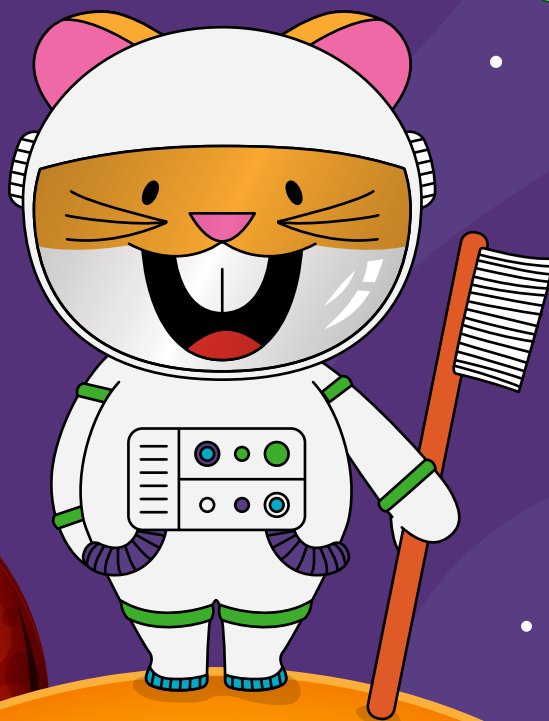


# grin!

for **KIDS**



Meet Bitsy, a pet hamster in Mrs. Timmins' second grade classroom. She loves running on her wheel, FOOD, and spending time with her friends in class.

But Bitsy has a secret. She's not just running on a wheel — she's training to be an astronaut! Her dream is to explore beyond the classroom and go all the way to outer space! And, after working hard every night after school, her rocket ship is finally ready ...



#### ARTICLES

- 4 Mission countdown
- 8 How astronauts stay healthy in space
- 12 Planet fun facts
- 16 Ingredient spotlight: nutrition that's out of this world
- 18 How does the sun heat the Earth?
- 20 Imagining alien teeth



#### ACTIVITIES

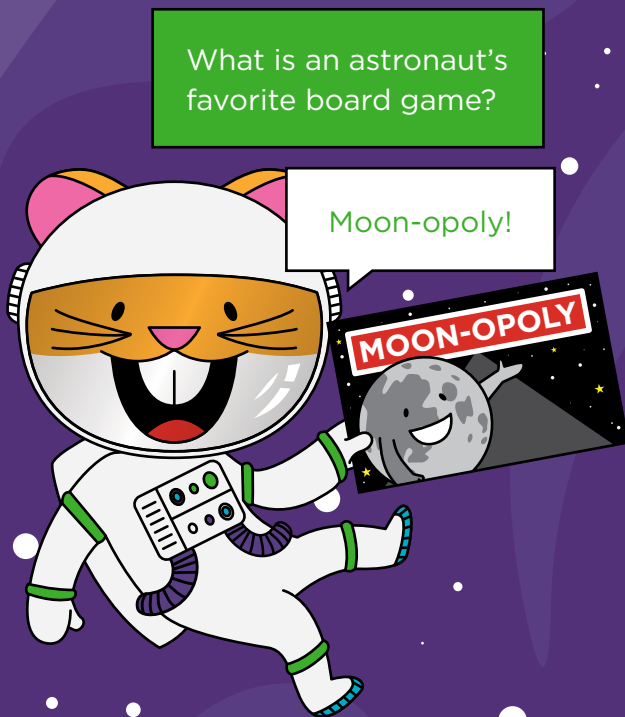
- 6 Quiz: Lasers! Which are real and which are fake?
- 11 Phases of the moon
- 14 Photo find: spaceship repair
- 19 Mad lib: write a letter from space
- 23 Maze: Get home to Earth!



#### ARTS + CRAFTS

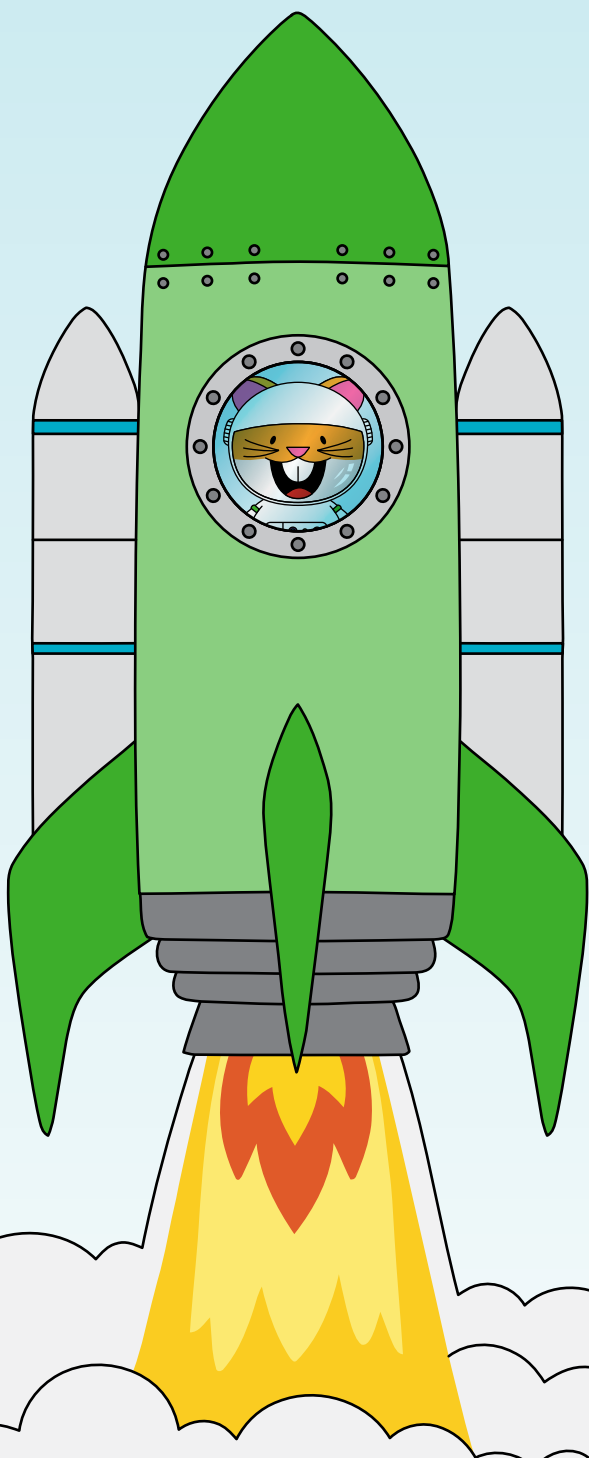
- 5 Cosmic tooth counter
- 10 Flashlight constellations
- 15 Coloring page: Commander Floss vs. the Cavity Creatures
- 17 Recipe: fruit kabob rockets
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## Chuckle corner



# Mission countdown

One night, after the students went home for the day, Bitsy was ready to launch her rocket and start her journey to the stars. She was very excited. But she was also nervous! What if she hadn't brought enough fuel? What if she forgot to pack her toothbrush? Suddenly, the countdown began! To calm her nerves, Bitsy thought about that day's classes and what they had learned. She remembered one fact for each second of the countdown.



10

Our solar system includes eight planets

that orbit our sun: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune ...

9

It's important to brush your teeth twice every day, for two minutes each time ...

8

Pluto is too small to be considered a planet.

Sorry, Pluto ...

7

Water is healthier for your smile and your body than sugary juices and sodas ...

6

Earth is the only known planet with life

because it has water and oxygen to keep things alive ...

5

Mouth guards and helmets protect your teeth, gums, and jaw from injury during sports ...

4

Bitsy's astronaut helmet will protect her eyes

from super bright starlight, dry eyes, and other risks ...

3

Calcium and vitamins from milk, cheese, Greek yogurt, and leafy green vegetables

will help keep your teeth, gums, and eyes healthy ...

2

To escape Earth's gravity, Bitsy's rocket will have to go at least 25,000 miles per hour.

That's really fast! (At this point, Bitsy double-checked that her seatbelt was on) ...

