**Ages 9–12** 60–90 minutes · 1–4 players, or a class in teams

# Lights on Juniper Street

## It's Light-Up Night, and every house on Juniper Street switches on its lights at once. But the switch box is locked. Help five neighbours, crack the lights captain's riddle and light up the street.

The players are the street's new junior Lights Crew. They weigh cookies on a bakery's pan scales, read a question blinked out in porch lights, put a parade in order, climb a word ladder in a frozen window and untangle a garage full of extension cords. Each stop earns a letter, but the letters come out scrambled: a last riddle, readable only with all five letters and a paper slider they cut out and tape together, tells them the word that opens the lock. It works at any December gathering: a family evening, a holiday party or the last class before the break. Plan on 60 to 90 minutes.

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**Skills:** balance puzzles (early algebra) · binary numbers · ordering logic · word ladders and vocabulary · spatial logic · codes and ciphers · following multi-step directions · teamwork

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### What you need

- Pencils with erasers, scissors and tape. Players cut out the two-piece slider on page 8 and tape it together.
- Optional: a timer, and a string of lights (or a flashlight) to switch on at the end.

### Before you play (5 minutes)

1. Print at 100% scale ("actual size"), Letter or A4, single-sided. Black and white is fine.
2. Keep pages 11 and 12 (hints and answers) away from the players. Fold page 12 in half, words inside, and tape it shut.
3. Cut the six hint strips apart (page 11) and fold each like a fan, so only the puzzle's name shows.
4. On page 9, fold the bottom back along the dashed line and tape it shut, so the ending is hidden behind the page.

### How to play

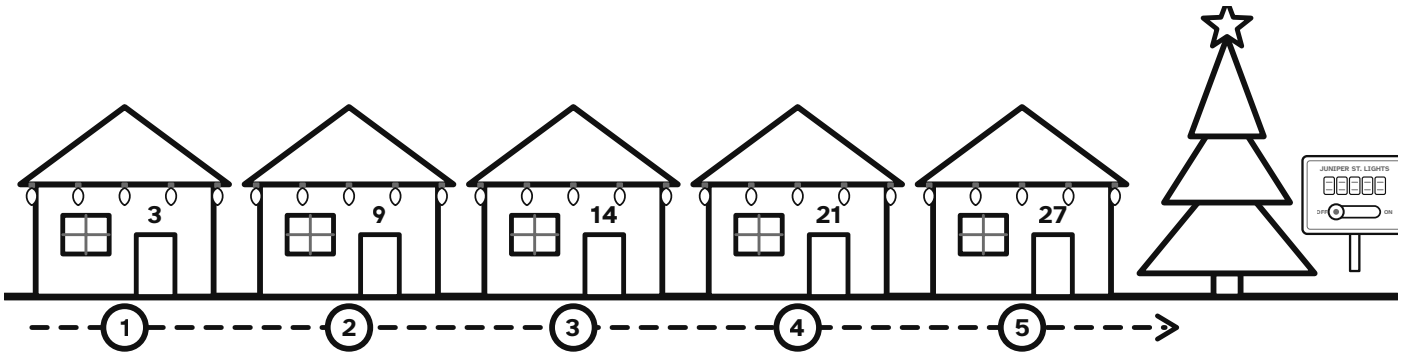
1. Players read Bea's letter (page 2) out loud, then solve Puzzles 1 to 5 in any order. Each puzzle gives one clue letter for the tracker on page 2.
2. Stuck? Hand over that puzzle's hint strip. Players unfold one hint at a time. Grown-ups don't need to help beyond the strips.
3. For a challenge, set a 90-minute timer. If time runs out, keep going. The street can wait in the dark a little longer.

If a player can't easily see the pictures or uses a screen reader, print page 13 too, or read it aloud.

### In a classroom

Teams of 3–4, each with its own copy of pages 2–11 (page 12 is just for you). Plan two periods: Puzzles 1–3, then the rest. The porch lights on page 4 count in binary, the way computers store numbers, which makes a good start for a lesson on place value in base two.

Free for home and school use. Please don't post it publicly or sell it. 




