Sum Garden

Sum Garden

A Guide for Teachers, Professional Educators, and Parents



Help the hungry rabbit eat his fill of delicious carrots. Watchout for the gardening bear.



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Welcome to the garden

Sum Garden is a short addition-practice activity set in a garden. Children solve an equation, choose a numbered carrot, and watch a rabbit collect it. The game can be used for guided practice, a classroom math station, paired discussion, or a brief home learning activity. Its worksheet generator extends the practice to paper.

Choose the activity according to the child's current understanding of whole numbers and addition, rather than age alone. Begin with an adult nearby to model how to read the equation and choose an answer. Fingers, counters, drawings, and a number line may be used throughout play.

Getting started

Open Sum Garden. A title splash screen appears briefly. The game then opens in a maximized window. A bear works in his garden and walks away before the rabbit enters. Children do not need to click during this opening sequence.

For ordinary addition practice, simply allow the title screen to finish. Two additional options are available during that brief screen:

A A or a: Enable Advanced Mode, with a missing number in any equation position.

G G or g: Open the worksheet generator instead of playing the game.

To make Advanced Mode worksheets, press A first, then G, during the title screen. These shortcuts have no on-screen prompt.



LIVE CAPTURE / THE BEAR WORKS BEFORE THE RABBIT ENTERS



How to play

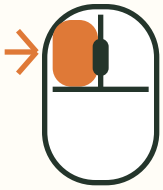


LIVE GAMEPLAY / 1 EQUATION / 2 CORRECT-ANSWER COUNT / 3 ANSWER CARROTS

1. Read the equation written at the top of the garden.
2. Work out the number that belongs in place of the question mark.
3. Find that number on the front row of carrots and click the carrot once.
4. Watch the rabbit walk to the carrot and reveal the result.
5. Wait for the rabbit to return and the next equation to appear.

The answer labels disappear as soon as a carrot is selected. That choice is then final for the current equation; allow the animation to finish before choosing again.

ONE LEFT CLICK



Carrots and feedback

A correct choice reveals a bright carrot. The missing number appears in the equation, and the rabbit eats the carrot. An incorrect choice reveals a black carrot, and the equation disappears during the pulling sequence. After the rabbit returns, a new equation appears.



A CORRECT CHOICE

Bright carrot. The rabbit eats.



THIRD INCORRECT CHOICE

On the third incorrect choice, the rabbit pulls up a carrot with an angry bear attached. The game then displays GAME OVER. Press Enter or click the Game Over screen to start again. Press Escape at any time to leave the game.

The number in the sun counts correct answers. It is not a count of attempts. The game does not display a mistake counter.

Enter Start again

Escape Leave the game

The number in the sun counts correct answers.

It is not a count of attempts.



Difficulty and Advanced Mode

In ordinary mode, the question mark replaces the sum:

2 + 3 = ?

The first equations have answers from 1 through 5. Each correct answer raises the upper end of the possible answer range by one. Incorrect answers do not increase that range. Zero may appear as an addend, as in 0 + 4 = ?.

Difficulty increases the range of possible answers, but a later equation may still use small numbers. The same addition fact cannot appear twice in a row, even with the addends reversed. For example, 2 + 3 will not be followed by 3 + 2. A fact may return later in the session.

In Advanced Mode, the question mark can replace either addend or the sum:

? + 3 = 5

2 + ? = 5

2 + 3 = ?

Ask the child to find the number that makes the whole equation true. The missing answer starts within the same 1-through-5 range, which increases with correct choices. When an addend is missing, the displayed sum can be larger than that answer range. Advanced Mode remains active when the game is restarted; close and reopen Sum Garden to return to ordinary mode.



A **Enable during the splash screen.**

The five-minute session

The five-minute timer begins when the rabbit starts entering the window. The bear's opening scene does not use up this time.

A small spider slowly lowers itself on a black thread from the watering can's spout. It reaches the ground when five minutes have elapsed. This is a visual indication of session time; there is no separate deadline for each individual answer. The timer continues if the window is minimized.

When time runs out, the current equation remains available to finish. If a choice is already being animated, that sequence finishes. Unless the answer triggers the bear on the third mistake, the game then shows:

Great Work
[number] right answers.
Is it time for a break?
Press Enter to play again, Escape to exit.

