

HALLOWEEN

ACTIVITY BOOK

NORTHEAST MAGLEV



NORTHEAST MAGLEV

At Northeast Maglev, we love Halloween as much as you do! We created this informational activity book for the 2019 spooky season so you can have fun while learning all about our train. It is meant for people of all age groups, and can be a great bonding activity for parents and their children. We would love to interact with you on social media, which you can do by tagging us in pictures and posts of your completed MAGLEV Halloween activities!

You can also visit our website for much more in-depth information on our project.

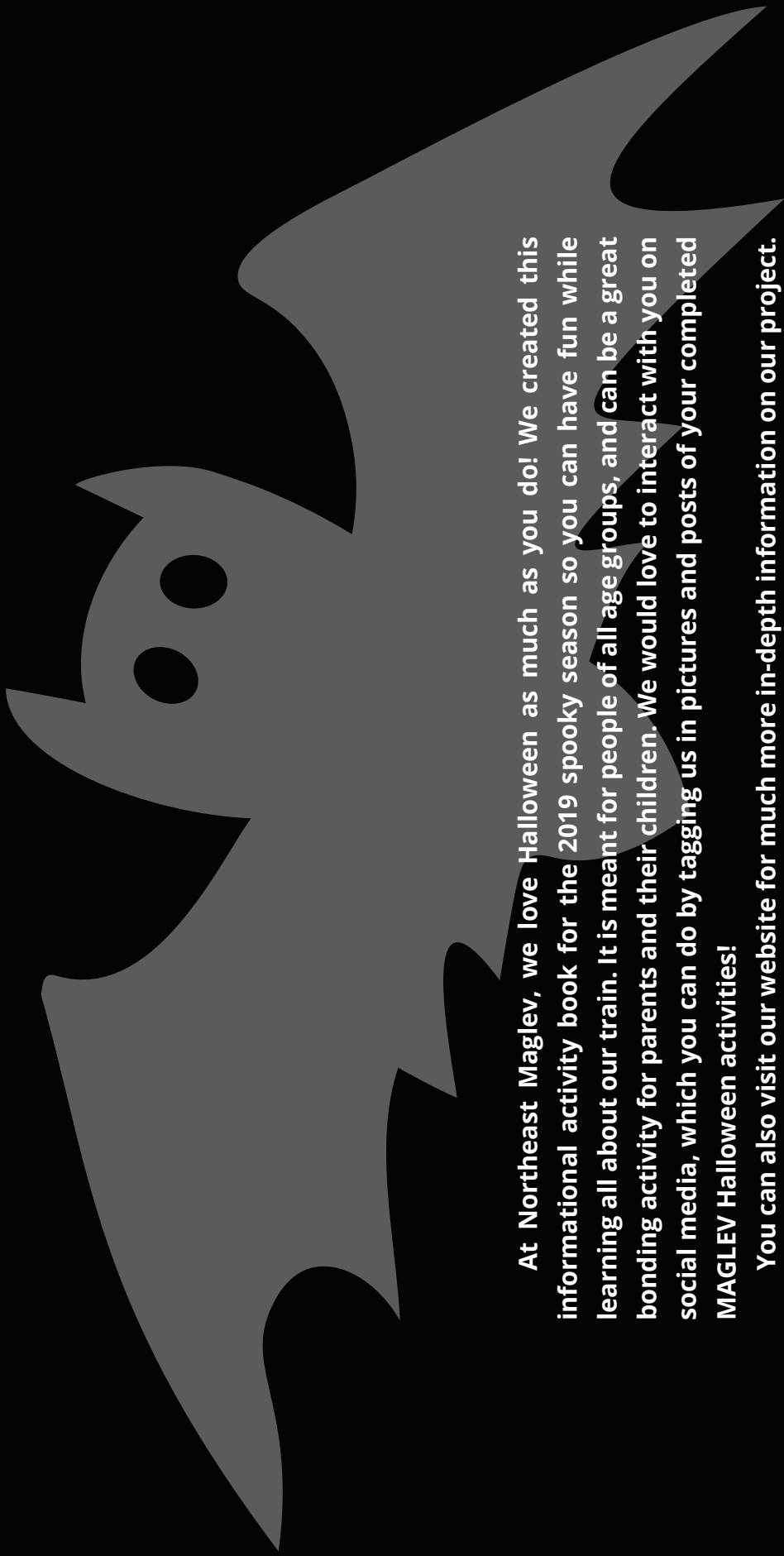


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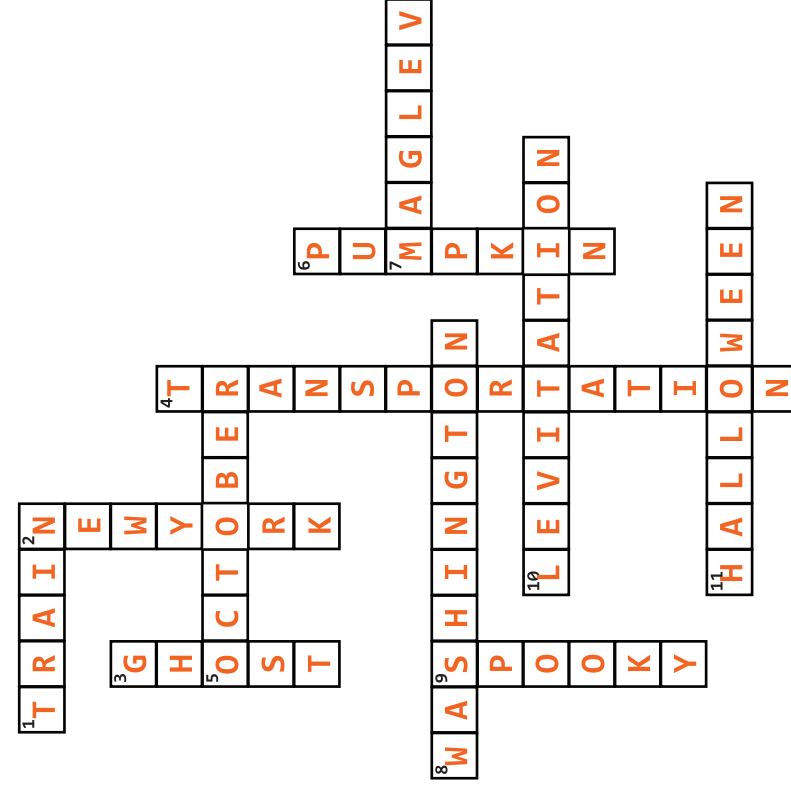
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ANSWER KEY

Crossword Puzzle

From Page 8.



Stations

From Page 17.

STATION

New York, NY

Washington, DC

Philadelphia, PA

Chicago, IL

Los Angeles, CA

Boston South Station, MA

Sacramento, CA

Baltimore, MD

Albany-Rensselaer, NY

San Diego, CA

Providence, RI

Wilmington, DE

BWI Airport, MD

Newark, NJ

Seattle, WA

Secret Message

From Page 10.