# Lights on Juniper Street

*To the new Juniper Street Lights Crew,*

*Tonight is Light-Up Night. At six o'clock, every house on the street switches on its lights at the same moment, from the switch box by the big pine at the end of the street.*

*This year I've locked the switch with a word lock. It's a tradition: the new crew has to open it. Five neighbours need a hand first. Help each one and they'll give you a letter, but the letters won't come in order. My last riddle tells you the word, and only someone with all five letters can read it.*

*The whole street is waiting in the dark. Better hurry.*

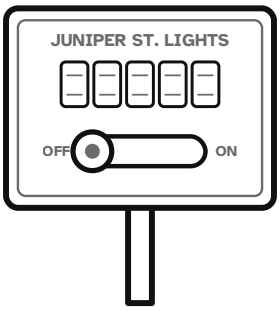
Bea Tanaka, Lights Captain

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**Your stops:** 1 · Haddad's Bakery, No. 3  2 · The Novaks, No. 9  3 · The parade, No. 14  4 · Mr. Osei, No. 21  5 · The Lindqvists' garage, No. 27

**CLUE TRACKER**

Puzzle 1 | Puzzle 2 | Puzzle 3 | Puzzle 4 | Puzzle 5

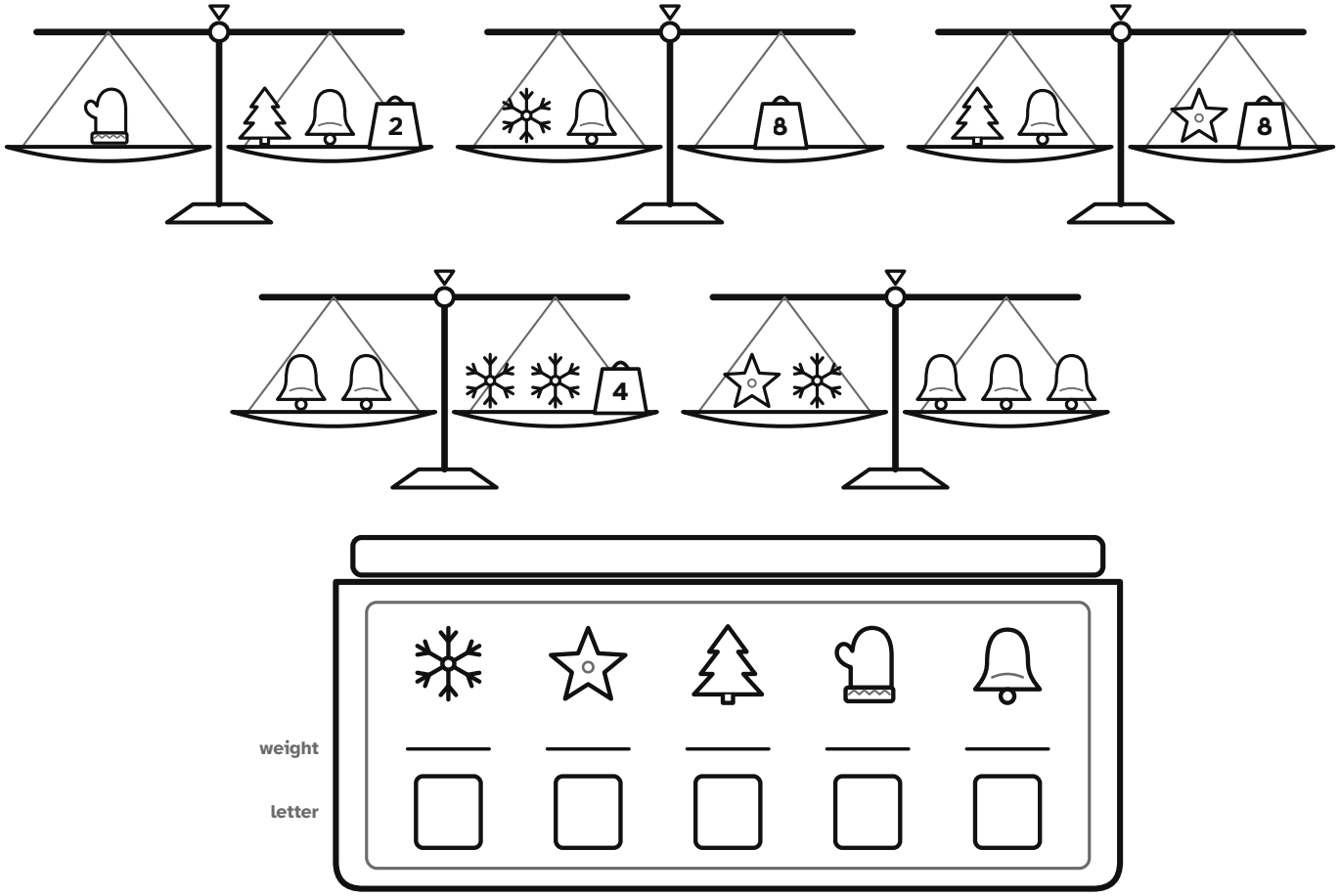


# The Cookie Scales

*Rania Haddad needs one more spice for her gingerbread, but the label on the jar is written in her cookie code. She weighs her cookies on pan scales against her brass weights.*

Every scale balances. Cookies of the same shape weigh the same, and each brass weight shows its number.

On the jar, each cookie stands for the letter at its weight: 1 is A, 2 is B, 3 is C, and so on.

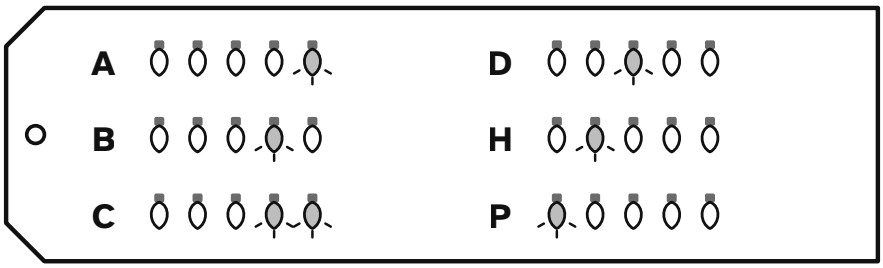



*The bakery smells of ginger and cinnamon. Rania's lights blink on over the door.*

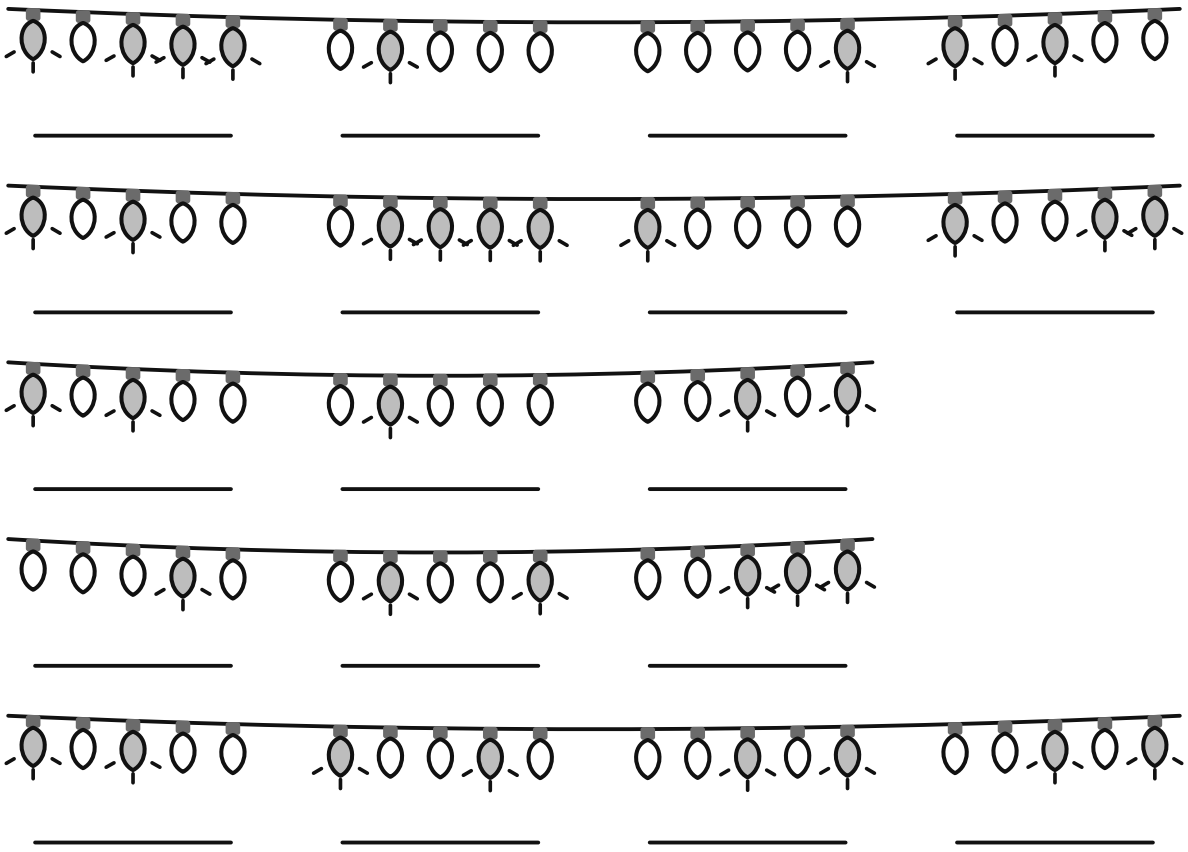
**Clue letter: the spice's middle letter** ☐