1

Bitsy is glad she brushed her teeth this morning because she's got a BIG smile on her face

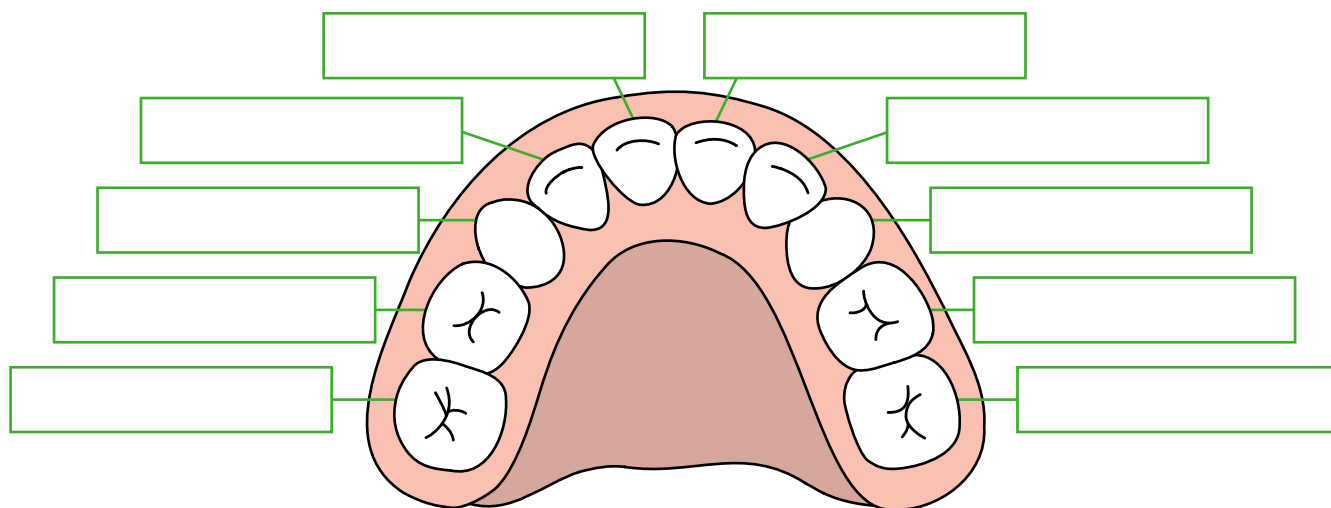
as the countdown ends ...

## BLASTOFF!!!

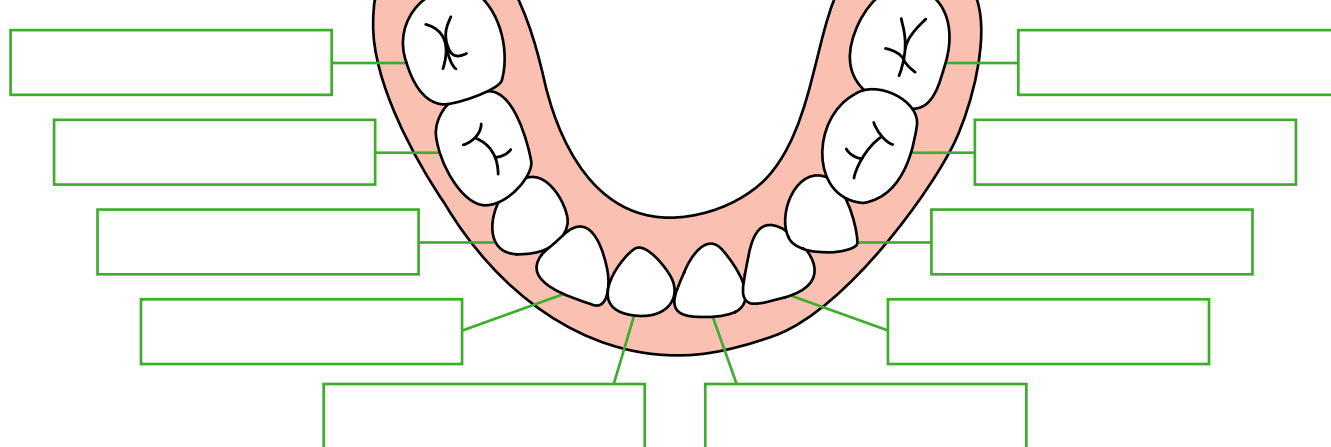
# Cosmic tooth counter

Use this page to keep track of every tooth you lose. All you need to do is color in your teeth as you lose them! You can also mark your age and where it fell out.

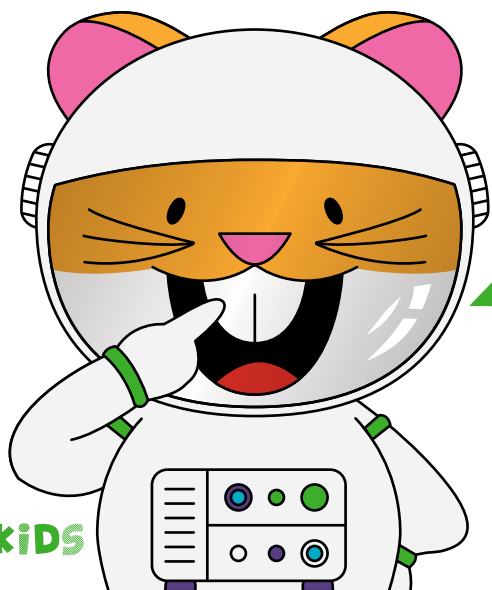
LOST TOOTH DETAILS:



LOST TOOTH DETAILS:



LOST TOOTH DETAILS:



My teeth are quite a bit different than yours! My front teeth never stop growing. That's good, because I wear them down by gnawing through objects and by chewing hard foods, like nuts and seeds.

But you need to be more careful! Human teeth don't keep growing — you only have 20 baby teeth and 32 adult teeth in your lifetime, so take good care of them.

# Lasers! Which are real and which are fake?

Lasers are powerful beams of light that can do amazing things! Some lasers are real and used in everyday life, while others are just fun inventions for movies and TV shows.

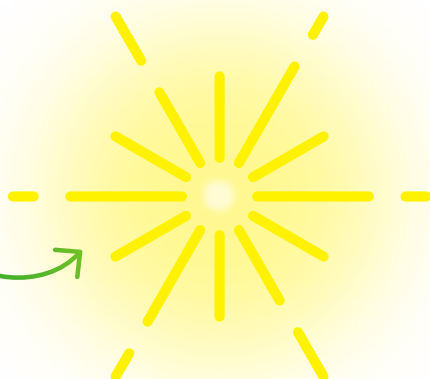
Take this true or false quiz to test your laser logic. Just read the questions and circle 'T' for True or 'F' for False. When you are done, check the answers at the bottom of the next page.

## TRUE OR FALSE?

1

Lasers are made of light.

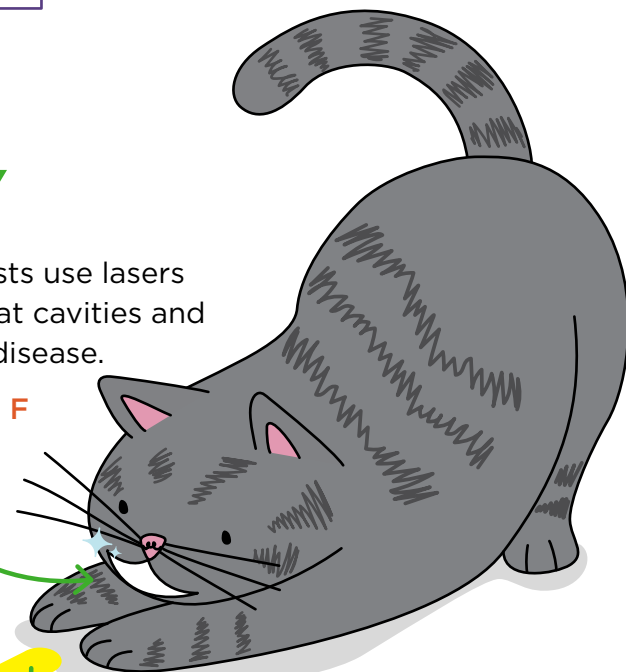
T OR F



2

Dentists use lasers to treat cavities and gum disease.

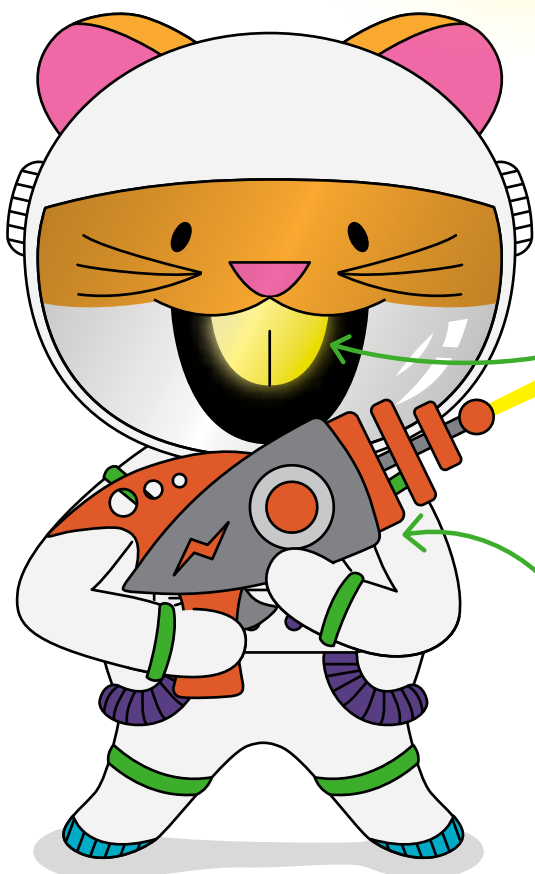
T OR F



3

Dental lasers make your teeth glow in the dark.

