanting in areas where fires have damaged the forests and protecting sensitive regions from damage. If we all work together to keep our forests healthy, we can be sure that we get the water we need to be healthy too.

ACTIVITY:

Solve the maze and track the path of water from the snowy mountains to our cities.



Congratulations, you are a Sustainability Superhero!

Cut out this badge and display it proudly. You are an incredible agent of change!