THE SUPERCONDUCTIVITY
MAGLEV TRAINS
311 MILES PER HOUR

NORTHEAST MAGLEV HALLOWEEN ACTIVITY BOOK

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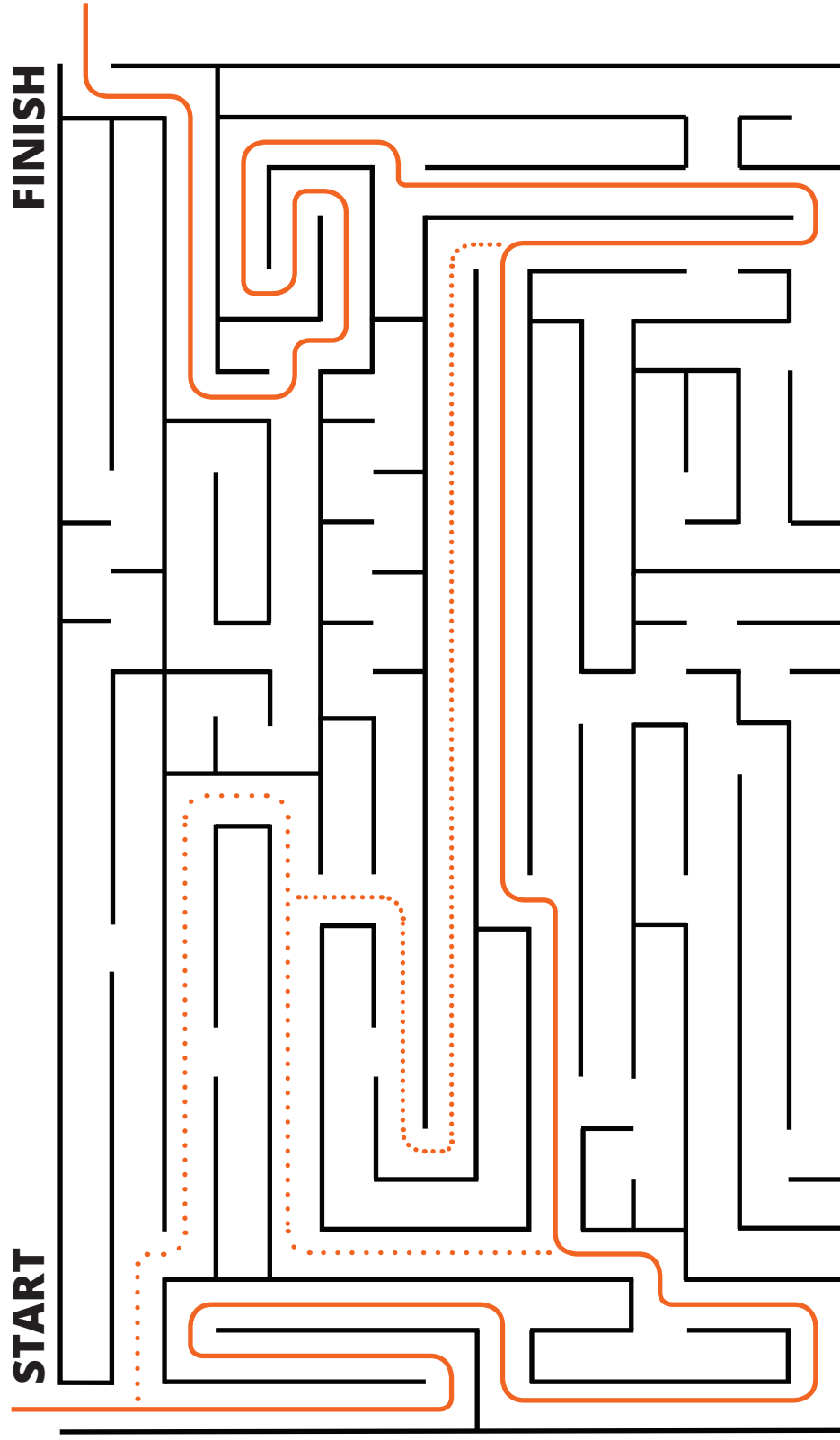
Answer Key

23-26

MAGLEV Maze

ANSWER KEY

MAGLEV Maze
From Page 7.



ANSWER KEY

MAGLEV Word Search

From Page 5.



Vocabulary Match

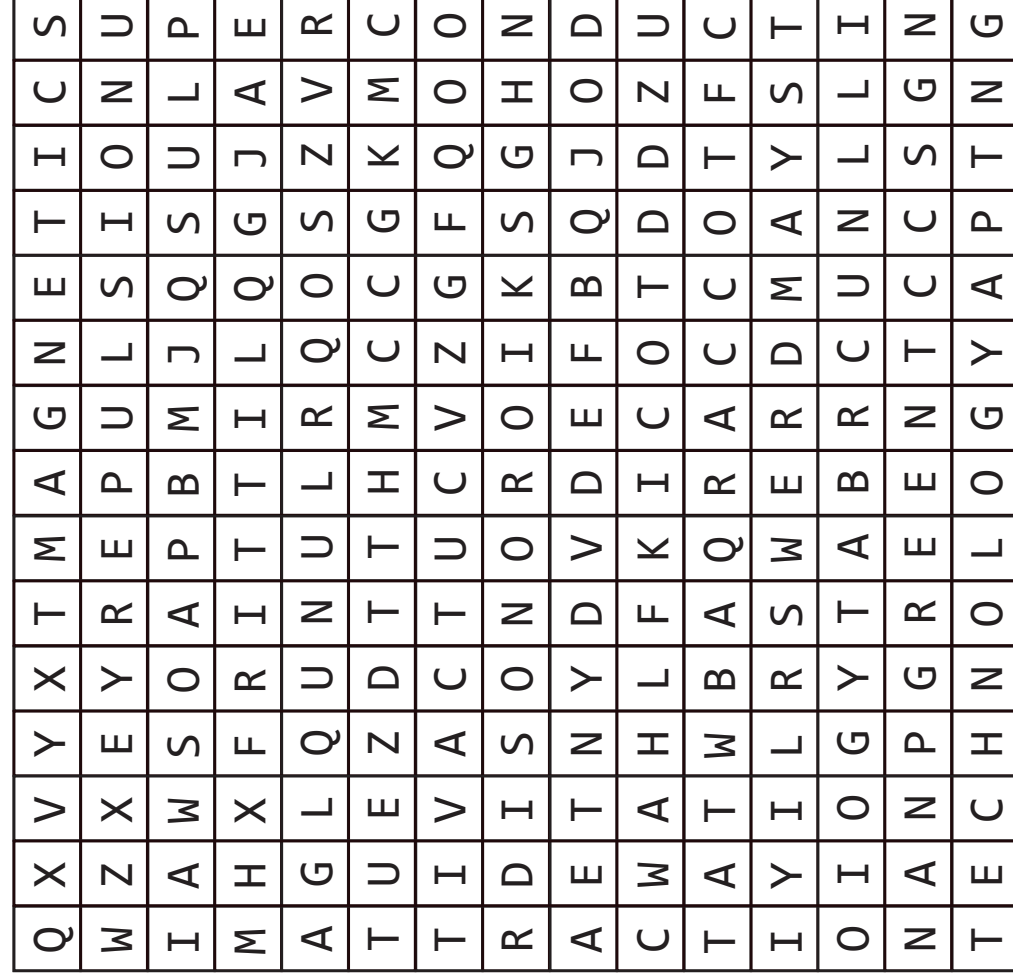
From Page 6.

K. Levitation	A. Possessing the property of zero magnetic field.
H. Magnetic	B. A groove or track along which a train travels.
I. Attraction	C. A self-propelled, connected group of passengers.
G. Fast	D. An expectation of advancement.
B. Guideway	E. The application of scientific advancement to computing.
C. Train	F. When two magnetic objects push each other apart.
D. Future	G. Moving or capable of moving.
J. Green	H. A physical phenomenon produced by attractive and repulsive forces.
A. Superconducting	I. When two magnetic objects attract each other.
F. Repulsion	J. Not just a color! It means using technology.
E. Technology	K. A method by which an object's weight is counteracted by magnetic force.

MAGLEV WORD SEARCH

Take a look at the MAGLEV vocabulary words from the list.

Find these words hiding in the grid below. Words may run horizontally, vertically, or diagonally. Circle the words when you find them, and then cross them out from the list on the right. See page 24 for the Answer Key to this activity!



MAGLEV Vocabulary Words

- Levitation
- Magnetic
- Attraction
- Fast
- Viaduct
- Train
- Future
- Green
- Superconducting
- Repulsion
- Technology
- Guideway

VOCABULARY MATCH

Match the **MAGLEV** vocabulary word with the proper definition or description.

Study the words and sentences below. Then, draw a line from each word to its correct description, or write the assigned letter for the definition next to the correct vocabulary word. **See page 24 for the Answer Key to this activity!**