T OR F



4

Cats love to chase laser dots.

T OR F

5

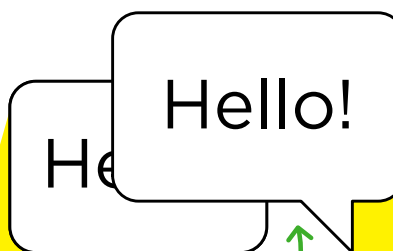
Astronauts use ray guns to protect themselves on distant planets.

T OR F

6

It's possible to communicate using lasers.

T OR F



7

Some lasers are strong enough to cut through metal.

T OR F

9

All lasers are dangerous.

T OR F



8

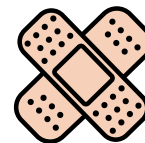
Lasers can harm your eyes.

T OR F

10

Lasers can help gums heal faster.

T OR F



## ANSWERS

1 TRUE

Lasers are powerful, focused beams of light.

2 TRUE

Lasers can help fix cavities and treat gum disease.

3 FALSE

Your teeth will not glow in the dark after visiting the dentist, but your smile will be healthier.

4 TRUE

Many cats (and some dogs) love chasing red laser pointer dots.

5 FALSE

Ray guns are just for fun in books, TV shows, and movies.

6 TRUE

Scientists have used laser technology to send messages as far as 10 million miles away.

7 TRUE

Special lasers are used in factories to cut metal and other materials.

8 TRUE

Be very careful not to look directly at a laser or laser pointer, as you can hurt your eyes or permanently damage your vision.

9 FALSE

Many lasers, like laser pointers, barcode scanners, and those used in dentistry, are safe when used the right way.

10 TRUE

They help reduce swelling and speed up healing.

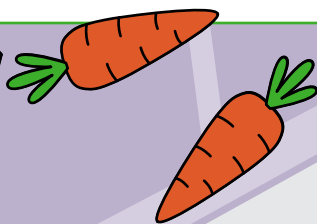
# How astronauts stay healthy in space

As Bitsy breathed in and out, excited about all the incredible things in outer space, she noticed a stale smell in her helmet ... Oh! It was time to brush her teeth! Luckily, Bitsy had watched Mrs. Timmins explain how astronauts take care of their teeth, and she was prepared.

## Eat a healthy diet

In space, astronauts eat foods that are freeze-dried to prevent crumbs. They also eat food that comes from a squeeze tube, so parts of their meal don't float away!

You don't have to go that far, but you can eat like an astronaut with healthy foods. Calcium from milk and cheese supports strong teeth. And vitamin A from carrots helps prevent dry mouth and supports your vision. Those are just two examples of tasty foods that are also terrific for your teeth and gums.





### Watch for new symptoms

Outer space doesn't have gravity or atmosphere like Earth, which can change an astronaut's oral health. They need to carefully watch for issues like dry mouth, tooth pain, or sore gums. That's because being in space makes them more likely to develop a cavity or gum disease! You can watch for any changes to your teeth and gums at home, too. Be sure to let your parents know if you notice anything different.



### Break out your sunglasses

If you're in outer space or at the beach, it's important to take care of your eyes! Bright light from the sun can cause eye pain and other problems. To protect their vision, astronauts use special sunglasses and helmet visors that block out extra sunlight and radiation.



### Use a special toothpaste

Astronauts use a unique toothpaste that is safe to swallow. Why? There aren't any sinks on a spaceship, which means they can't spit out the toothpaste after brushing. Instead, they swallow it — yuck! You should never swallow toothpaste at home. It can cause an upset tummy.



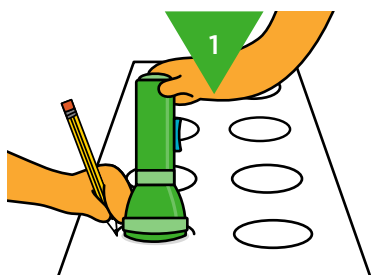
# Flashlight constellations

Back when Bitsy was in the classroom, she used to look at the stars and wonder what was out there. Now, she's traveling to them! Ask a grown-up to help find the items listed below. Then, make your own constellations.

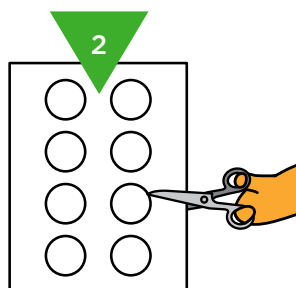
## HERE'S WHAT YOU NEED

- Tape
- Scissors
- A flashlight
- Sheets of black construction paper
- A pen, pencil, or hole punch

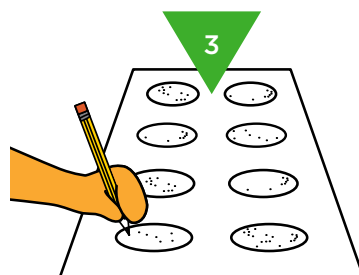
## HERE'S HOW TO MAKE IT



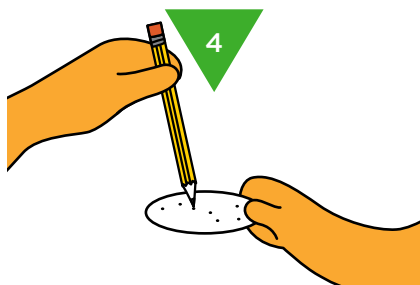
Place the flashlight face down on the construction paper and trace around it. Repeat several times to make multiple circles.



Use scissors to cut out the circles.



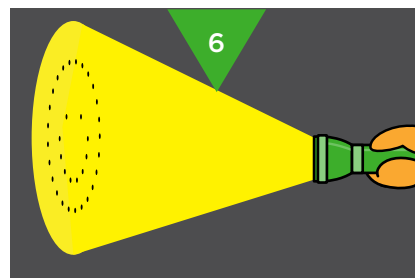
Copy the constellation patterns below onto your circles (or create your own). You may need to make the pattern bigger or smaller, depending on the size of your flashlight.



After adding the patterns to your circles, punch holes in each dot with a pen, pencil, or hole punch.

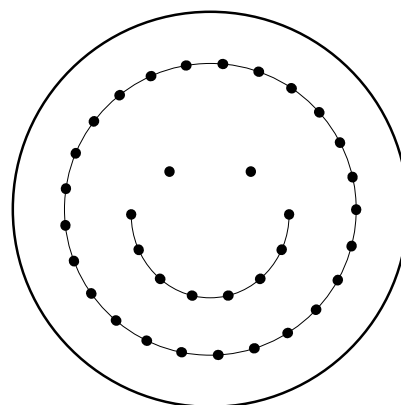
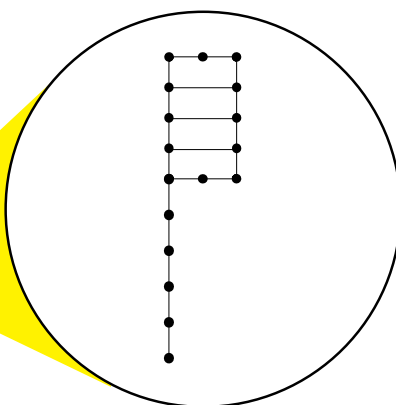
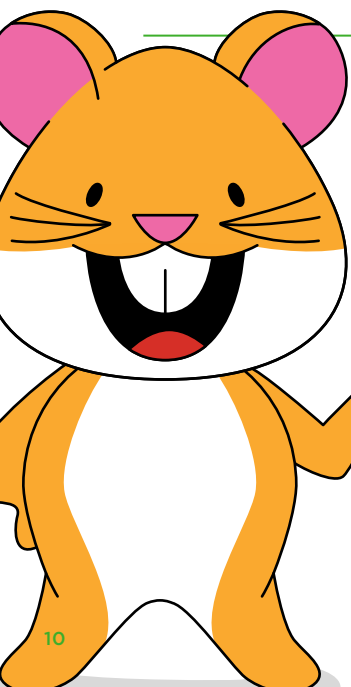


Tape your constellation to the top of the flashlight, in front of the light.



Find a dark room or wait until it is dark outside, then shine your flashlight on a wall or ceiling to see your constellation.

## EXAMPLE CONSTELLATIONS



# Phases of the moon

Bitsy looked out the window of her rocket ship and couldn't believe it — she was passing the moon! At home in her classroom, she used to love looking out the window tracking the phases of the moon in the night sky.