# The Porch Lights

*The Novaks set their porch lights to blink a question for the street, one word at a time, and took a picture of every word. A paper tag on the plug shows how six letters look.*




**Each group of five bulbs is one letter.** Lit bulbs are gray, with rays.

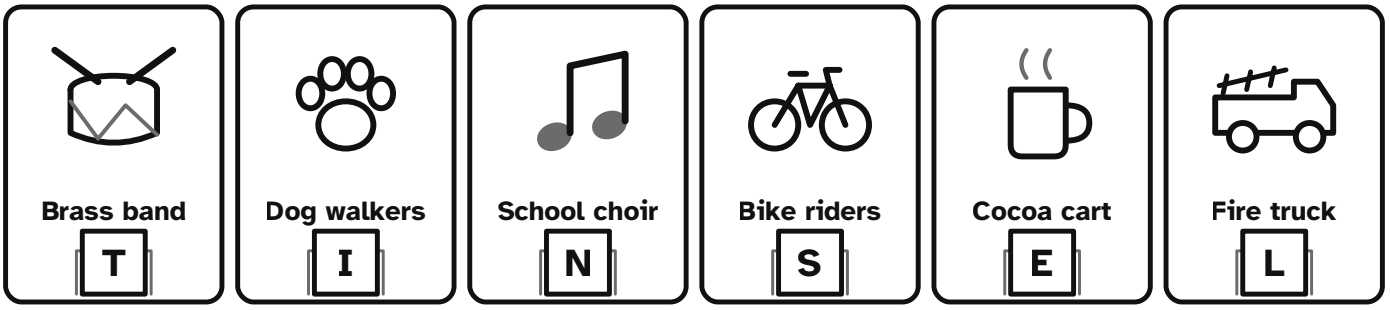


**Answer the porch lights' question:**

**Clue letter: the answer's first letter**

# The Parade Lineup

> *Paloma Reyes runs the Light-Up Night parade. Six groups march down the street, and each carries one card of the parade banner, so the banner reads front to back. Paloma's lineup sheet blew away. Here's what she remembers.*




1. The dog walkers march right behind the brass band.
2. Exactly one group goes between the school choir and the cocoa cart.
3. The fire truck is somewhere behind the cocoa cart.
4. The bike riders are somewhere behind the school choir.
5. The brass band is somewhere ahead of the school choir.
6. The cocoa cart isn't next to the dog walkers.