MAGLEV Vocabulary Words

Levitation

Magnetic

Attraction

Fast

Guideway

Train

Future

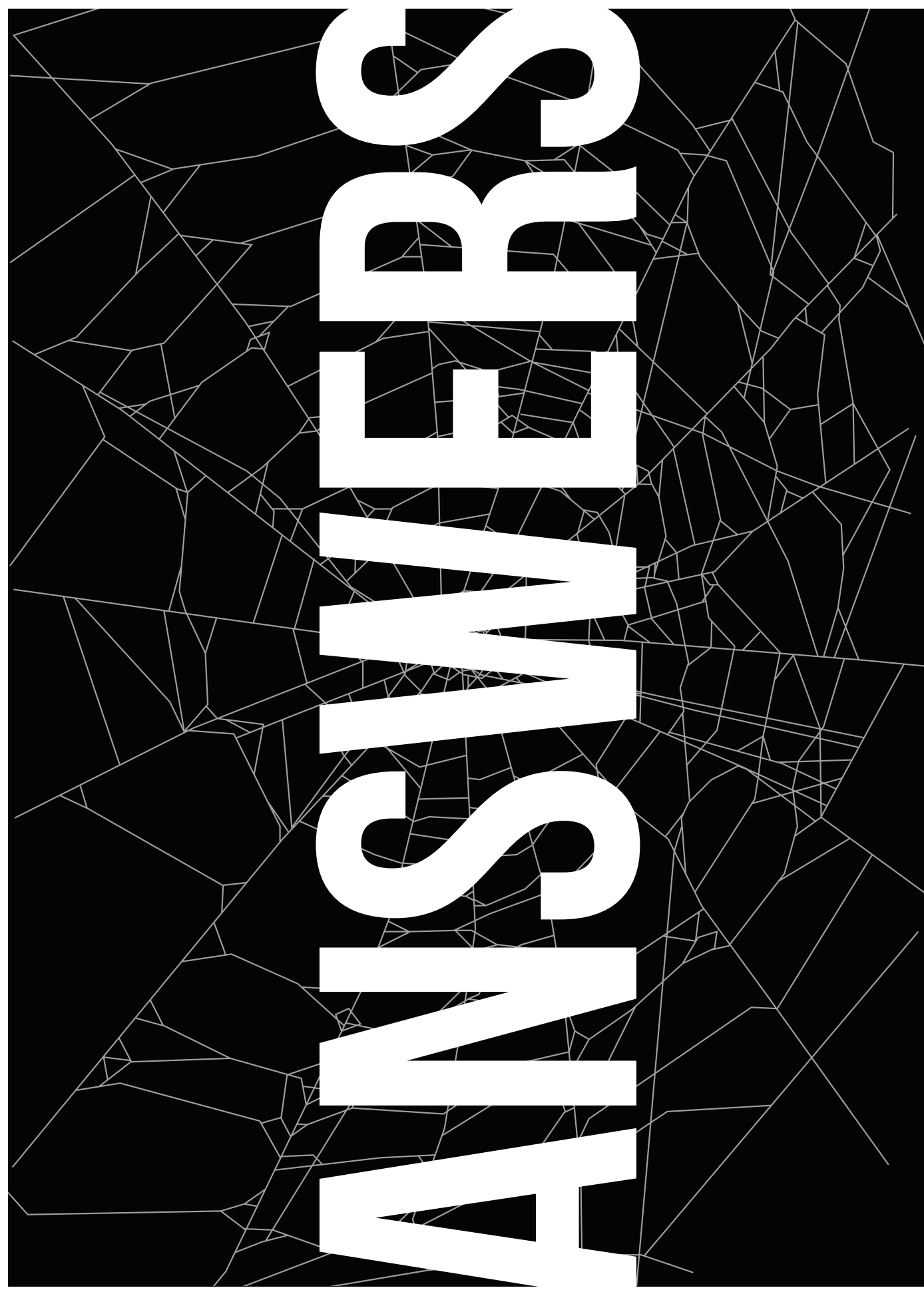
Green

Superconducting

Repulsion

Technology

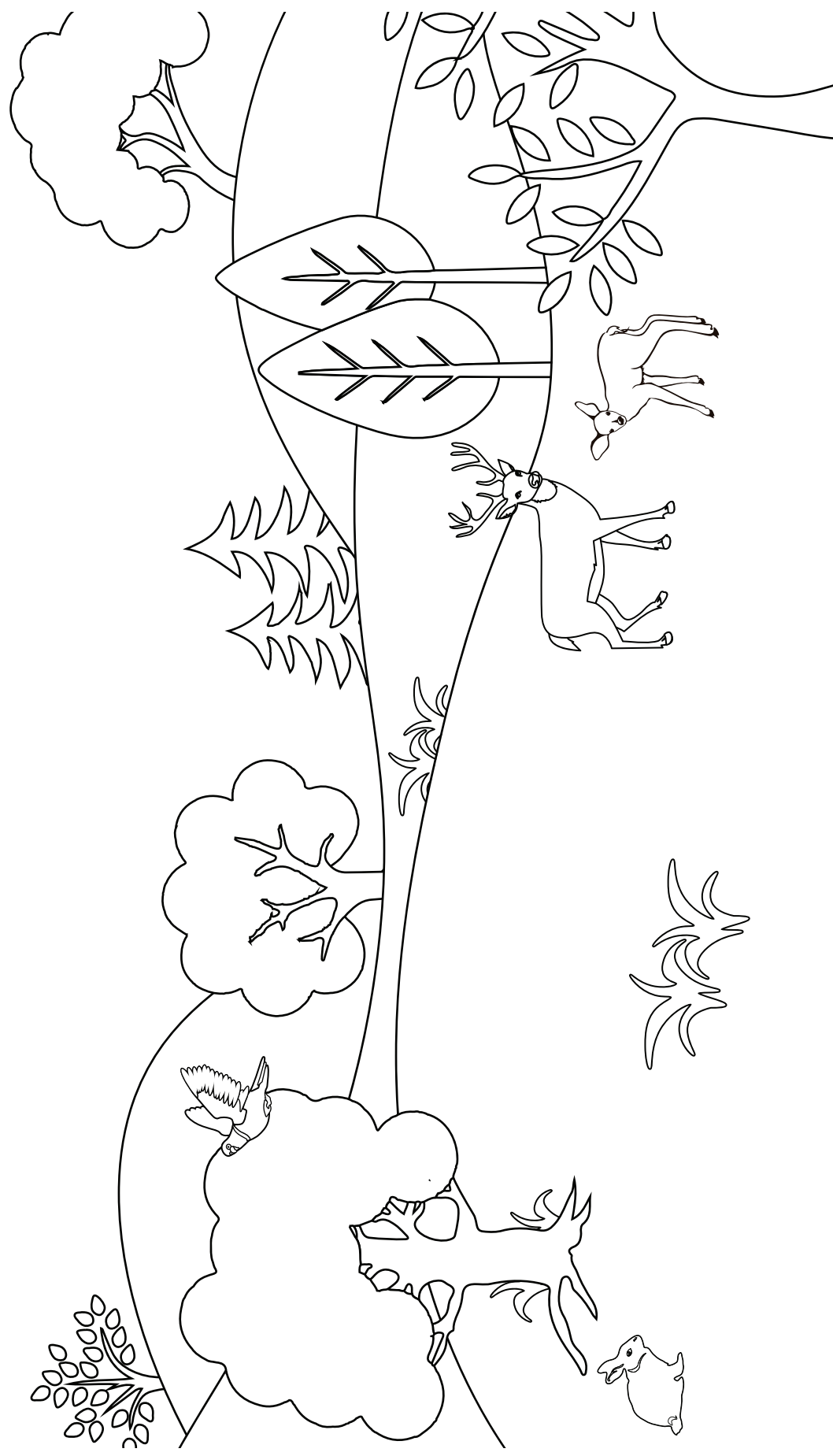
- A. Possessing the property of zero electrical resistance at very low temperatures.
- B. A groove or track along which something moves.
- C. A self-propelled, connected group of carriages used for transportation of goods or passengers.
- D. An expectation of advancement or progressive development; What is yet to be.
- E. The application of scientific knowledge for practical purposes, especially the advancement of computing, engineering, and industry.
- F. When two magnetic objects have “like” poles facing each other, this magnetic force pushes them apart.
- G. Moving or capable of moving at a high speed.
- H. A physical phenomenon produced by the motion of electric charge, resulting in attractive and repulsive forces between objects.
- I. When two magnetic objects are close to each other, this force brings them together.
- J. Not just a color! It means using science and technology to take care of our environment.
- K. A method by which an object is suspended with no support other than magnetic fields. Magnetic force is used to counteract the effects of gravitational force.



...TO A GREENER FUTURE

...And that means a better world for our green friends, too.

We can build a better future for ourselves and those who were here before us - plants, animals, and all living creatures!