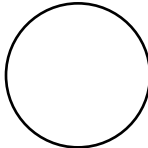
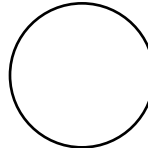
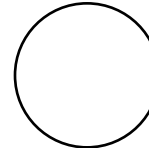
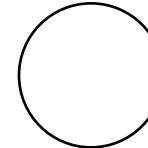
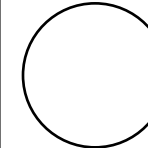
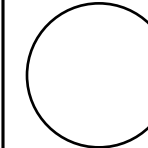
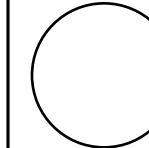
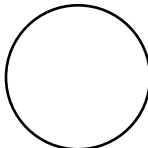
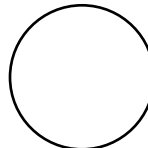
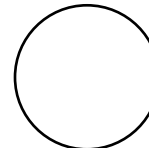
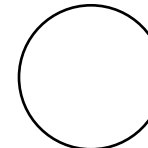
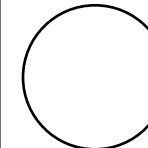
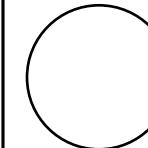
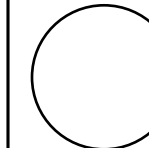
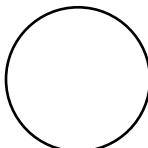
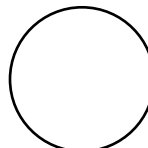
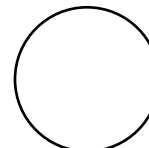
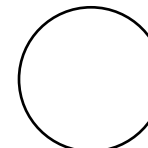
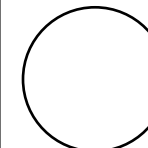
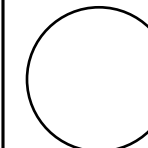
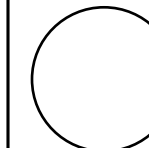
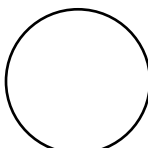
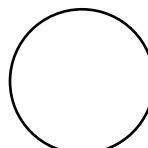
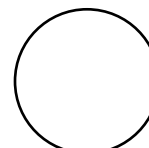
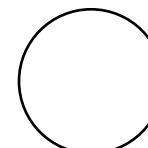
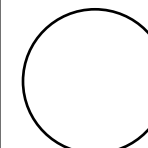
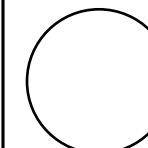
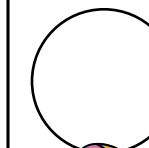


## The phases of the moon

At night, we can see the moon because light from the sun is bouncing off it. When more light is bouncing off the moon, it looks big and round. And when less light is bouncing off the moon, it can look like a tiny sliver in the sky — or we can't see it at all!

Use this tracker to look up at the moon each night and draw what you see, just like Bitsy did:

Date observations started: \_\_\_\_\_ Time to check the moon each night: \_\_\_\_\_

### The phases of your smile

Your oral health goes through different stages, just like the moon changes in the sky! From teething to baby teeth to permanent teeth, your oral health will continue to change over time. Just make sure you keep brushing, flossing, and visiting the dentist regularly.

### The phases of your health

It's not just your smile — your overall health and vision health develop over time, too. For example, babies can't see all colors until they are 6 months old.



# Planet fun facts

As Bitsy rocketed through the stars, she passed by each planet in the solar system, amazed by all of them.

**Mercury** is the planet closest to the sun. It orbits the sun very fast! On Mercury, a year is just 88 days long.

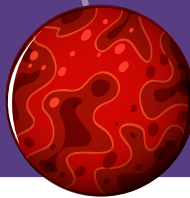


Bitsy passed **Earth** again, making sure she waved to her friends back home.

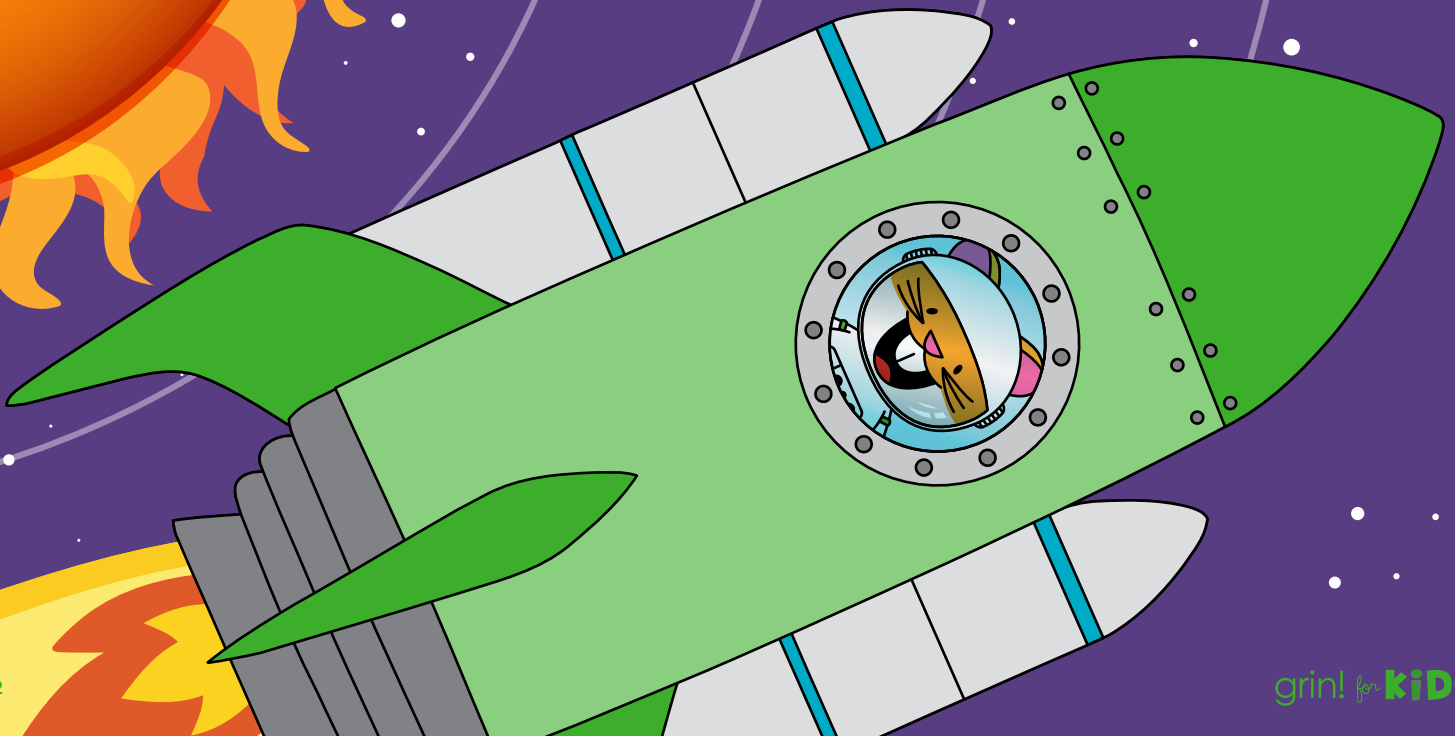


When you're outside in hot weather, remember to drink lots of water and ask a grown-up to help you apply sunscreen and lip balm. That way, the sun won't chap your lips or burn your skin.

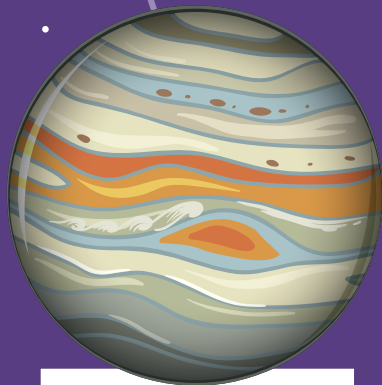
**Venus** is the hottest planet in the solar system. It has temperatures up to 880° F. Yikes!



On **Mars**, Bitsy took a short detour to see the Olympic Mons, the tallest known mountain in the solar system. It's almost three times taller than Mount Everest.

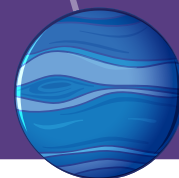
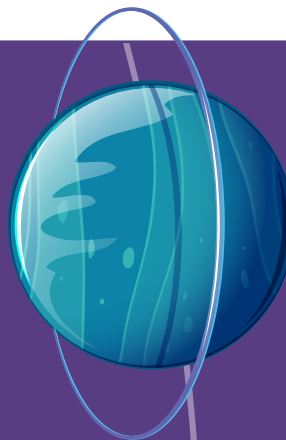


There was a loooooong stretch of space until the next group of planets. To pass the time, Bitsy made some freeze-dried fruit kabob rockets as a smile-friendly snack (see the recipe using fresh fruit on page 17).



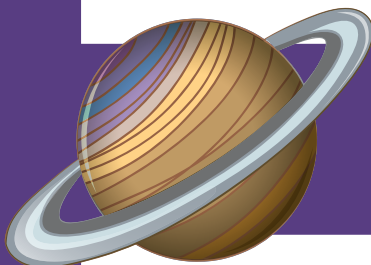
**Jupiter** is a huge planet made of gas. Jupiter is two and a half times bigger than every other planet in the solar system put together!