| 1 · FRONT | 2 | 3 | 4 | 5 | 6 · BACK |
|---|---|---|---|---|---|
| | | | | | |

**The banner, front to back,** spells something you hang on a tree. Careful: the same six letters spell other words too.

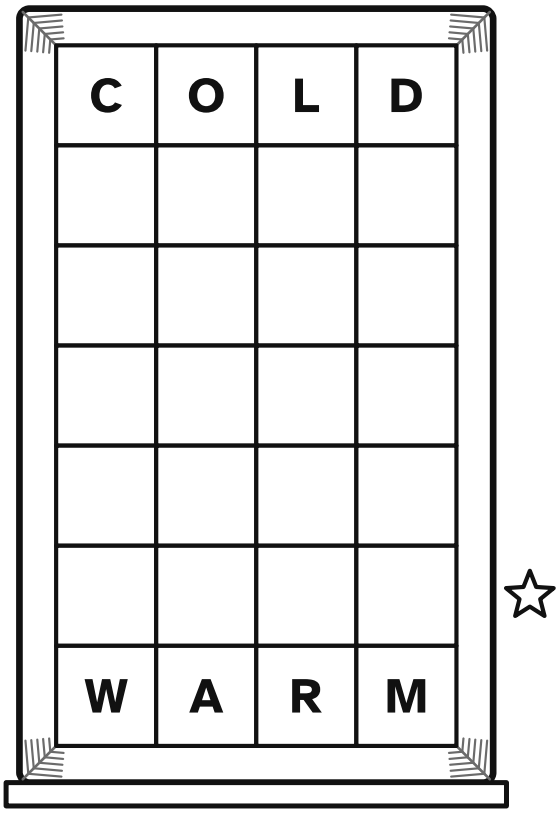
*The band strikes up, and the dogs bark along.*

**Clue letter: the banner's first letter** ☐

# The Frozen Window

*Every December, Kofi Osei puts a word ladder in his front window for the street to solve. This year it climbs from COLD to WARM, but the middle panes have iced over. His clues are taped to the door, out of order.*

Each rung changes just one letter of the rung above it. Every rung is a real word.




**Clues on the door**

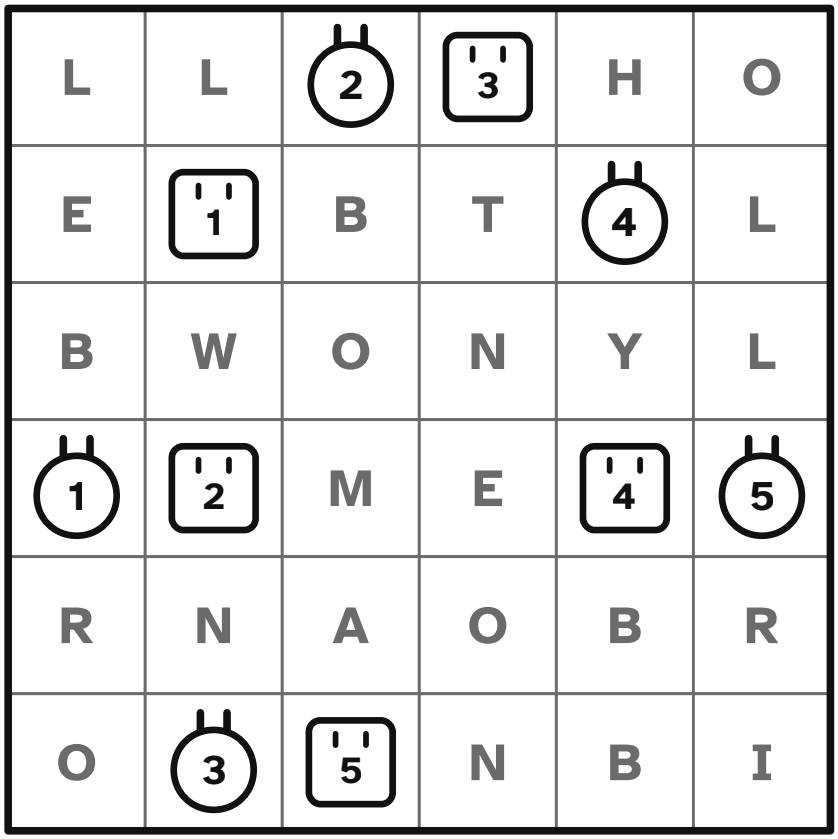
- Not soft
- Where cows and hens live
- A thin rope or string
- You might send one on a birthday
- Hurt or damage