A sleeping rabbit appears in the lower-right corner. Press Enter or click the underlined word Enter to restart. Press Escape or click the underlined word Escape to exit. A restart begins a fresh session and resets the score, mistakes, timer, and starting answer range.



LIVE CAPTURE / THE SESSION ENDS AFTER THE CURRENT EQUATION

Making a worksheet

Press G during the opening title screen. Choose a quantity of 10, 15, 20, 25, or 30 equations. Select whether the answer key should appear at the bottom of the worksheet or on a separate page. Select Generate, choose a filename and location, and save the PDF. The program closes after a successful save. Open the saved PDF to print it or share it with families.

Worksheets contain addition equations drawn from the same number rules as gameplay. The possible answer range begins at 1 through 5 and grows by one for each successive problem, following the progression of a game in which each answer is correct. This means that larger worksheets may include numbers beyond the child's current instructional range. Preview the page and select suitable problems before assigning it.

G **Worksheet generator**

1 **QUANTITY**

10 / 15 / 20 / 25 / 30

2 **ANSWER KEY**

Bottom of worksheet or separate page

3 **GENERATE**

Choose a filename and save the PDF



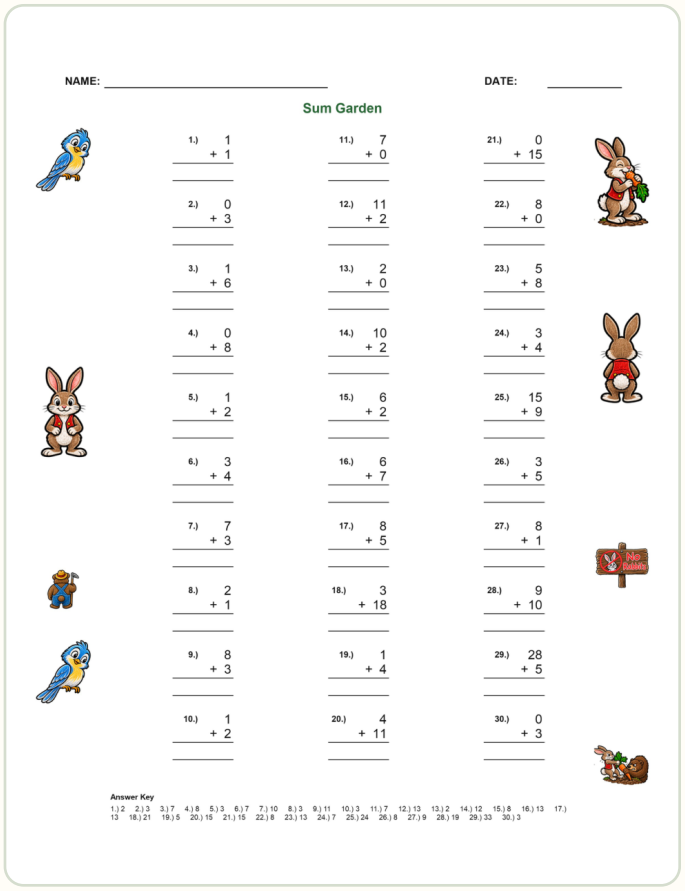
A **G**

ADVANCED WORKSHEETS: PRESS A FIRST, THEN G

Printable practice

Ordinary worksheets use column addition with space for the sum. Advanced worksheets use equations with a blank in varying positions. Random garden characters decorate the margins; these pictures are decorative and do not show the quantities in an equation. The answer key belongs to the equations on that particular worksheet.

For independent practice, a separate answer page keeps the solutions out of view. A key at the bottom can support supervised self-checking after the child has explained or recorded a solution.