**Uranus**, unlike Mercury, moves very slowly around the sun. One year there is 84 years on Earth.

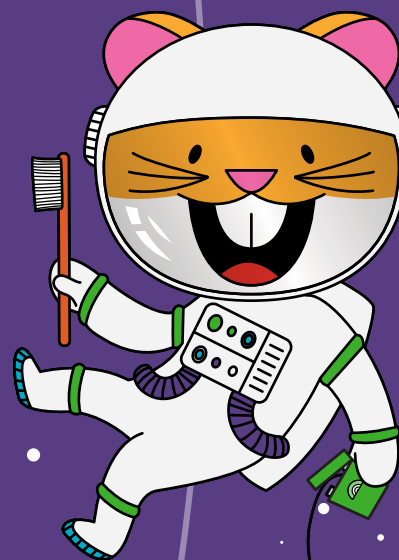


Finally Bitsy reached the final known planet in the solar system, another gas giant called **Neptune**.

**Saturn** followed, with enormous rings that circled the entire planet.



Saturn's rings looked like they were protecting the planet — kind of like how a mouth guard or a helmet with a facemask protects your teeth and jaw when you play sports.



Even though Pluto isn't a planet anymore, some scientists believe there is evidence for a ninth planet in our solar system. We still have a lot to learn about outer space!

Just like researchers look for new information about outer space, dentists look for new and better ways to care for your teeth. This includes new tools, like dental lasers, and improving older tools. For example, braces are now more comfortable and straighten your teeth faster than they ever have before.

# Spaceship repair

After Bitsy passed Neptune and left our solar system, she noticed her rocket ship making some weird noises. Time for repairs!

Bitsy pulled into an alien repair shop full of things she'd never seen before (and a few familiar oral health items). She couldn't wait to explore while she waited for her ship to be fixed. Help her find the following items while she waits:

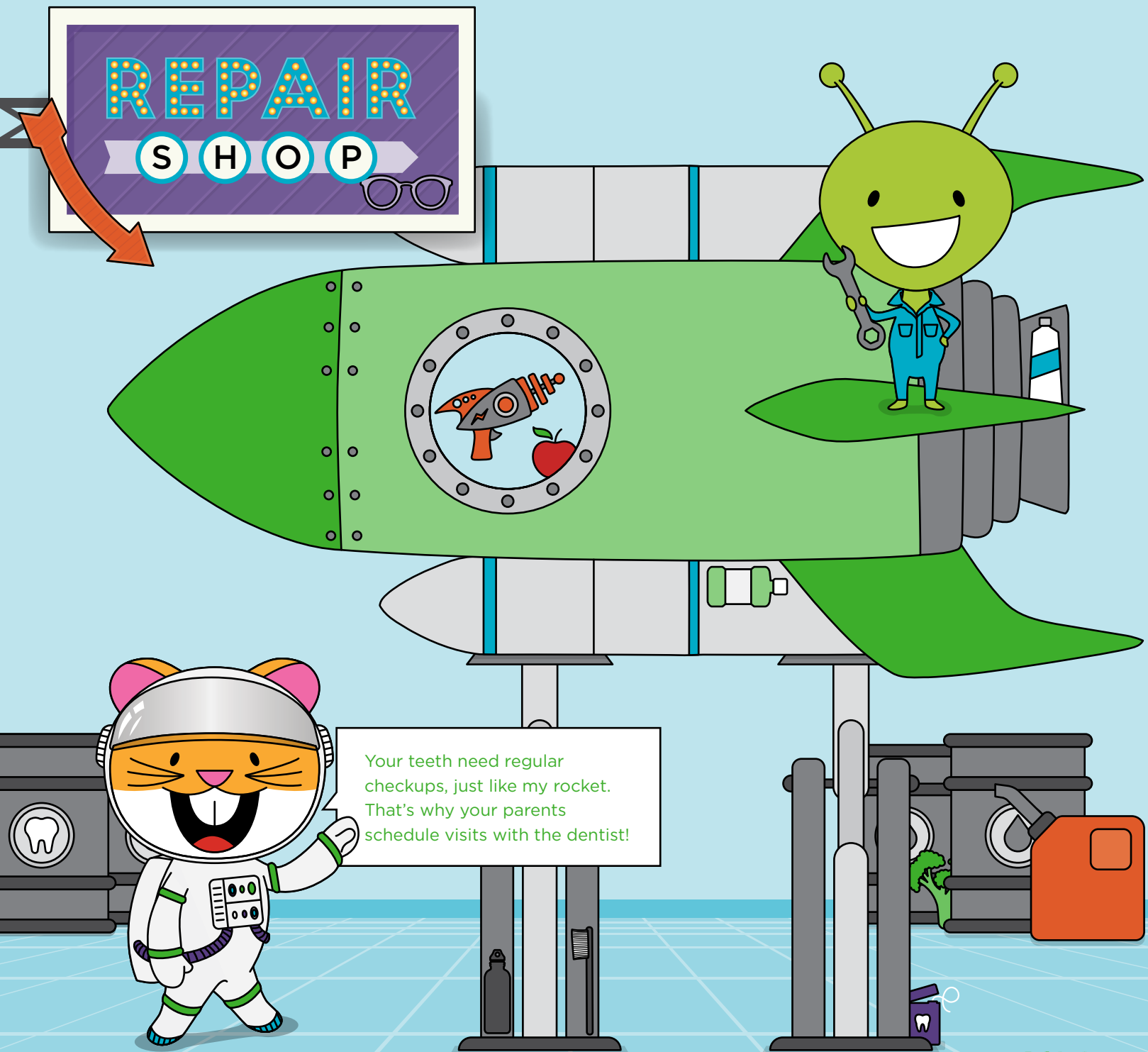
Alien  
Apple  
Bitsy

Broccoli  
Eyeglasses  
Floss

Mouth guard  
Mouthwash  
Ray gun

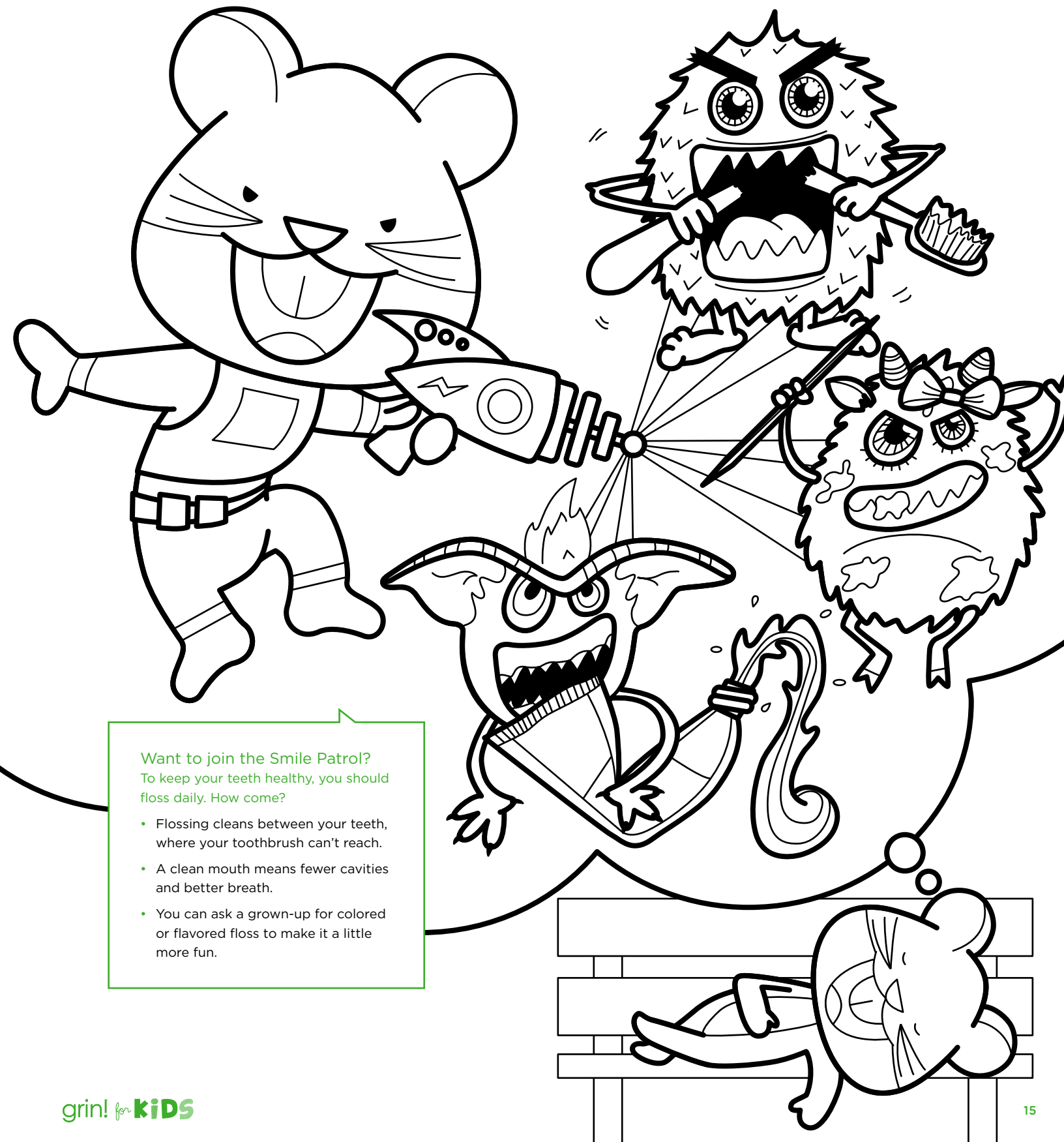
Spaceship fuel  
Tooth  
Toothpaste

Toothbrush  
Water bottle  
Wrench



# Commander Floss vs. the Cavity Creatures

While Bitsy waited for the repairs, she sat down on a bench and took a nap. She loved space so much, she even dreamed about it! In her dreams, she wasn't Bitsy. She was Commander Floss of the elite Smile Patrol, and her mission was to defeat the Cavity Creatures from Planet Plaque. Can you add a little color to her adventure?