*The ice melts off the panes, and Mr. Osei's window glows.*

**Clue letter: the first letter of the starred rung** ☐

# The Tangled Cords

*The Lindqvists' garage floor is a tangle of extension cords. Their lights can't go on until every plug reaches its own socket.*




Join each plug to the socket with the same number.

Cords go from square to square: up, down, left or right. They never cross, and every square gets used.

Read from plug to socket, each cord's letters spell a decoration.

1 **plug** 1 **socket**

**Cord 3 runs the Lindqvists' tree lights.** What does it spell?

☐☐☐☐☐☐☐☐

**Clue letter: cord 3's second letter** ☐

# The Light Slider

*Bea keeps this slider in the switch box. It's how she writes the lock's riddle every year.*

1. Cut out the two strip pieces below, on the dashed lines. Leave the track at the top on the page.
2. Lay the pieces end to end, so Z touches ★A, and tape across the join on the back.

### The track

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

Slide the strip along under this line.



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

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

**Try it once the strip is taped.** Hold the strip just under the track and slide it until ★A sits under C. Now find K on the strip. The track letter right above it is M.

With ★A under C, every strip letter reads two letters further along the track. Near the end, the strip's left piece takes over: Z on the strip sits under B.

THE LAST STEP

# The Switch Box

*Bea's riddle is taped to the switch box, in code. Your five clue letters are its key.*

1. On the thin lines, write your clue letters in puzzle order (Puzzle 1's letter first), over and over: 1, 2, 3, 4, 5, 1, 2, 3, and so on. Keep going across the gaps between words.
2. For each code letter, slide the strip until its ★A sits under the track letter that matches your thin-line letter.
3. Find the code letter on the strip. The track letter right above it goes on the thick line.

**I P V  Y A M E Z  A N D V Z**

_ _ _  _ _ _ _ _  _ _ _ _ _

**J W  O W S Y  P X I Z N**

_ _  _ _ _ _  _ _ _ _ _

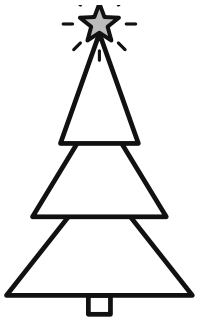
**Who am I?** Put your five clue letters in a new order to answer the riddle. That's the word that opens the lock.

The ending is folded behind this line. Unfold it only when you've solved the riddle.

**You've solved it!** The last dial clicks and the lock falls open. Bea counts down from ten, and the whole street counts with her. At zero, you push the lever to ON.

Juniper Street lights up, house by house: Rania's bakery, the Novaks' porch, the parade banner, Mr. Osei's window and the Lindqvists' garage. Last of all, the star on top of the big pine shines. On every window, the frost sparkles in the new light.

Bea hands round cups from the cocoa cart. "*Not bad for a first night, Lights Crew. Your crew cards are on the next page.*"



# Juniper Street Lights Crew

One card for each crew member. Cut on the dashed lines.

### Lights Crew

JUNIPER STREET LIGHT-UP NIGHT

Name: _____

Year: _____

I helped light up the street.

Signed: Bea Tanaka, Lights Captain




### Lights Crew

JUNIPER STREET LIGHT-UP NIGHT

Name: _____

Year: _____

I helped light up the street.

Signed: Bea Tanaka, Lights Captain





### Lights Crew

JUNIPER STREET LIGHT-UP NIGHT

Name: _____

Year: _____

I helped light up the street.

Signed: Bea Tanaka, Lights Captain





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Year: _____

I helped light up the street.

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JUNIPER STREET LIGHT-UP NIGHT

Name: _____

Year: _____

I helped light up the street.