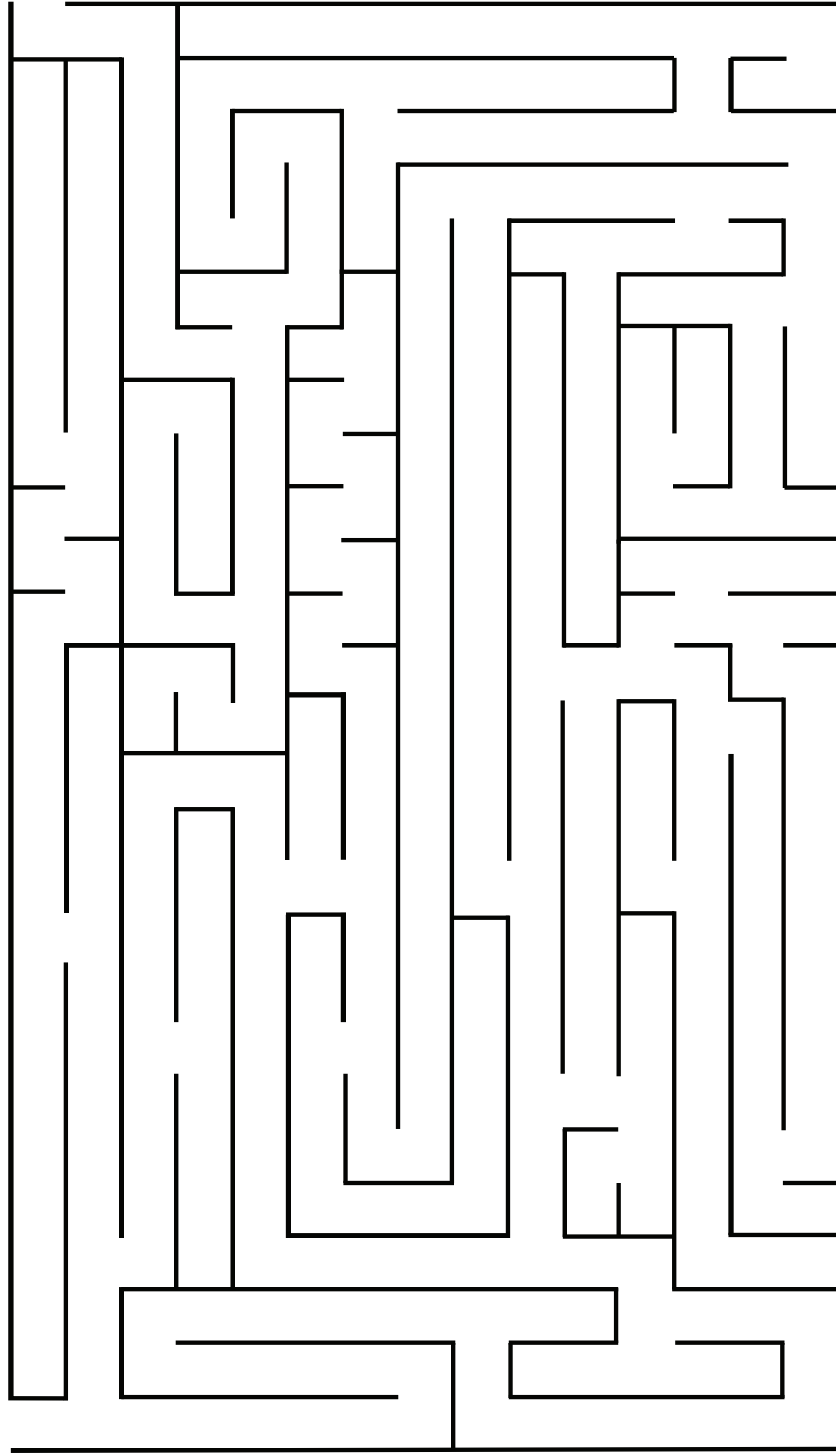
MAGLEV MAZE

Help the train find its way through the maze.

Begin at the **START** and find your way to the **FINISH** - drawing a line as you go through. **FUN FACT:** MAGLEV trains travel on long, straight tracks called **guideways**, which is why they can go so fast! A MAGLEV train would just go over, or under, this crazy maze! **See page 25 for the Answer Key to this activity!**

START

FINISH



CROSSWORD PUZZLE

Read the clues and use your **MAGLEV** knowledge to complete the crossword puzzle.

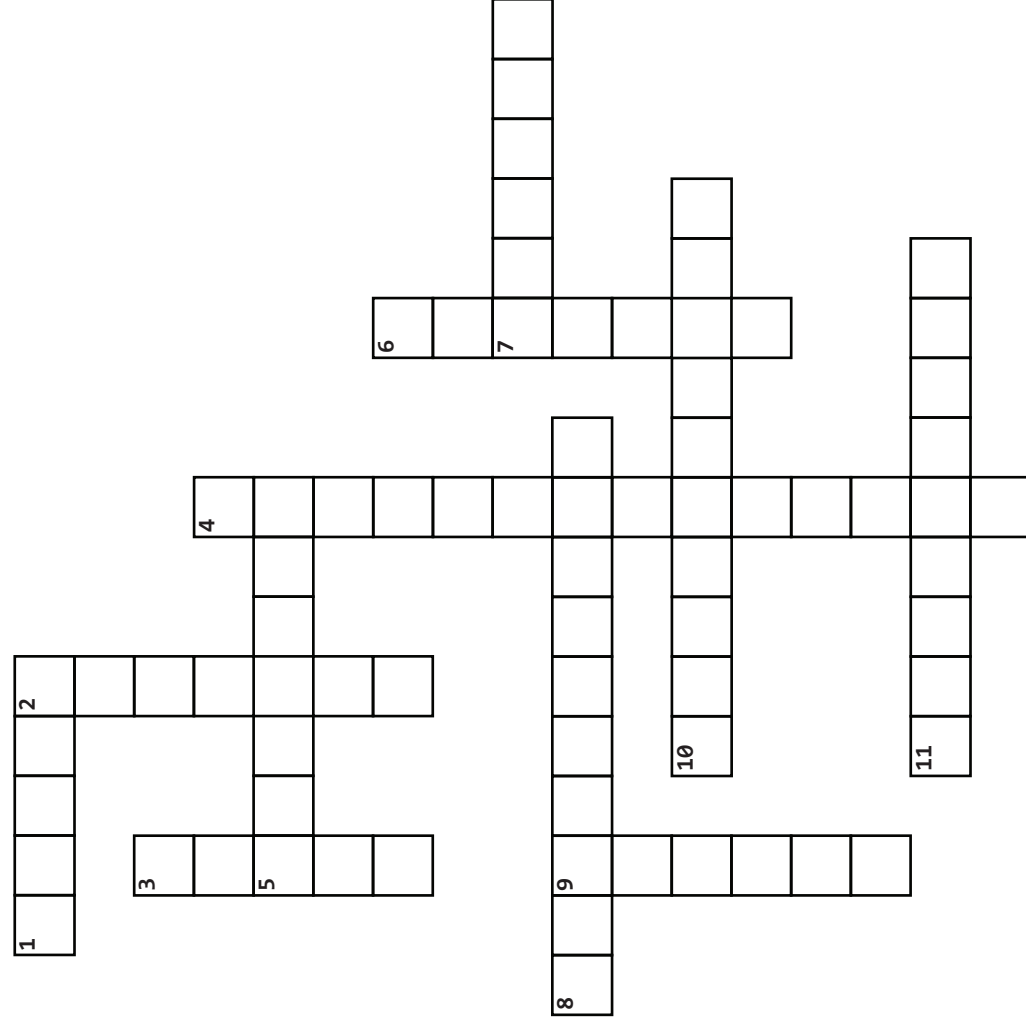
Each clue has a corresponding word hidden in the crossword puzzle. Only the correct words will fit! You will find both **MAGLEV** vocabulary and Halloween words in this puzzle. **See page 26 for the Answer Key to this activity!**

Across

1. A self-propelled, connected group of carriages used for transportation of goods or passengers.
5. This is the 10th month of the year.
7. Type of train that operates by means of magnetic levitation.
8. This 'non-state' is the nation's capital, and the first stop of the Northeast Maglev line!
10. A method by which an object is suspended with no support other than magnetic fields.
11. In the US, this holiday falls on the last day of October.

