



Museum of Science.



Families  
and STEM Events



# Engineering on the Go: I Spy Technologies



# I Spy Technologies



Welcome to **I Spy Technologies**, a version of the classic guessing game I Spy. In this activity, one player spies a technology and other players try to guess what it is. Spying and guessing as a family are great ways to have conversations about technology and the human-made world.

## DID YOU KNOW?

A **technology** is anything designed by a person to help solve a problem or meet a need. It does not need to have a battery or use electricity! **Engineers** are people who figure out how to make technologies.

# How to Play



1. Find a group of at least two players.
2. Find the card for the location you are in. Read the clues to yourself.
3. Look around you. Find a technology that fits with one of the clues. Read the clue out loud to the other players.
4. Other players should try to guess the technology by asking questions.
5. A correct guess starts the game over. Now it's someone else's turn to Spy Technologies!

# Kitchen



**I spy a technology that helps people...**

- cut food.
- cook food.
- store food.
- clean the kitchen.

## GO FURTHER

There are lots of technologies in the kitchen. Can you find something that is not a technology? How do you know?

## Dining Room



**I spy a technology that helps people . . .**

- eat or drink.
- decorate the room.
- keep the table clean.
- see when it's dark.

### **GO FURTHER**

What are utensils, plates and bowls made out of? What makes these materials good or bad for this use?

## Living Room



**I spy a technology that helps people . . .**

- sit.
- stay warm.
- entertain themselves.
- keep things organized.

### **GO FURTHER**

Describe a robot that could dust and vacuum the floor. What would its shape and size need to be?

## Bedroom



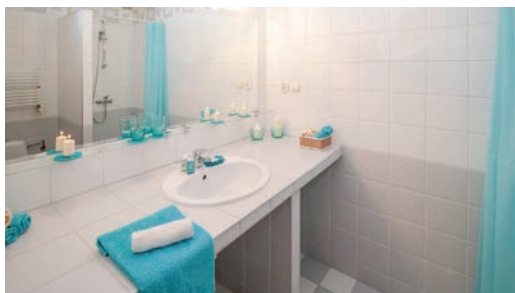
**I spy a technology that helps people . . .**

- sleep.
- stay warm.
- make the room brighter.
- keep clothes or shoes organized.

### **GO FURTHER**

What are technologies that let people sleep in places besides a bedroom?  
At school? While traveling?

# Bathroom



**I spy a technology that helps people . . .**

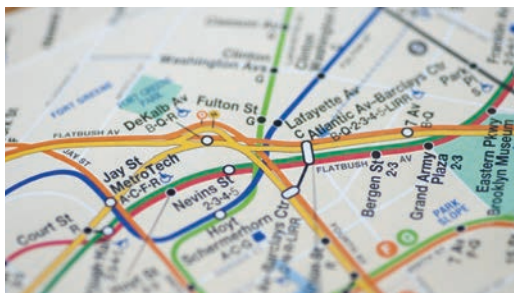
- see themselves.
- keep things or people dry.
- smell good.
- have privacy.

## **GO FURTHER**

Have you noticed differences in bathrooms in different places? What might explain these differences?



# Make the Game Harder



If the game is too easy, try the challenges below. You can try them in any location:

1. Choose technologies that are small or hard to see.
2. Choose technologies that are systems. A system is a group of parts that work together to meet a goal. For example, subway cars and tracks make up a subway system.
3. Choose technologies that are processes. A process is a series of actions or steps leading to a result or goal. For example, a cooking recipe is a process.

# Airplane



**I spy a technology that helps people . . .**

- feel comfortable in their seats.
- call for help.
- stay safe.
- entertain themselves.

## **GO FURTHER**

What would be different about traveling on a rocket instead of an airplane?

# Airport, Bus Stop, Train Station



## I spy a technology that helps people . . .

- find out departure or arrival times.
- move around the airport or station.
- buy tickets.
- wait comfortably.

### GO FURTHER

Notice the materials used to build the station or airport. Why do you think engineers chose those materials?

# Bus, Car, Train, Other Vehicle



**I spy a technology that  
helps people . . .**

- store items.
- see when it's dark out.
- drive the vehicle.
- get in and out of the vehicle.

## **GO FURTHER**

What are the advantages and disadvantages of cars that drive themselves?

# Amusement Park



**I spy a technology that helps people . . .**

- buy tickets.
- find their way around the park.
- know if they can go on a ride.
- go in and out of the park.