Signed: Bea Tanaka, Lights Captain





### Lights Crew

JUNIPER STREET LIGHT-UP NIGHT

Name: _____

Year: _____

I helped light up the street.

Signed: Bea Tanaka, Lights Captain




# Hint Strips

Cut the strips apart on the dashed lines. Fold each one like a fan along the dotted lines, so only the puzzle's name shows. Players unfold one hint at a time, and only when they're stuck.

| | | | |
|---|---|---|---|
| **Puzzle 1**<br>**The Cookie Scales** | **HINT 1**<br>Start with the scales that only have snowflakes, bells and weights. One says a snowflake and a bell together weigh 8. | **HINT 2**<br>Two bells balance two snowflakes and a 4, so each bell weighs 2 more than a snowflake. Two numbers that add to 8 and are 2 apart: snowflake 3, bell 5. | **HINT 3**<br>A star and a snowflake weigh the same as three bells, so a star is 12. Then the tree is 15 and the mitten is 22. The spice is one you often find in gingerbread. |
| **Puzzle 2**<br>**The Porch Lights** | **HINT 1**<br>Look at A, B and D on the tag. Each bulb on its own stands for a number, and C is A and B together. | **HINT 2**<br>From the right, the bulbs are worth 1, 2, 4, 8 and 16. Add up the lit ones, then count that far into the alphabet (1 is A). | **HINT 3**<br>The first word is WHAT: W is 23, which is 16 + 4 + 2 + 1. The question is about the top of a tree. |
| **Puzzle 3**<br>**The Parade Lineup** | **HINT 1**<br>Clue 1 makes a pair: the brass band, then the dog walkers right behind. Clue 2 means the choir and the cocoa cart are two places apart. | **HINT 2**<br>The band is ahead of the choir and the bikes are behind it, so the choir is never first or last. Try the band-and-dogs pair in places 1 and 2. | **HINT 3**<br>The cocoa cart is 5th and the fire truck is last. Place the other four with clues 1, 2, 4 and 5. |
| **Puzzle 4**<br>**The Frozen Window** | **HINT 1**<br>Each rung keeps three letters of the rung above. Which one letter of COLD can change to make "a thin rope or string"? | **HINT 2**<br>COLD, CORD, then CARD. What's one letter away from CARD and means "not soft"? | **HINT 3**<br>COLD, CORD, CARD, HARD, HARM. The starred rung is one letter away from both HARM and WARM, and it's on the door. |
| **Puzzle 5**<br>**The Tangled Cords** | **HINT 1**<br>A corner square has only two ways out, so start there. Every square gets used, so no cord can leave an empty pocket behind it. | **HINT 2**<br>The top-right corner can only belong to cord 4. Cord 4 goes up from its plug, round the right-hand edge and back in to its socket. | **HINT 3**<br>Cord 3 starts along the bottom row, then climbs up through the middle to the top row. Its word is eight letters long. |
| **The last step**<br>**The Switch Box** | **HINT 1**<br>Under the first five code letters, write your clue letters from Puzzles 1, 2, 3, 4 and 5. Then start again. | **HINT 2**<br>The first code letter, I, has your Puzzle 1 letter under it. Find that letter on the track, slide ★A under it, find I on the strip and look straight up. | **HINT 3**<br>If the first word isn't WHO, check the order of your clue letters, and that the two strip pieces meet Z to ★A with no gap or overlap. |