Down

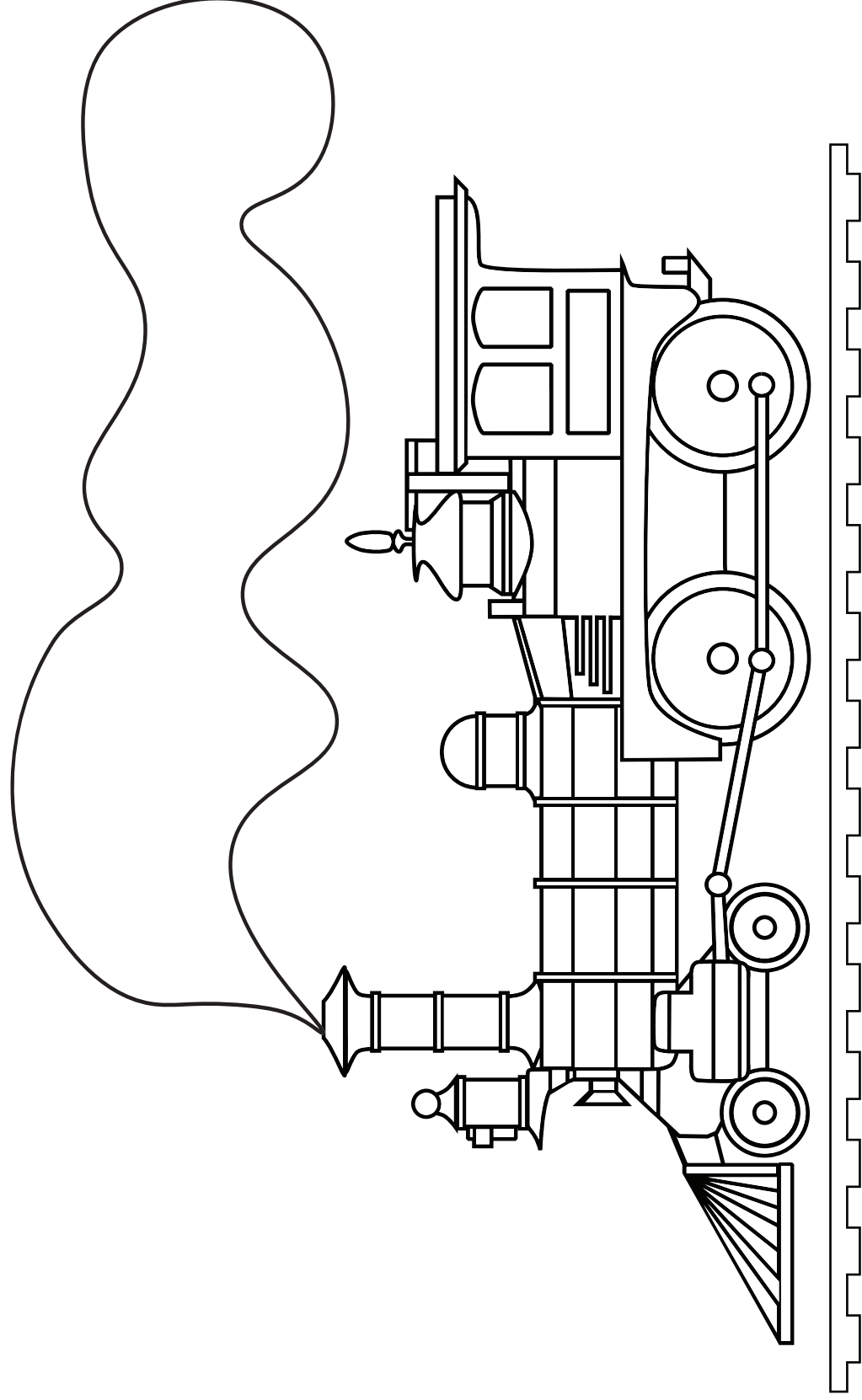
2. This state is well-known for its popular city sharing the same name, and is another stop on the Northeast Maglev line.
3. BOO! Think Casper.
4. The action of moving something or someone from one destination to another.
6. A large, orange gourd that becomes wildly popular in the fall.
9. Another word for 'scary' or 'eerie.'



FROM A HAZY PAST...

We love our history, but what about our future?

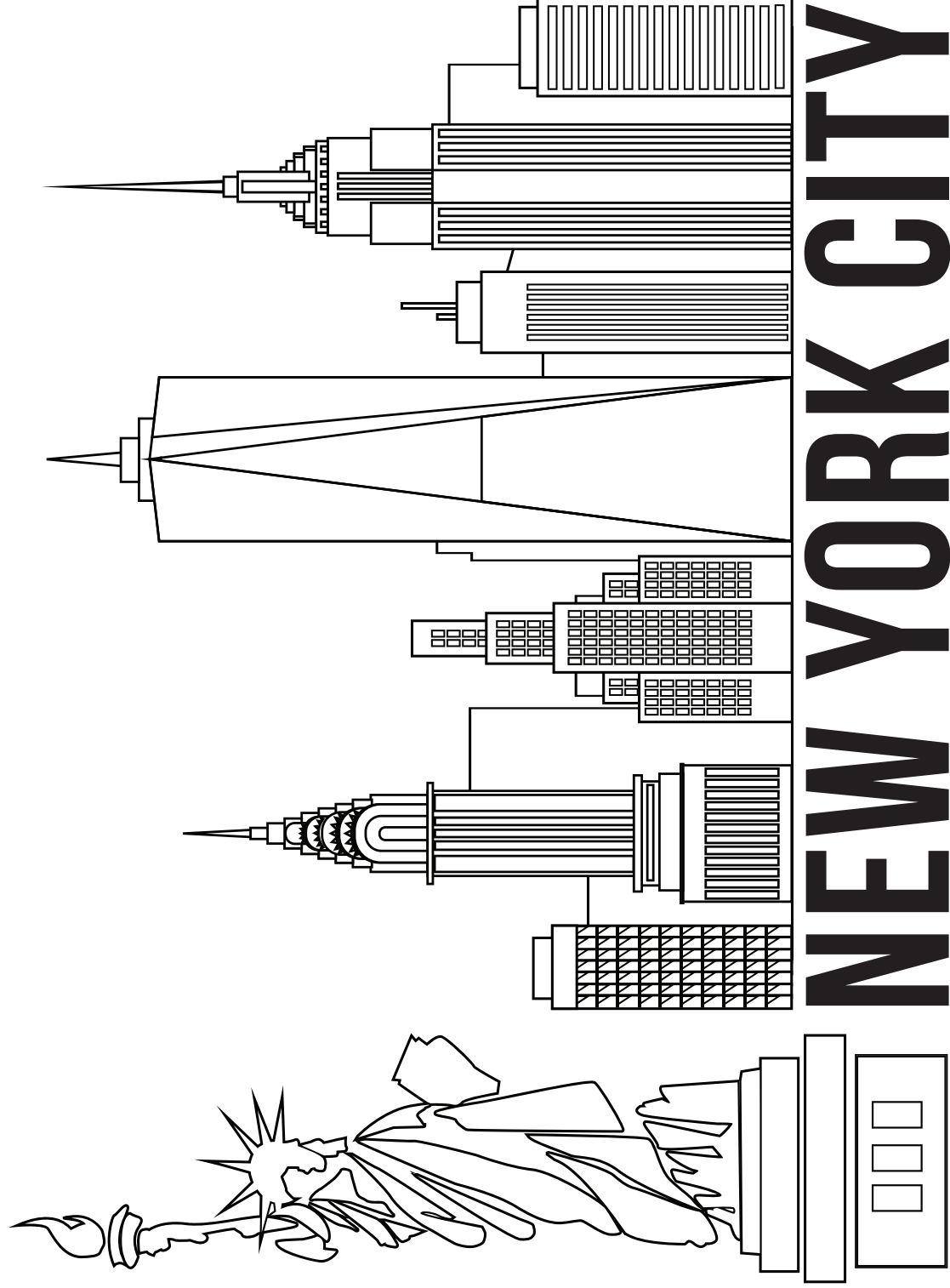
Not only would the SCMaglev cut down on travel time, but it would also cut out emissions that are harmful to the environment, such as millions of tons of greenhouse gases, Carbon Monoxide, Nitrogen Oxides, and Volatile Organic Compounds - something that we never thought possible in the past.



THE BIG APPLE

Work and play all in the same day!

That means living in New York and working in D.C., or catching that concert at Madison Square Garden after work at your Baltimore office.