**Want to join the Smile Patrol?**  
To keep your teeth healthy, you should floss daily. How come?

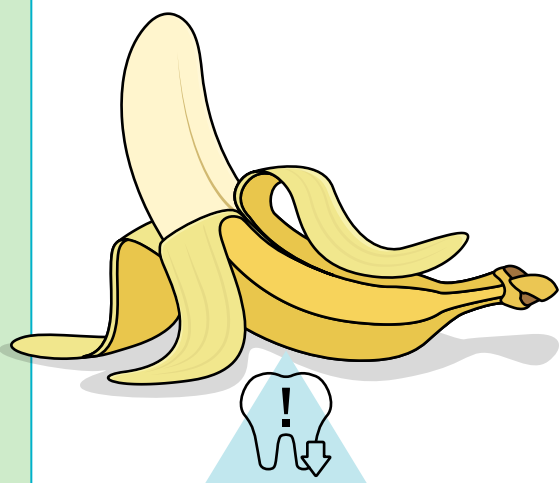
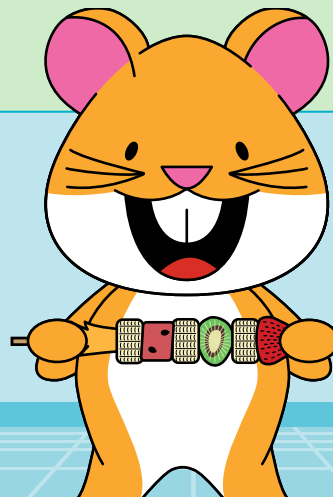
- Flossing cleans between your teeth, where your toothbrush can't reach.
- A clean mouth means fewer cavities and better breath.
- You can ask a grown-up for colored or flavored floss to make it a little more fun.



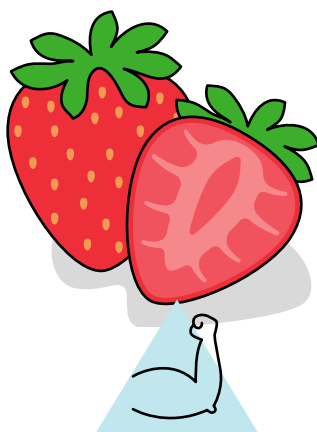


## Nutrition that's out of this world

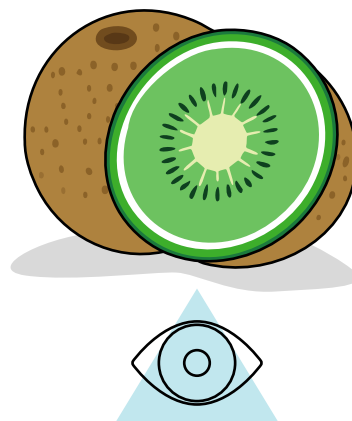
Want to eat fresh, tasty foods that also keep your smile strong and healthy? Make these fruits the star of your next snack time:



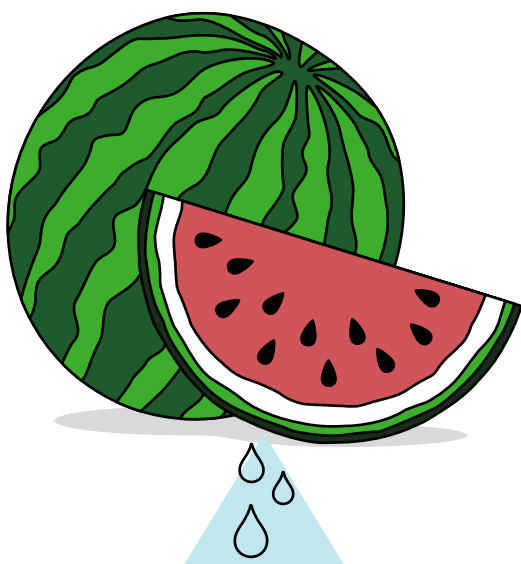
**Bananas** are a good source of potassium that helps strengthen tooth enamel and reduce gum sensitivity.



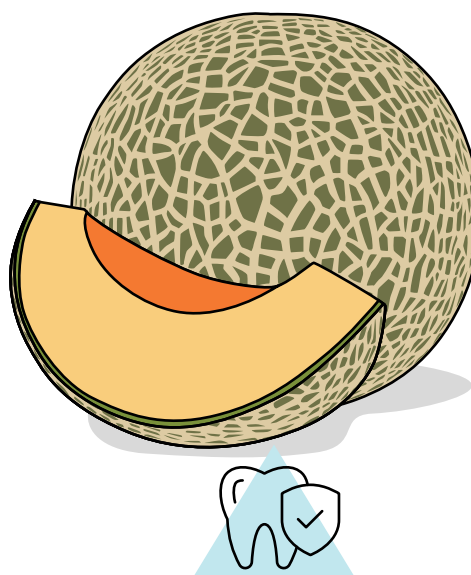
**Strawberries** and other berries are packed with vitamin C, which is important for strong gums and eyes.



**Kiwis** have calcium for strong teeth and vitamin A for healthy eyes.

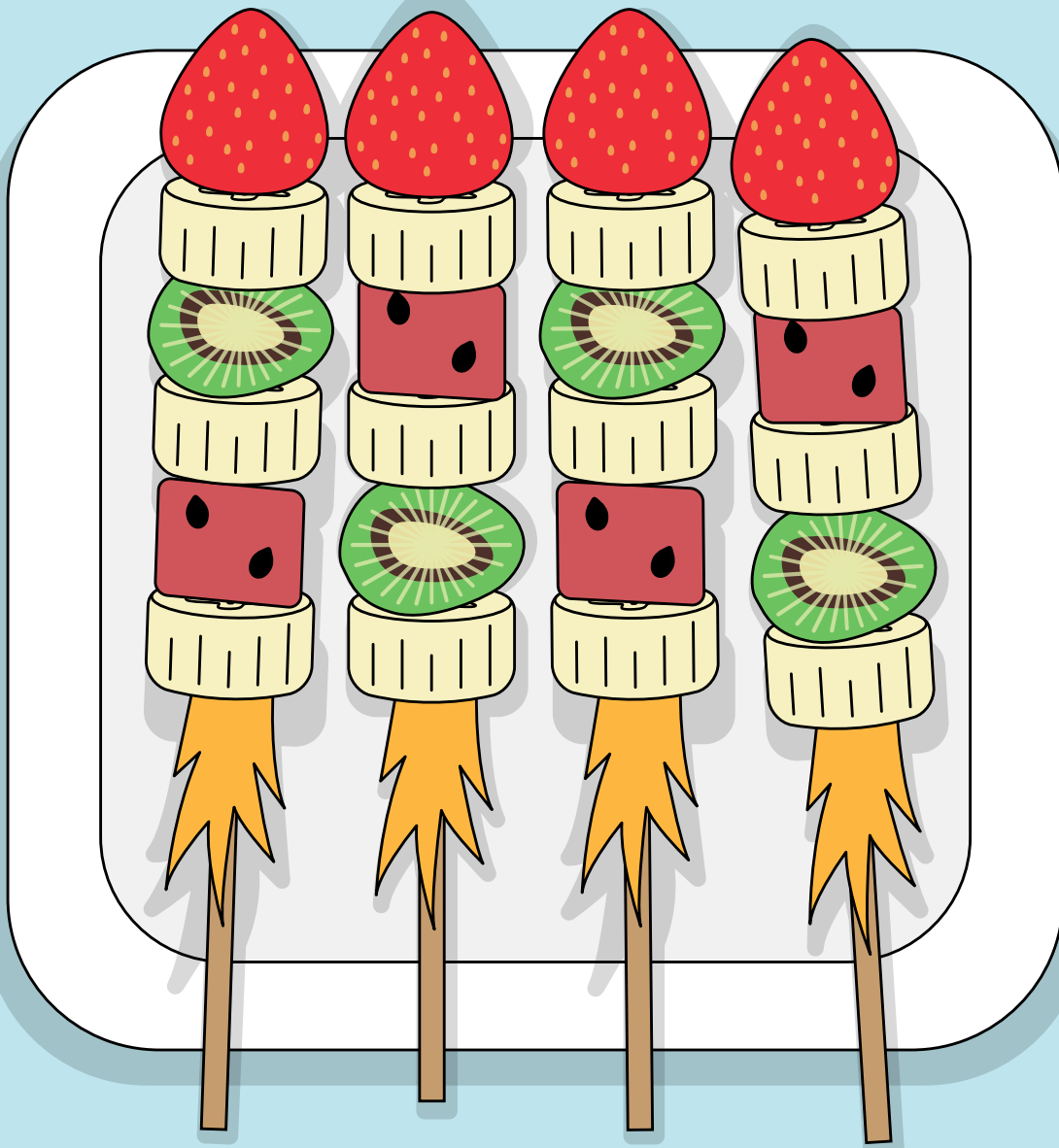


**Watermelons** boost saliva production, which helps keep your mouth clean.



**Cantaloupe** is another good source of vitamin C. It also has less natural acid than many fruits, so it won't damage your teeth.