**Answers. Fold this page in half, words inside, and tape it shut before you play.**

| | |
|---|---|
| **Puzzle 1** | A snowflake and a bell weigh 8, and a bell is 2 more than a snowflake: snowflake 3, bell 5. Then star 12, tree 15, mitten 22. The jar reads 3, 12, 15, 22, 5: CLOVE. Clue letter **O**. |
| **Puzzle 2** | The bulbs are worth 16, 8, 4, 2 and 1 from the left. The lights ask WHAT TOPS THE BIG TREE? **STAR**. Clue letter **S**. |
| **Puzzle 3** | Front to back: brass band (T), dog walkers (I), school choir (N), bike riders (S), cocoa cart (E), fire truck (L). The banner reads TINSEL. Clue letter **T**. (LISTEN and SILENT use the same letters.) |
| **Puzzle 4** | COLD, CORD, CARD, HARD, HARM, FARM (the starred rung), WARM. Clue letter **F**. |
| **Puzzle 5** | Cord 1 spells BELL, up the left edge. Cord 2, BOW. Cord 3, ORNAMENT: along the bottom left, then up through the middle to the top row. Cord 4, HOLLY, round the top-right corner. Cord 5, RIBBON, round the bottom right. Clue letter **R**. |
| **The riddle** | Letters in puzzle order: O, S, T, F, R, used as the key over and over. The riddle reads WHO DRAWS FERNS ON COLD GLASS? |
| **The lock** | **FROST**. (FORTS uses the same letters, which is why the riddle is needed.) |

## Grown-ups get a kit too

More kits for this age and our escape-room kit for teens and adults, *Closing Time at Pollard*'s, are on the same page you got this one from. Kinundrum makes personalized puzzle countdowns for families and group chats.

## Credits

Story: our own. Juniper Street, Bea Tanaka and the neighbours are made up. Binary numbers, the code behind the porch lights, are real: computers store every number as a row of ons and offs.

Illustrations: original art made for this kit. Fonts: Atkinson Hyperlegible (Braille Institute of America), SIL Open Font License 1.1; Fredoka (Milena Brandão and Hafontia), SIL Open Font License 1.1; Noto Sans Symbols 2 (The Noto Project Authors), SIL Open Font License 1.1.

# Another way to play

Text versions of the picture puzzles, for a player who can't easily see them or uses a screen reader. Read them aloud or hand this page over. The answers and hint strips are the same; write answers on the puzzle's own page.

### Puzzle 1 · The Cookie Scales

- Scale 1: a mitten cookie on one pan; a tree cookie, a bell cookie and a 2 weight on the other.
- Scale 2: a snowflake cookie and a bell cookie on one pan; an 8 weight on the other.
- Scale 3: a tree cookie and a bell cookie on one pan; a star cookie and an 8 weight on the other.
- Scale 4: two bell cookies on one pan; two snowflake cookies and a 4 weight on the other.
- Scale 5: a star cookie and a snowflake cookie on one pan; three bell cookies on the other.
- The jar's label, left to right: snowflake, star, tree, mitten, bell.

### Puzzle 2 · The Porch Lights

● is a lit bulb and ○ a dark one. Each group of five bulbs, read left to right, is one letter.

The tag on the plug: A ○○○○● · B ○○○●○ · C ○○○●● · D ○○●○○ · H ○●○○○ · P ●○○○○.

String 1: ●○●●● ○●○○○ ○○○○● ●○●○○
String 2: ●○●○○ ○●●●● ●○○○○ ●○○●●
String 3: ●○●○○ ○●○○○ ○○●○●
String 4: ○○○●○ ○●○○● ○○●●●
String 5: ●○●○○ ●○○●○ ○○●○● ○○●○●

### Puzzle 3 · The Parade Lineup

The groups and their banner cards: brass band, T; dog walkers, I; school choir, N; bike riders, S; cocoa cart, E; fire truck, L.

### Puzzle 4 · The Frozen Window

Seven rows of four panes. The top row reads COLD and the bottom row WARM. The five rows between are blank, and the sixth row from the top is starred.

### Puzzle 5 · The Tangled Cords

The garage floor, row by row from the top. Each cord starts at its plug and ends at its socket.

| L | L | Plug 2 | Socket 3 | H | O |
|---|---|---|---|---|---|
| E | Socket 1 | B | T | Plug 4 | L |
| B | W | O | N | Y | L |
| Plug 1 | Socket 2 | M | E | Socket 4 | Plug 5 |
| R | N | A | O | B | R |
| O | Plug 3 | Socket 5 | N | B | I |

### The Light Slider

The slider is a cut-and-tape tool with no text version. A player who can't use it can count along the alphabet instead, the way page 8 describes. The hint strips still apply.