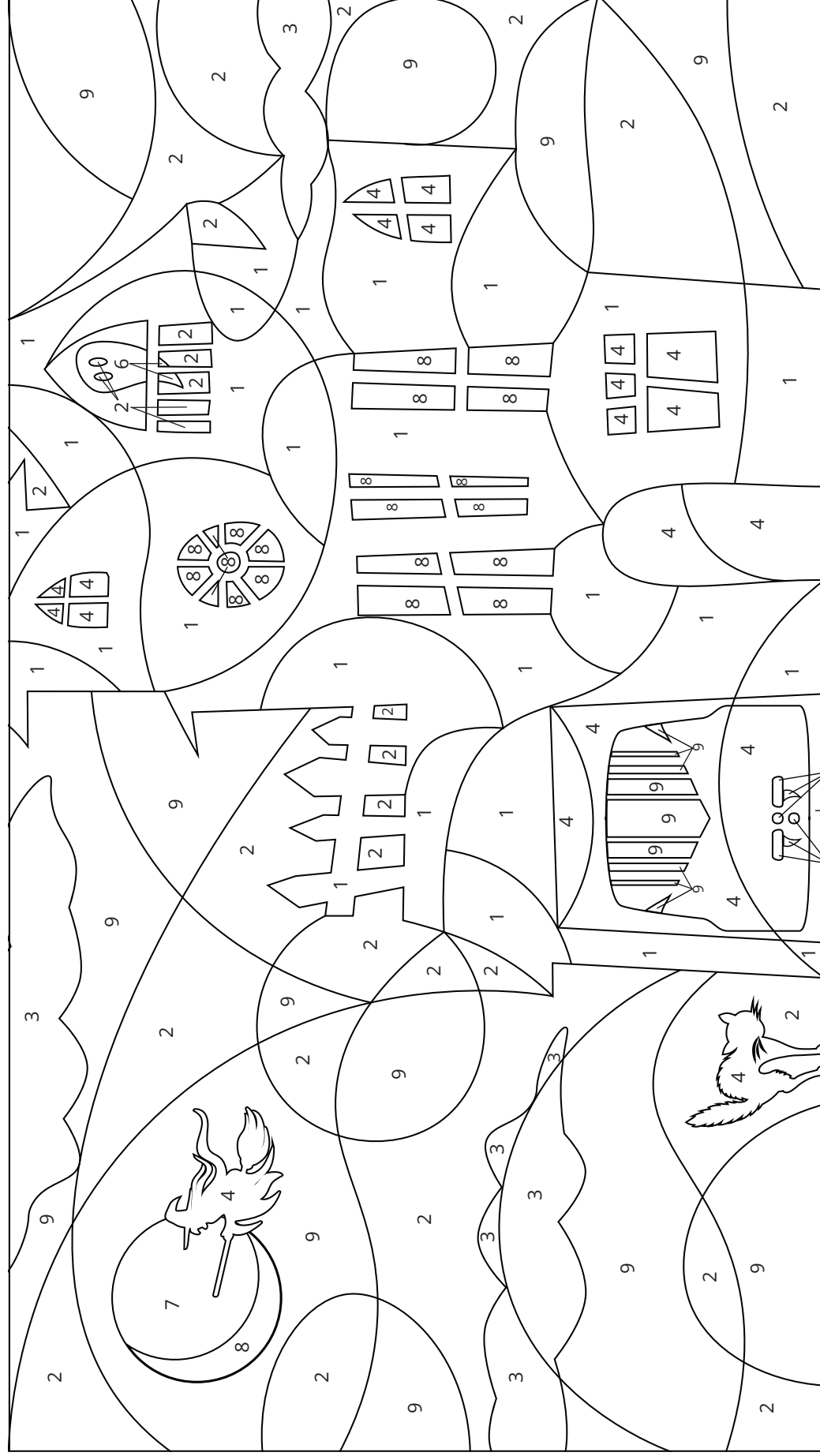
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COLOR BY NUMBERS

Use the color key to reveal a spooky MAGLEV Halloween!

Color the sections according to the colors that correspond with their numbers from the Color Key.



Color Key

1 - Brown 2 - Purple 3 - Gray 4 - Black 5 - Orange 6 - White 7 - Blue 8 - Yellow 9 - Dark Blue

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9

SECRET MESSAGE

Crack the secret code to uncover a fun MAGLEV fact!

Use the symbol key to decode the secret message. Match each symbol to its assigned letter and then write it above the corresponding symbol.
See page 26 for the Answer Key to this activity!

≈	*	☯	↑	▼	✕	☯	←	■	∞)	◻	▼	■	≈	⋮)	♥
□	⚙	♥	♪	☯	«	≈	←	◻	⚙	⋮	⋮	⋮	♥	∞	☯	↑	!
≡	Δ	Δ	□	⋮	♪	☯	↑	☯	✕	☯	←	*	∞	▼	←		

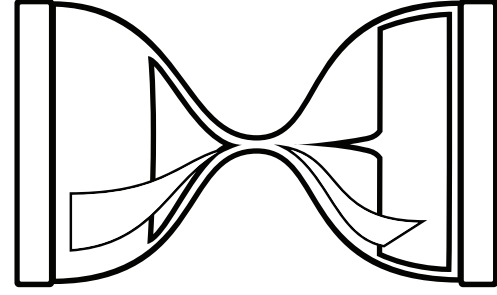
Symbol Key

⚙	♠	■	◻	☯	*	♥	⋮	○	◀	♪	□)	∞	✕	~	←	R
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
↑	≈	▼	«	∅	§	◆		Δ	⊂	»	i	⌘	▲	♣	⊙	▶	∅
S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0

DC TO NEW YORK

...In only an hour?!

But thanks to the innovative technology behind the SCMAGLEV, people will be able to travel from Washington, D.C. to New York City in an hour - a trip that normally takes at least 3.5 hours.



DID YOU KNOW?

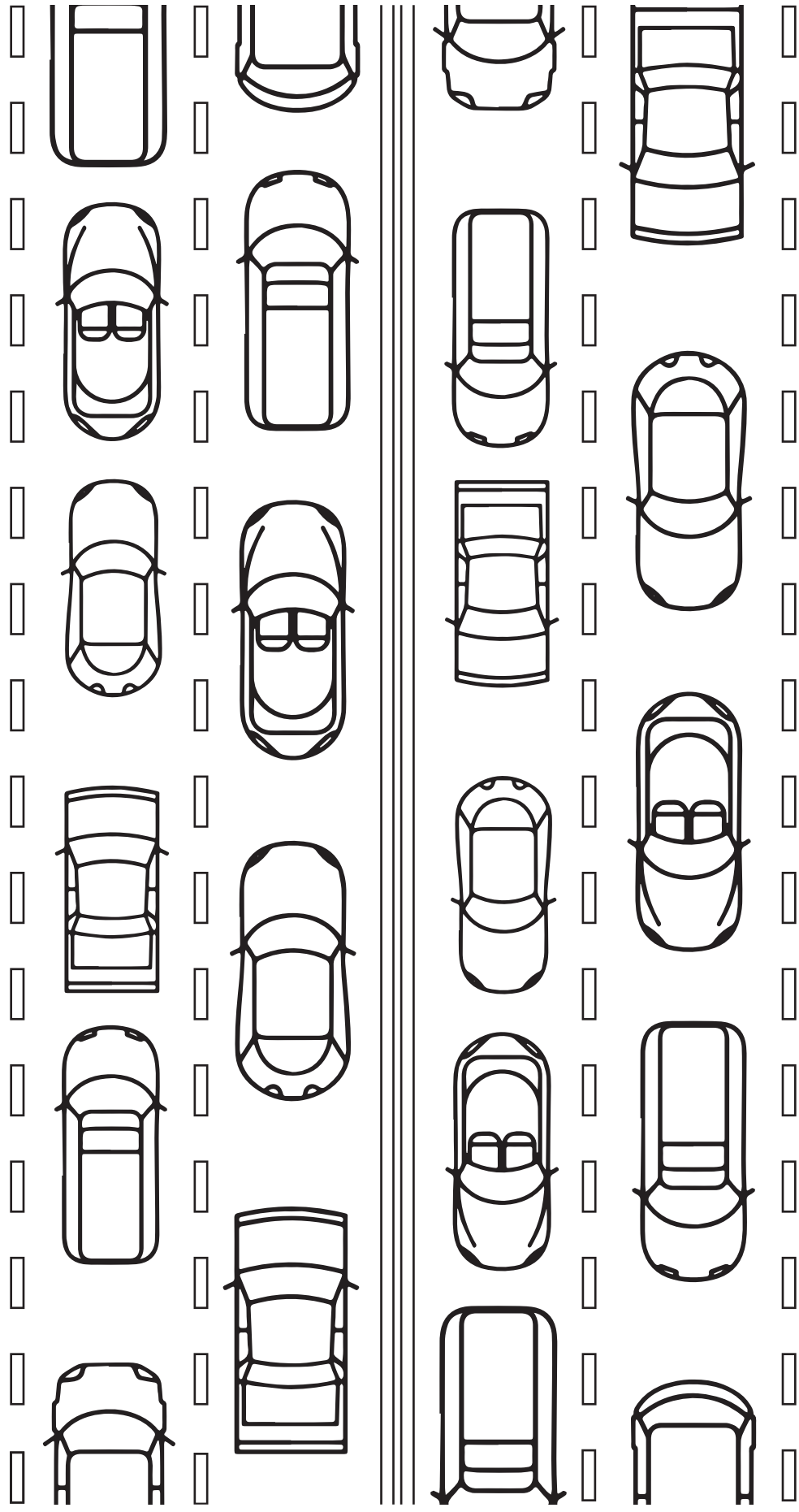
The average flight from Washington, D.C., to New York, New York, is about an hour and 20 minutes long.

