

The Spider Companion

®

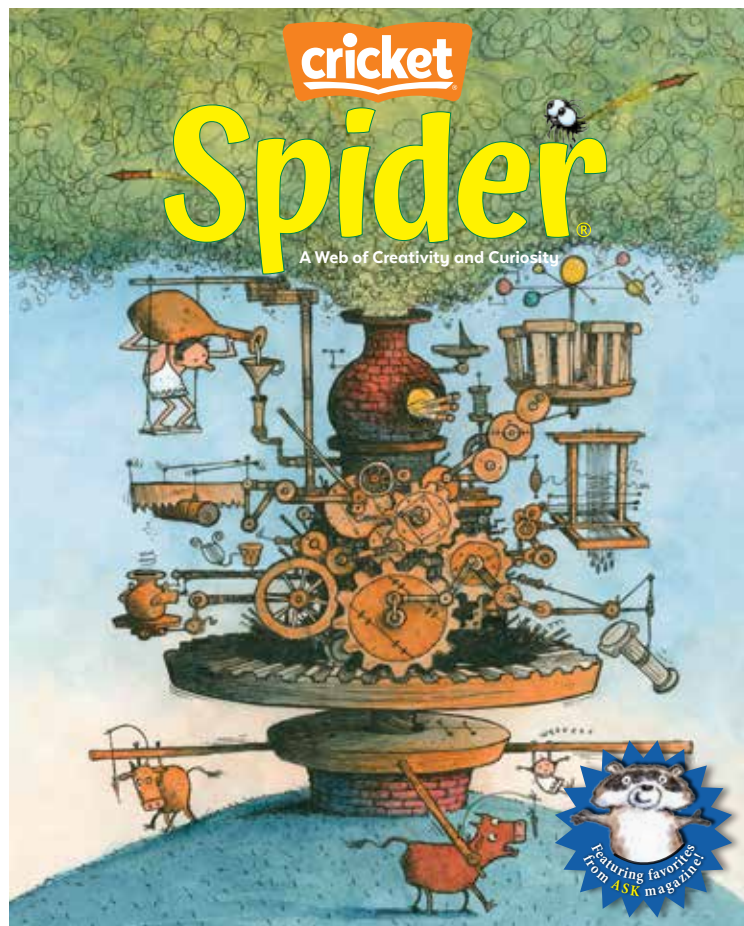
Hi, *Spider* Reader!

We're so happy you're here! This November/December issue of *Spider* is full of curious minds, big ideas, and a few fizzing experiments. Together, we'll explore this question:

What makes an experiment successful, and how do we learn from trial and error?

In this guide, you'll find fun, creative activities that go along with these selections from *Spider*'s November/December issue:

- **Someday**
Dream up your own invention to solve an everyday problem.
- **Blushing Blake**
When plans fail, find another plan and make it shine!
- **Young Inventors**
Choose your favorite young inventor and celebrate their achievement with an award speech or colorful poster.
- **Loony Balloon Inflator**
Experiment with safe science variations and see what happens when you change one thing at a time!
- **Plus: Homemade Spaceship**
Find and color the hidden kitchen gadgets in a wacky rocket scene.



Each issue also includes an opportunity to share your ideas! Enter the latest contest for a chance to be published in *Spider*. Find the complete rules on page 47 in this issue.

We love hearing from you! Write to us at spider@cricketmedia.com to tell us what you discovered, invented, or loved most in this issue.

Happy experimenting—and remember, every “oops” can lead to a new idea!

Your Spider Companions





SOMEDAY

In the story “Someday” by Liz Huyck (page 6), Ada dreams up complex inventions to solve everyday problems, from blocks on the floor to melting ice pops. Even when she can’t build her big inventions, she comes up with clever “good enough” fixes.

Inventors often start with simple ideas and improve them over time. That’s how experimenting and making mistakes can lead to creativity!

Brainstorm Box!

Before you invent, think about what problem you want to solve. Use these brainstorm boxes to jot down some sketches or ideas to get started:



Improve It!	Make It Easier!	Help Others!
Think about something you use every day—like a lunch box, bike, chair, or front door. Is there anything about it that could work better? How would you change it?	Think about something that frustrates you or takes a lot of time to do, like cleaning up, finding something you lost, or getting ready for school. What might you invent to make it go faster or feel more fun?	Think about people and animals in the world that could use your help. Maybe they don’t have a home or food. Maybe pollution is hurting their environment. What might you invent to help?