## **GO FURTHER**

Imagine a new roller coaster ride.  
What would the seats look like?  
What would the track look like?

## Doctor's Office



**I spy a technology that helps people . . .**

- move around the building.
- give someone a check-up.
- record information.
- feel entertained.

### **GO FURTHER**

What are technologies that help people who can't walk on their own?

## Drugstore or Pharmacy



**I spy a technology that helps people . . .**

- find out which aisle their item is in.
- clean their teeth.
- feel better when they are sick.
- put makeup on.

### **GO FURTHER**

Packages are a type of technology. How many different kinds of packages can you find in the drugstore?

# Is It Technology?



Sometimes, players might disagree about whether a certain thing is technology. This is okay! Ask the following questions:

- Did someone design it?
- Does it help solve a problem?

If the answer to both questions is YES, it is probably a technology. If the answer to both questions is NO, it is probably not a technology.

If one answer is YES and one is NO, or if you cannot agree about the answers, that is a good chance to have a conversation!



# Grocery Store



**I spy a technology that helps people . . .**

- move items around the store.
- display food.
- find items.
- carry items out of the store.

## **GO FURTHER**

Can you figure out how a conveyor belt works? Think of other places that use conveyor belts.

# Hair Salon or Barber Shop



**I spy a technology that helps people . . .**

- cut or style hair.
- keep the space clean.
- clean hair.
- see around the room.

## **GO FURTHER**

Why do salon chairs need to go up and down? Think of other technologies that go up and down.

# Library



**I spy a technology that helps people . . .**

- read.
- find a book.
- move around the library.
- learn about library events.

## **GO FURTHER**

What holds pages of a book together? Why did engineers design books like this?

# Movie Theater



**I spy a technology that helps people . . .**

- choose a movie.
- hold a snack.
- see where they are going.
- move around the theater.

## **GO FURTHER**

Why do you think the film projector is far away from the movie screen?

# Museum



**I spy a technology that helps people . . .**

- learn new things.
- display objects.
- move around the museum.
- find out about events happening in the museum.

## **GO FURTHER**

Engineers help design museums around the world. Name a few museums you've heard of or visited.

## Park



**I spy a technology that helps people . . .**

- know where they are.
- have fun.
- see when it's dark.
- eat and drink.

### **GO FURTHER**

Do you think it is important to have parks? Why or why not?

# Keep Playing



You have almost gone through all the cards. That is okay! You can still play the game wherever you are.

1. Look around you and find a technology.
2. Think of something the technology does.
3. Make up a clue about the technology. Start with “I spy a technology that helps people...”

If you play for a few minutes each day, you can make thinking about technology and engineering part of your family routine!

# Playground



**I spy a technology that helps people . . .**

- climb.
- move around the playground.
- stay out of the sun.
- stay safe.

## **GO FURTHER**

Describe a new playground ride you would design and the materials you would use to build it.



# Restaurant



**I spy a technology that helps people . . .**

- eat or drink.
- serve food or drink.
- light up the restaurant.
- decide what to order.

## **GO FURTHER**

Are some utensils better for eating certain foods than others? What foods can you eat without utensils?

# School



**I spy a technology that helps people . . .**

- write.
- read.
- organize things.
- carry items around the school.

## **GO FURTHER**

How are classrooms designed to help students learn and teachers teach?

# Sports Arena



**I spy a technology that helps people . . .**

- buy food.
- see close-ups of the game.
- stay safe.
- move around the arena.

## **GO FURTHER**

What do engineers need to consider when building an outdoor arena? An indoor one?

## Street Corner



**I spy a technology that helps people . . .**

- cross the street.
- know where they are.
- see when it's dark.
- park cars.

### **GO FURTHER**

What are challenges of having cars, bikes, and pedestrians on a street?  
What are ways to keep them all safe?

# Zoo



**I spy a technology that helps people . . .**

- stay safe.
- keep animals safe.
- know where they are going.
- learn more about animals.

## **GO FURTHER**

If you were building a zoo, how would you design it? Which animals need more or less space?

# Engineering Skills



Congratulations! By playing this game, you have practiced engineering skills like

- making detailed observations about the world around you.
- considering the uses of objects and tools.
- describing different technologies that solve a problem.
- communicating ideas and discussing questions.

You can use these skills in many other situations too!