DC TO NYC IN 1 HOUR

TRAFFIC

Traffic Jam!

This is why the Northeast Corridor is also home to 52% of the worst bottlenecks in the U.S., with D.C. and N.Y. consistently ranking in the top worst traffic areas in the country.



CREATE YOUR OWN STORY

Create your own spooky MAGLEV story!

As you read the story below, fill in the blanks with your own creative words. Be funny, silly, scary, serious, or anything you like!

It was a sunny October afternoon, 2 days before Halloween. Jacob was walking through the woods with his sister, _____ NAME . "It's getting dark," she said. "We should probably head back to the _____ PLACE ." Suddenly, a _____ ADJECTIVE _____ gust of wind swirled around them and twigs snapped nearby. *Spooky*, Jacob thought. "Yeah, let's go." They turned around and started to _____ VERB _____ back through the woods. All of the sudden, the temperature dropped. "Did you feel that?" Jacob asked. "Yeah! Something _____ ADJECTIVE _____ is going on," she replied. Behind them, the sound of leaves rustling and more twigs snapping interrupted them once again. They turned around, but nothing was there. They looked at each other _____ ADVERB _____ as the last bit of daylight crept away, then turned and started running. Up ahead, they could see _____ NOUN _____ from the neighborhood through the trees, but it was still so far away. More _____ ADJECTIVE _____ noises came from behind them. They ran faster. They knew something was following them now but didn't stop to look back. Besides, it was dark now. The _____ ADJECTIVE _____ noises were getting closer and closer, so they ran faster and faster. Just as they reached the edge of the woods where the street lights lit up the way, Jacob tripped over a branch and fell. "Jacob!" his sister yelled. The noises quickly approached and they could do nothing to escape now. Out of the darkness, a large, _____ ADJECTIVE _____ beast lept through the air, landing on Jacob! AHHH!....

"MAGLEV!!" Jacob yelled. "You scared us to death, boy!" he exclaimed, as the family dog licked his face. "We thought you were some kind of _____ SPOOKY THING _____ or a _____ SPOOKY THING _____ or something!" Maglev wagged his tail and nudged Jacob to his feet. "Let's go home," said Jacob.

GO FURTHER

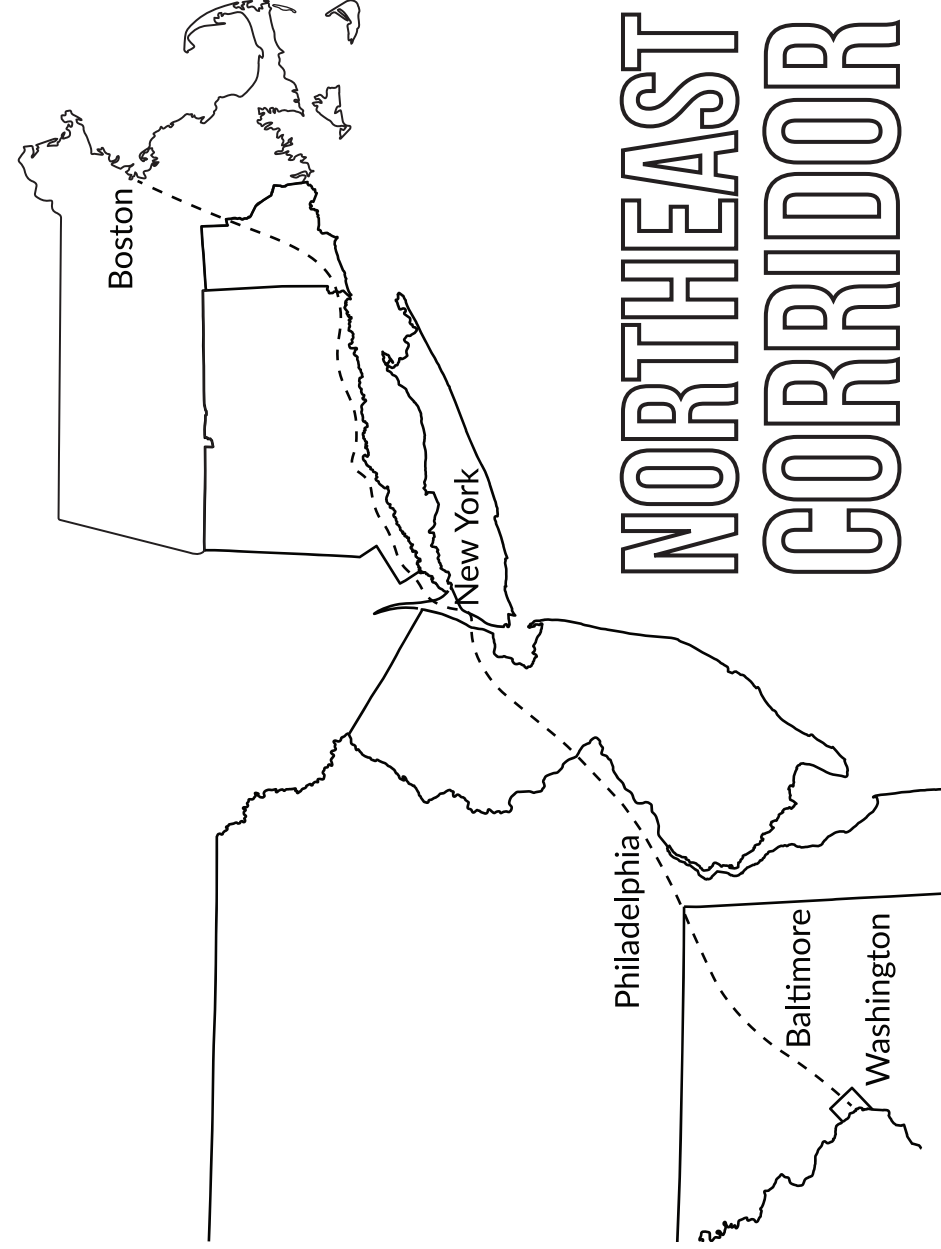
NORTHEAST CORRIDOR

What is the Northeast Corridor?

The Northeast Corridor spans all the way from Washington, D.C. to Boston, Massachusetts, a distance of about 450 miles. Although it makes up only 2% of U.S. land, it contains 12% of all U.S. highway miles and calls itself home to 17% of the U.S. population - that's 52 million people!

DID YOU KNOW?

Take a look at the ridership totals for the top 15 stations of 2016 provided by Amtrak. Can you circle the stations that exist along the Northeast Corridor?



STATION	RIDERSHIP
New York, NY	10,436,909
Washington, DC	5,098,562
Philadelphia, PA	4,328,718
Chicago, IL	3,247,117
Los Angeles, CA	1,635,039
Boston South Station, MA	1,574,450
Sacramento, CA	1,051,001
Baltimore, MD	1,030,161
Albany-Rensselaer, NY	855,176
San Diego, CA	777,352
Providence, RI	717,537
Wilmingon, DE	691,694
BWI Airport, MD	689,042
Newark, NJ	661,344
Seattle, WA	649,491

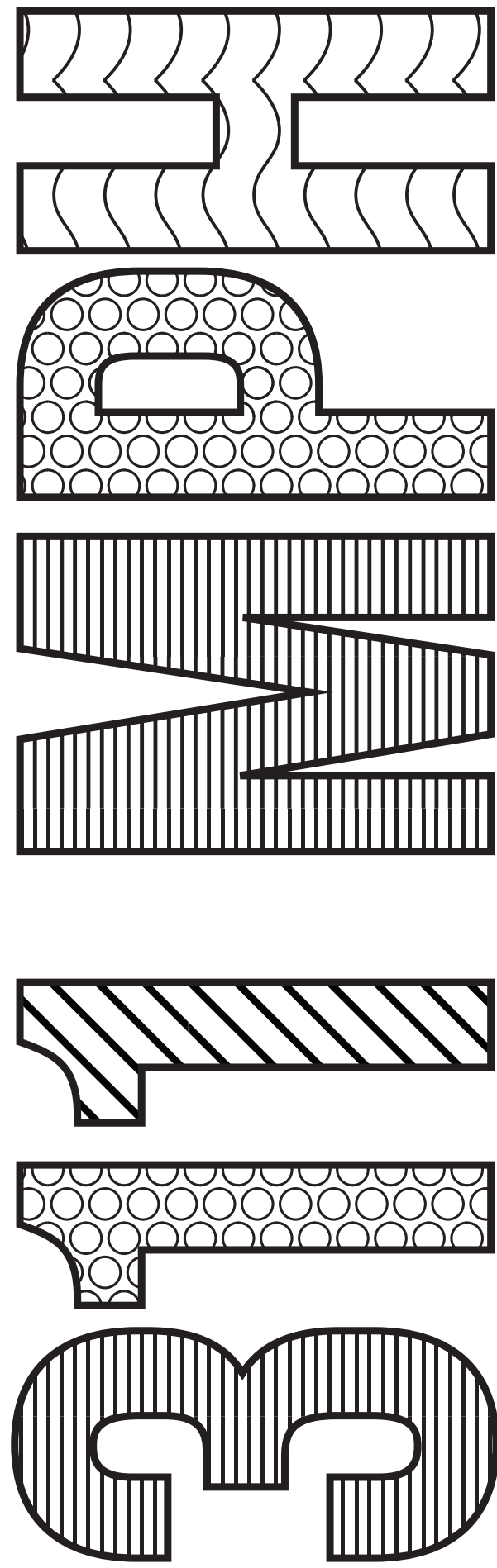
Ridership means the total number of people who ride the train each year!