Invent It!

Choose one idea from your brainstorm.

In the box on the right, draw or write or write about an invention that could solve the problem.

- Label or describe the parts of your invention.

What makes it helpful?

- Give your invention a fun name!

Dig Deeper



Inventor Remix!

Pick one of the inventions that Ada dreams of making someday. Draw a picture of how you would make it. Then draw it again, changing one thing about your design. You might make one part bigger or smaller or a different shape. How would changing this one thing change how your invention works?



Scientists and inventors often discover something new when they change direction or look at a problem in a different way.

Every scientist has moments when things don't go as planned. Think about a time when you had to switch ideas or come up with a new plan.

- **Write It!**

Write a short story, diary entry, or comic strip about someone who turns a “failed” idea into a surprising success.

Make a poster or mini science-fair display about an imaginary invention or discovery that came from a mistake. Include labels or captions to explain what went wrong and how that led to a new idea.

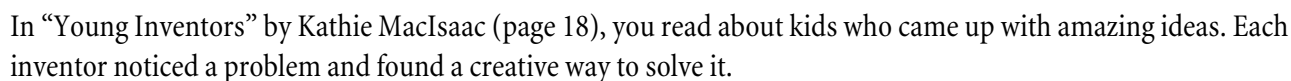
Record or present a short speech called “Never Give Up.” Tell about a time you tried something new after an experiment or plan didn’t work the first time.



- What helped Blake keep going when his experiments didn't work?
- How did Blake turn embarrassment into confidence?
- When have you changed your mind or found a new way to solve a problem?



In the story, Blake studies *The Book of Fabulous Science Experiments*. With an adult, visit a library to find a book of experiments. Look for an experiment to try!



The “Best Kid Inventor” Award

Imagine you are the judge of a contest. Which inventor from the article deserves the “Best Kid Inventor” award?

Choose which inventor you think should win the award. _____

Choose one of these ways to share your decision:

1. Give a Speech

Write and present a short award speech explaining why your inventor deserves the prize. Your speech should answer these questions:

- What did they invent?
- Why do you think their invention is awesome or most helpful?
- What makes this kid stand out as a great inventor?

Practice reading your speech aloud to friends, family, or even your stuffed animals. Remember to speak slowly, look up from your paper, and show your excitement!

2. Design a Poster

Create a colorful “Best Kid Inventor” poster that celebrates your chosen inventor.

Include the following:

- The inventor’s name and invention
- A short caption explaining why the invention matters
- Drawings or symbols that show how the invention helps people today

Display your poster at home or in your classroom.



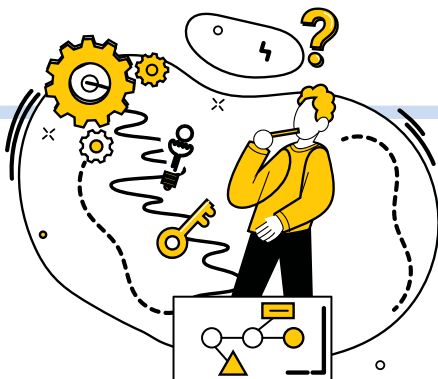
Dig Deeper



With a grown-up’s help, look up another kid inventor. (Tip: Try “kid inventors” in a safe search engine or go to a library.)

- What did they invent?
- How old were they?
- How is their invention still useful today?

Write your own “Young Inventors” article that describes the inventor and invention you researched.



Talk About It!

- If you could ask one of the young inventors a question, what would it be?
- How did the young inventors use creativity to solve problems?
- How are the inventors from the article similar? How are they different?





Loony Balloon Inflator

In the experiment *Loony Balloon Inflator* by Phillip Swift (page 30), you saw how mixing baking soda (a base) and vinegar (an acid) creates a gas called carbon dioxide. That gas fills up a balloon! Scientists learn by changing one thing at a time to see what happens. Let's test some safe variations.

Change It Up!

Do the experiment **more than once** and change just **one thing each time**. Always follow the same steps from the article, but instead of using $\frac{1}{2}$ cup of room-temperature vinegar, try **one of these choices below**. (Don't mix them all together—pick one at a time!)