## Fruit kabob rockets

Explore the universe — and the oral, vision, and overall health benefits of different fruits — with these stellar fruit kabob rockets!

### INGREDIENTS:

- Fresh fruit of your choice, enough to fill at least 3-4 skewers  
*Note: Can make a fresh veggie kabob if you prefer*
- Disposable skewers

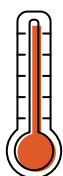
### DIRECTIONS:

- 1 Ask a grown-up for help.
- 2 Wash the fruit (if needed).
- 3 Have a grown-up help you slice the fruit.
- 4 With their help, slide the fruit onto the skewer.
- 5 Start with the biggest pieces of fruit first, so they're at the bottom of the rocket (skewer).
- 6 Keep going until you fill the skewer and complete your rocket.
- 7 Enjoy your snack! Be sure you pull the fruit off the kabob to eat it and don't put the sharp skewer in your mouth.

# How does the sun heat the Earth?

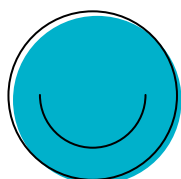
At this point in Bitsy's journey, the sun was just a tiny dot in the background. It was hard to even find it among the other stars. This made her wonder — how does the sun keep the Earth warm?

## How does the sun help us?



### It keeps Earth warm.

Without the sun, our planet would be too cold for plants or animals to survive.



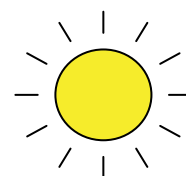
### It helps your smile.

Vitamin D from the sun helps your body absorb calcium for stronger teeth. Time in the sun can also put you in a better mood.



### It feeds plants.

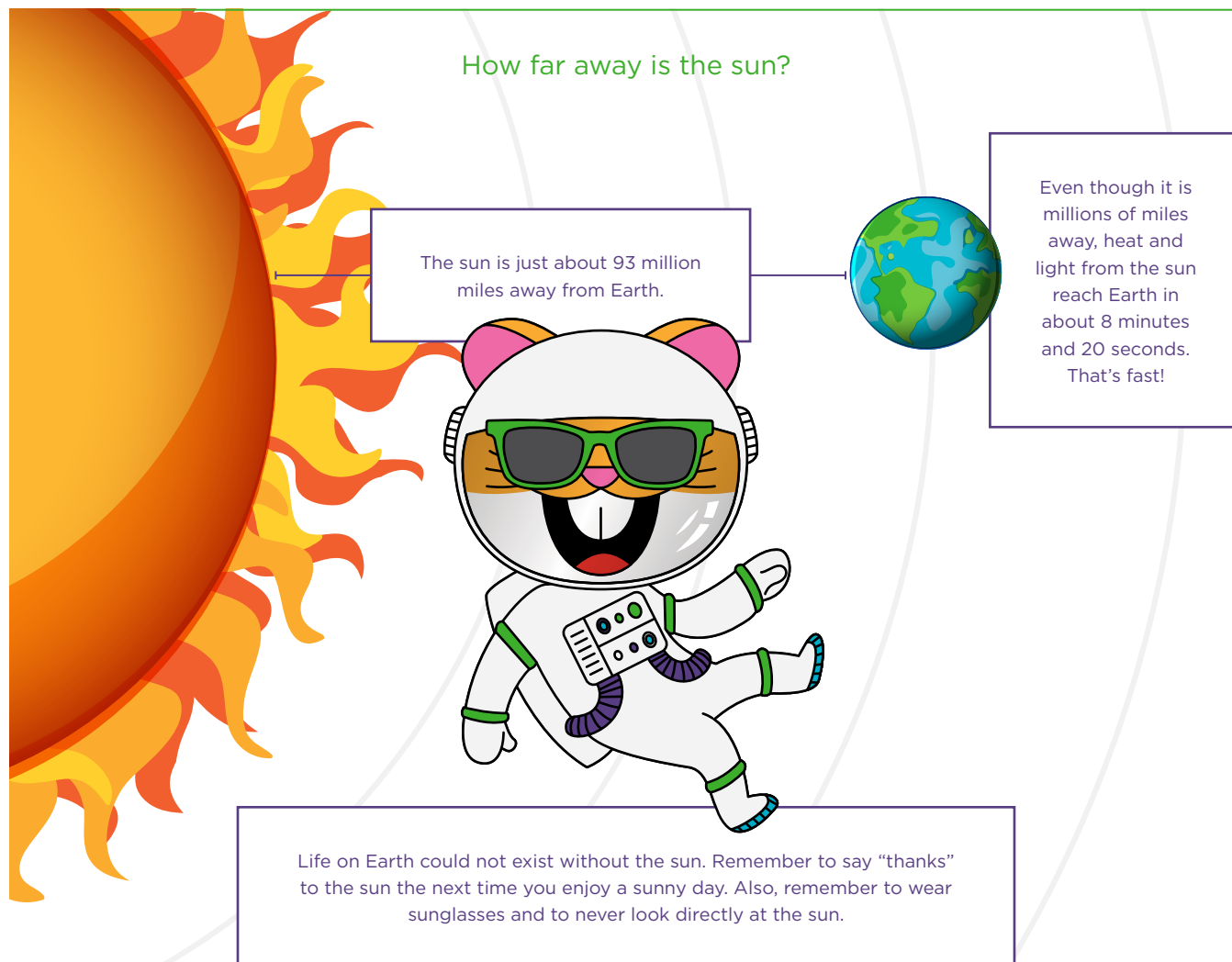
Plants use sunlight to make food through a process called photosynthesis.



### It gives us daylight.

The sun lights up the sky so we can see and play outside. And at night, the moon is simply reflecting the sun's light from space.

## How far away is the sun?



## Write a letter from space

Bitsy spent a few more days exploring the galaxy, but she really missed her friends back home. One day, she decided to write them a letter! Can you help her finish the message? Fill out this mad lib using silly ideas and words to help Bitsy share her amazing outer space adventure!

Hello! I miss you all very much. You wouldn't believe the things I've seen in outer space. Right now, I'm halfway across the galaxy!

The other day, I stopped for \_\_\_\_\_ on a planet with lots of \_\_\_\_\_. The creatures who  
lived on the planet had \_\_\_\_\_ eyes and \_\_\_\_\_ legs. I shared my food with them. They  
loved \_\_\_\_\_s and \_\_\_\_\_s!

But while we were eating, I noticed my \_\_\_\_\_ and \_\_\_\_\_ were missing. I didn't want  
the aliens to think my breath smelled like \_\_\_\_\_, so I had to get them back.

I followed some \_\_\_\_\_ tracks that led away from my rocket. Eventually, I found a group of huge  
alien \_\_\_\_\_. Their fur was \_\_\_\_\_ and their eyes glowed \_\_\_\_\_.

At first, I was \_\_\_\_\_, but then I noticed the aliens' teeth — they were covered in \_\_\_\_\_.

They didn't want to hurt me, they just wanted fresher breath. Whew!

I gave them extra \_\_\_\_\_s and \_\_\_\_\_s from my rocket. Before I took off, we all gave each other big, healthy smiles.

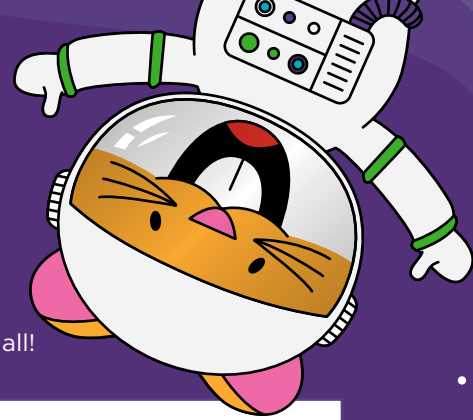
That was just one day of my trip. It's pretty crazy out here. But I can't wait to see you all soon!

Love,  
Bitsy



# Imagining alien teeth

Bitsy knew if she continued to explore, she'd meet all sorts of cool and unique alien creatures. If you met an alien, what kind of teeth do you think it would have? Would it have super-sharp fangs or big, flat molars? Maybe it wouldn't have teeth at all!