See STATIONS on Page 26 to check your answers!

311 MILES PER HOUR

How fast is fast?

The superconducting maglev train is the fastest train in the world and holds a Guinness World Record of 374 miles per hour - and normally travels at 311 miles per hour, which is more than twice the top speed of the fastest train currently operating in the US.



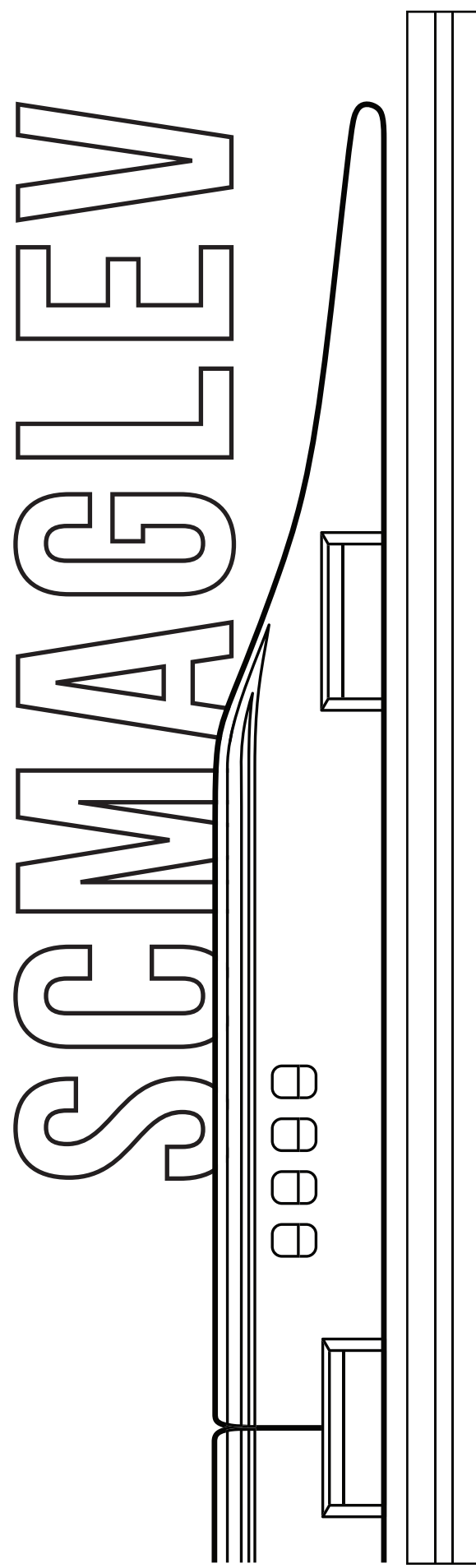
DID YOU KNOW?

The fastest trains currently in the US are only capable of reaching speeds of 150 MPH.

SCMAGLEV

What is SCMAGLEV?

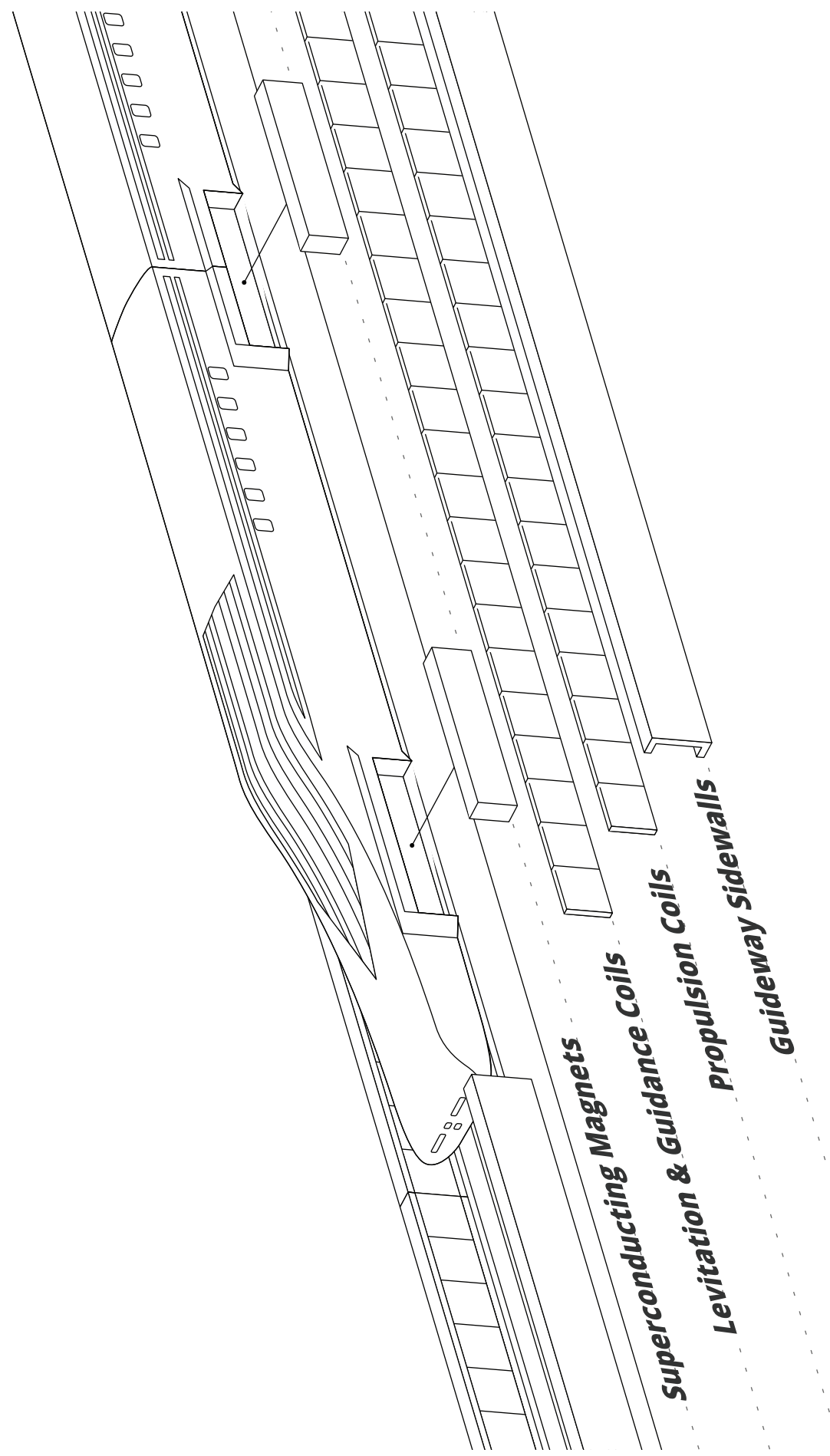
The SCMAGLEV (Superconducting Maglev) is a magnetic levitation (maglev) transportation system based on the principles of magnetic attractions and repulsions between the guideway and the cars.



AN INSIDE LOOK

How does it work?

The keys to the SCMAGLEV system's high speed and acceleration are the magnetic forces acting between powerful superconducting magnets located on board the trains and two sets of coils that are installed in the walls of the guideway.



MAGNETIC LEVITATION

4 inches off the ground.

Instead of traditional train tracks, SCMAGLEV trains use powerful magnets to levitate in a unique concrete guideway. The U-shaped guideway is equipped with coil magnets that interact with the train's superconducting magnets. This interaction between the guideway coils and superconducting magnets provides propulsion, levitation, guidance, and braking - keeping the train locked in the guideway, and eliminating the possibility of derailments.