- $\frac{1}{2}$ cup warm vinegar* (microwaved for 15 seconds by a grown-up)
- *Always ask a grown-up for help when using warm liquids.
- $\frac{1}{2}$ cup cold vinegar (left in the freezer for 20 minutes)
- 1 cup room-temperature vinegar
- 1 tablespoon room-temperature vinegar

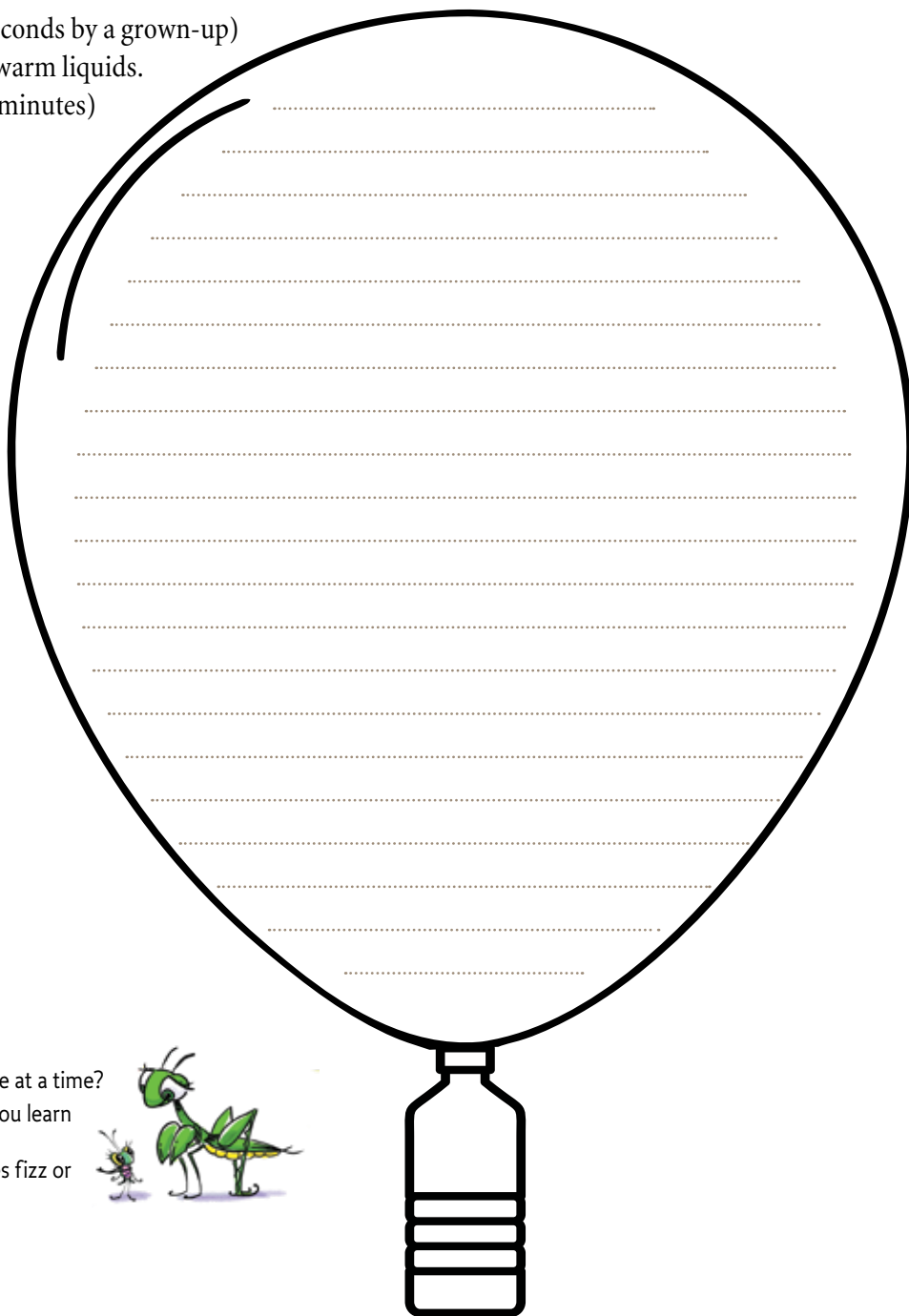
Observe: Which vinegar variable inflates the balloon fastest? Which inflates it the least? Which keeps the balloon inflated longest?

Fun Twists

- Add food coloring to the vinegar for a colorful fizz.
- Draw a face on your balloon before it inflates.
- Try using a rubber glove instead of a balloon. (Seal it tightly around the bottle opening with a rubber band. Gently shake the fingers to make sure all the baking soda drops into the bottle.)