There are researchers and scientists who think about what alien life might be like as part of their jobs. They know that aliens could evolve many different ways. But when it comes to teeth, two things matter:

1

The type of planet the alien lives on

2

The type of food the alien eats

With that in mind, let's imagine what a few alien creatures might look like!



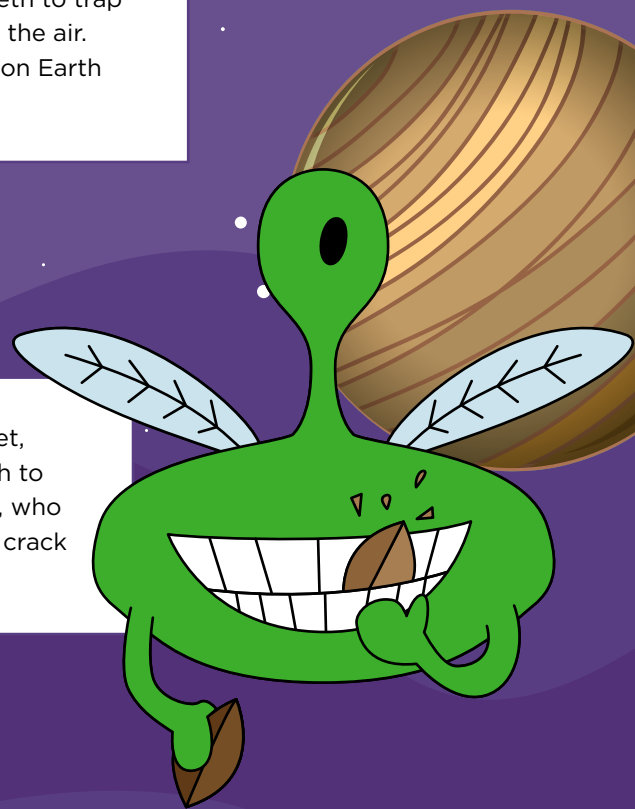
On a water-covered planet, aliens might have sharp, pointy teeth to catch slippery fish. (Just like sharks!)



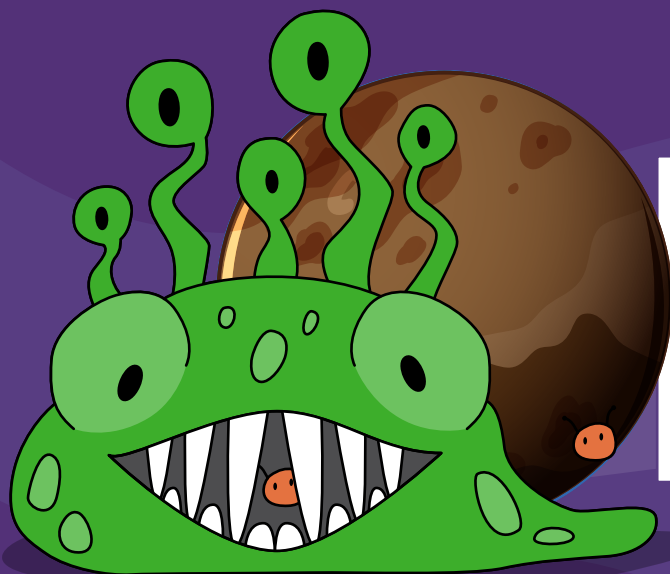
Aliens on a forest planet with thick, tough plants would need flat, grinding teeth to chew through tough leaves. (Just like cows and giraffes on Earth.)



On a planet with low-gravity, aliens could have long, thin teeth to trap food that drifts through the air. (Some ocean creatures on Earth eat this way.)



In the heat of a desert planet, aliens might have hard teeth to crush dry seeds. (Like Bitsy, who uses her teeth to chew and crack hard foods.)



Predators on a swampy planet could have wide, scoop-shaped teeth to filter out tiny creatures from muddy water. (Some whales eat this way, by sucking in lots of ocean water and using their "teeth" to filter out anything that isn't food.)

If life existed on a gas-filled planet, the floating aliens there might have no teeth at all or soft, sponge-like teeth to absorb nutrients from the air. (Sea sponges eat this way, by absorbing food from the water around them instead of biting and chewing.)



# Build a rocket at home

Want to join Bitsy on her next journey? Get ready to travel to outer space by creating your own unique rocket ship.

## HERE'S WHAT YOU NEED

- Paper
- Scissors
- Tape and/or glue
- Colored pencils, pens, or markers
- Decorative items like rubber bands, straws, cotton balls or swabs, glitter, stickers, etc.
- Something for the body of the rocket: an empty plastic bottle, plastic cup, milk carton, or small cardboard box



## HERE'S HOW TO MAKE IT

1

Ask a grown-up for help with the project.

2

Use scissors to cut the paper and tape or glue it around the body of your rocket.

3

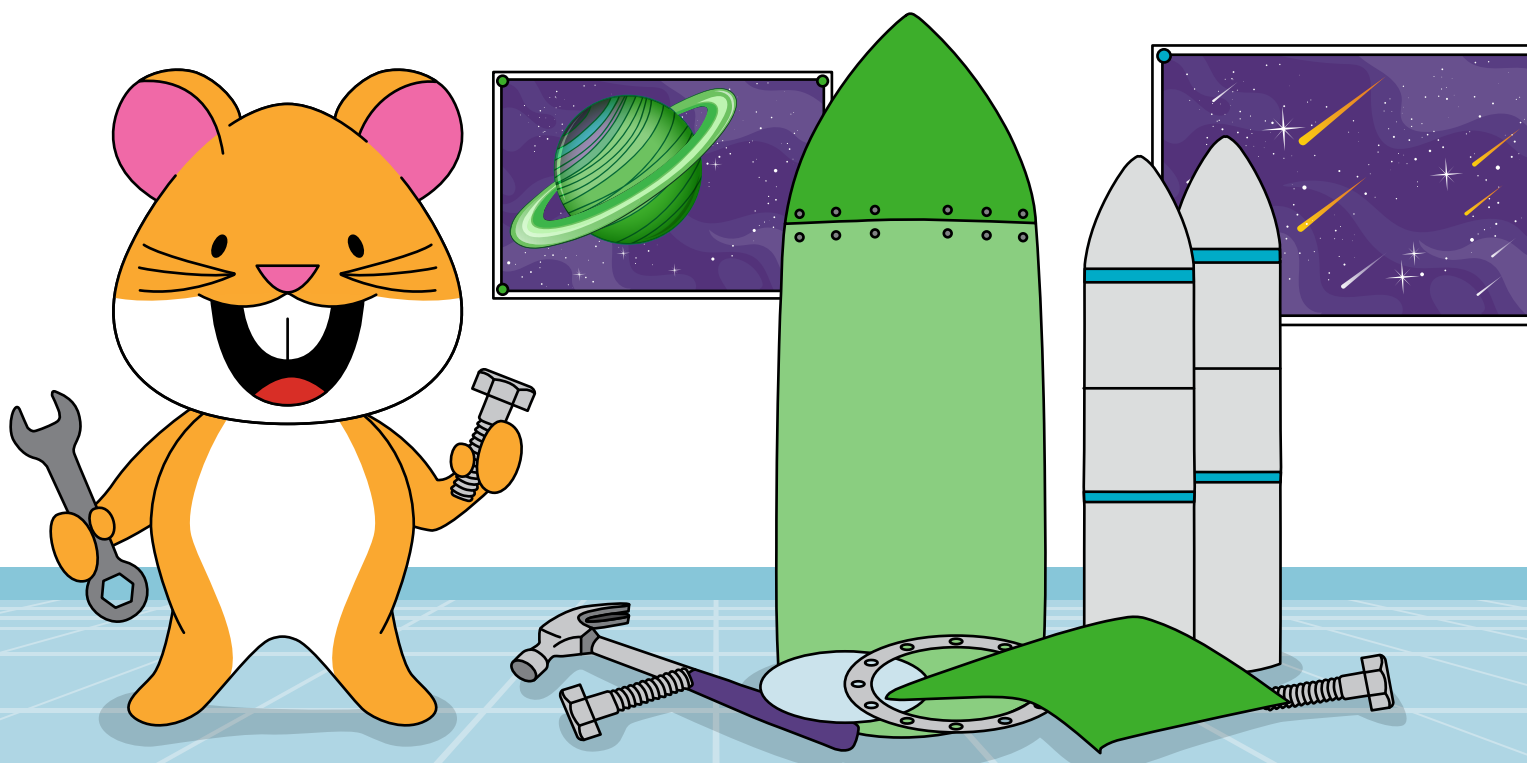
Create a design or color your rocket with the colored pencils, pens, or markers.

4

Decorate your rocket ship using your imagination and other materials.

5

Get ready to explore the solar system!





# Get home to Earth!

Bitsy lived her dream of going into space and loved it. But now she's ready to return home and see all her friends. Can you guide her through all the obstacles floating in outer space and help her get back to her classroom?



