COMPLETE STORY + QUIZ

# Emma and the Firefly Light Pattern

Emma and the Firefly Light Pattern | Suggested ages 5-6



Emma uses observation and a repeating pattern to program gentle garden lights inspired by fireflies.

## Read, talk, and discover

The complete story is followed by questions and a separate answer guide. Read aloud together, pause to talk, and take your time.

Print on US Letter at actual size, or choose Fit for A4. Use single-sided printing for activity cards. Black-and-white printing is suitable.

## Part 1

At twilight, Emma watched fireflies blink above the garden flowers. Some flashes seemed close together, while others had longer pauses.

## Part 2

She did not catch the insects. Instead, Emma drew circles for flashes and straight lines for pauses in her notebook.

## Part 3

With Dad's help, Emma programmed the three battery lanterns to blink together: short flash, short flash, long flash, then a pause.

## Part 4

Her first program left out the pause between each group. The repeated flashes looked like one long glow instead of separate patterns.

## Part 5

Emma added a pause after each group. She clapped the rhythm while Dad pressed the test button slowly.

## Part 6

The three lanterns now blinked together: short, short, long, pause. Emma repeated the program four times and got the same result.

## Part 7

She placed the lanterns on the porch, away from the fireflies' flower patch. The gentle pattern welcomed family to the garden.

## Part 8

Emma learned that patterns repeat in a predictable order. Observing nature can inspire a design without disturbing living creatures.

# Draw, tell, or write

Draw your favorite part of the story. Tell a grown-up what happened before it and what happened next.

## My favorite part, and why I chose it

STORY QUIZ

# Think about the story

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Name: _____ Date: _____

Read each question and all the choices. Circle one answer. A grown-up can read aloud; you can point or say your answer, too.

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## 1. How did Emma record the firefly flashes?

| | | |
|---|---|---|
| A. By catching every firefly | B. With circles and lines in a notebook | C. With cups of colored water |

Tell someone how you decided, or write a few words.

## 2. What light pattern did Emma choose?

| | | |
|---|---|---|
| A. Long, long, long, no pause | B. One short flash only | C. Short, short, long, then pause |

Tell someone how you decided, or write a few words.

## 3. Why did the first program look like one long glow?

| | | |
|---|---|---|
| A. It had no pause | B. The lanterns were made of paper | C. The garden was too quiet |

Tell someone how you decided, or write a few words.

# Questions 4 to 5

## 4. How many times did Emma repeat the working program?

| | | |
|---|---|---|
| A. One time | B. Four times | C. Ten times |

Tell someone how you decided, or write a few words.

## 5. What did Emma learn from the project?

| | | |
|---|---|---|
| A. Nature must be captured to be studied | B. Every light should blink randomly | C. Patterns repeat in a predictable order |

Tell someone how you decided, or write a few words.

ANSWER GUIDE

# For the grown-up

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Keep this page separate from the child's activity. Read directions aloud when helpful, and invite the child to explain their ideas.

## 1. B - With circles and lines in a notebook

With circles and lines in a notebook

## 2. C - Short, short, long, then pause

Short, short, long, then pause

## 3. A - It had no pause

It had no pause

## 4. B - Four times

Four times

## 5. C - Patterns repeat in a predictable order

Patterns repeat in a predictable order

## Keep exploring

Draw your favorite part of the story. Tell a grown-up what happened before it and what happened next.