Safety First!

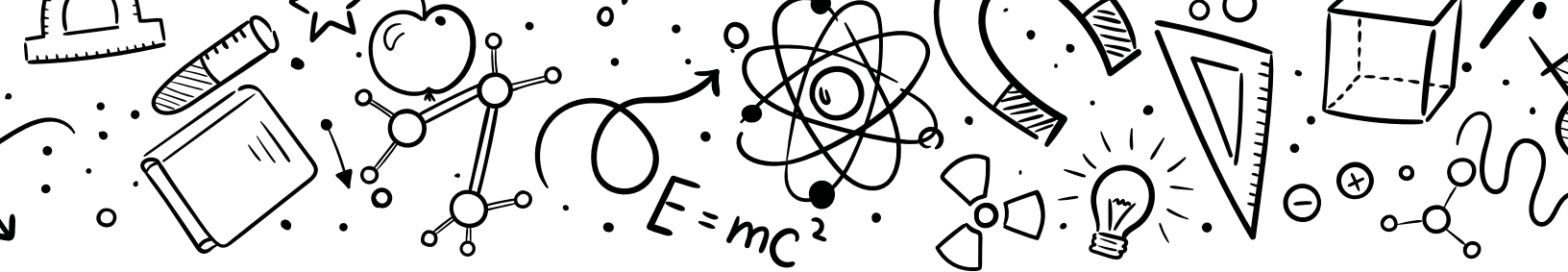
- Ask an adult before heating vinegar or doing any experiment.
- Never mix random chemicals together.
- Only use the safe materials listed here.



Talk About It!

- Why do you think scientists test one change at a time?
- How can even a “failed” experiment help you learn something new?
- If you could invent something new that uses fizz or bubbles, what would it be?





Dig Deeper



Science Experiment Word Search

Can you find these words
from the issue?

ACID

REACTION

INVENT

BASE

BALLOON

IDEA

EXPERIMENT

VINEGAR

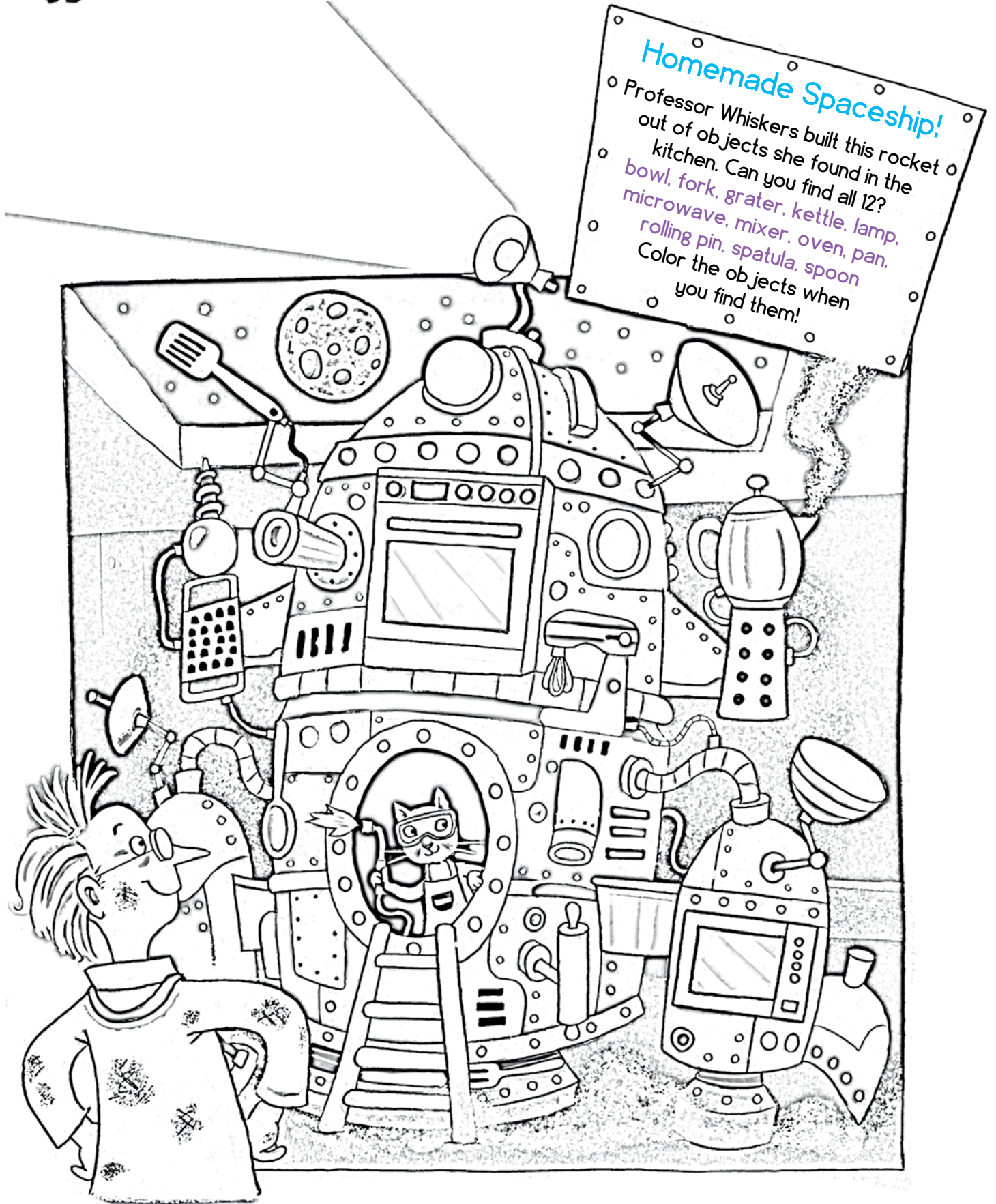
SCIENCE

O	Y	R	T	D	D	H	P	U	R	V	R	F	R	O	L	D	V
C	E	K	P	X	G	D	K	I	T	F	F	J	B	C	A	R	Y
T	Y	P	T	T	Z	W	Q	N	N	Q	J	L	A	M	R	D	Q
X	W	K	G	J	Z	P	E	A	X	P	D	T	L	R	G	L	Q
O	U	C	P	Q	Z	M	L	S	P	Y	H	C	L	L	Q	D	A
P	D	X	U	L	I	H	N	T	W	C	T	X	O	N	H	L	C
M	Z	M	M	R	V	O	W	D	R	U	Z	U	O	B	P	N	I
I	M	N	E	J	I	O	D	D	K	K	C	X	N	N	J	E	D
C	N	P	E	T	C	K	H	B	U	H	E	P	A	B	A	H	V
N	X	V	C	L	G	E	T	W	S	H	I	E	D	L	X	U	I
E	H	A	E	V	C	Y	U	I	N	A	D	V	I	U	R	K	N
H	E	U	Z	N	C	R	O	T	C	I	D	O	L	V	B	B	E
R	D	U	E	P	T	C	W	Q	I	F	Y	B	E	L	Z	B	G
H	Z	I	S	F	R	T	Q	L	D	Y	W	S	S	N	C	W	A
A	C	D	Q	O	F	E	O	E	W	D	A	B	P	L	W	G	R
S	I	E	E	L	W	Y	G	X	B	B	Z	G	A	V	Z	X	M
Y	T	P	E	T	K	U	Z	E	V	J	J	J	Q	M	L	Z	C
B	C	P	J	M	R	J	L	F	N	R	H	E	U	Q	C	O	W



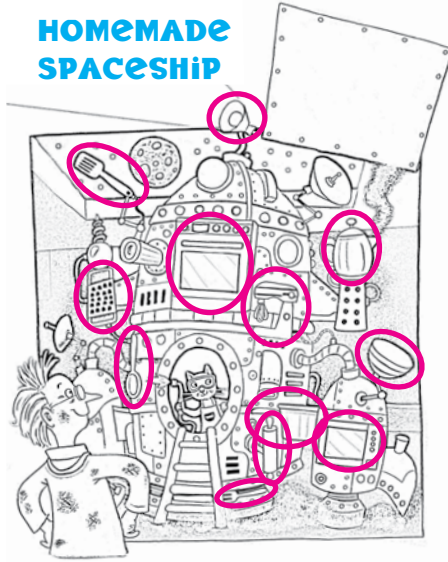


HOMEMADE SPACESHIP





HOMEmADE SPACESHIP



For more ideas, questions,
or to share feedback, email us at
spider@cricketmedia.com. We'd
love to hear from you!

STANDARDS ALIGNMENT

cricketmedia.com/companion-guides 9