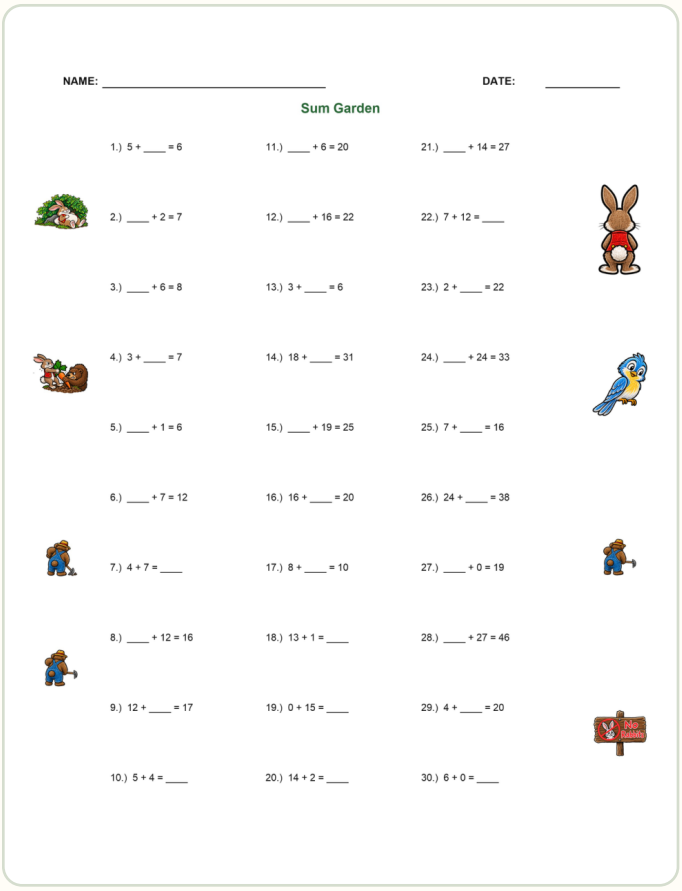

NAME: _____ DATE: _____

Sum Garden

1.) 1 + 1 _____
2.) 0 + 3 _____
3.) 1 + 6 _____
4.) 0 + 8 _____
5.) 1 + 2 _____
6.) 3 + 4 _____
7.) 7 + 3 _____
8.) 2 + 1 _____
9.) 8 + 3 _____
10.) 1 + 2 _____
11.) 7 + 0 _____
12.) 11 + 2 _____
13.) 2 + 0 _____
14.) 10 + 2 _____
15.) 6 + 2 _____
16.) 6 + 7 _____
17.) 8 + 5 _____
18.) 3 + 18 _____
19.) 1 + 4 _____
20.) 4 + 11 _____
21.) 0 + 15 _____
22.) 8 + 0 _____
23.) 5 + 8 _____
24.) 3 + 4 _____
25.) 15 + 9 _____
26.) 3 + 5 _____
27.) 8 + 1 _____
28.) 9 + 10 _____
29.) 28 + 5 _____
30.) 0 + 3 _____

Answer Key
1.) 2 2.) 3 3.) 7 4.) 8 5.) 3 6.) 7 7.) 10 8.) 3 9.) 11 10.) 3 11.) 7 12.) 13 13.) 2 14.) 12 15.) 8 16.) 13 17.) 13 18.) 21 19.) 5 20.) 15 21.) 15 22.) 8 23.) 13 24.) 7 25.) 24 26.) 8 27.) 9 28.) 19 29.) 33 30.) 3

ORDINARY ADDITION


NAME: _____ DATE: _____

Sum Garden

1.) 5 + ___ = 6
2.) ___ + 2 = 7
3.) ___ + 6 = 8
4.) 3 + ___ = 7
5.) ___ + 1 = 6
6.) ___ + 7 = 12
7.) 4 + 7 = ___
8.) ___ + 12 = 16
9.) 12 + ___ = 17
10.) 5 + 4 = ___
11.) ___ + 6 = 20
12.) ___ + 16 = 22
13.) 3 + ___ = 6
14.) 18 + ___ = 31
15.) ___ + 19 = 25
16.) 16 + ___ = 20
17.) 8 + ___ = 10
18.) 13 + 1 = ___
19.) 0 + 15 = ___
20.) 14 + 2 = ___
21.) ___ + 14 = 27
22.) 7 + 12 = ___
23.) 2 + ___ = 22
24.) ___ + 24 = 33
25.) 7 + ___ = 16
26.) 24 + ___ = 38
27.) ___ + 0 = 19
28.) ___ + 27 = 46
29.) 4 + ___ = 20
30.) 6 + 0 = ___

MISSING-VARIABLE ADDITION

Enter

Generate a worksheet after choosing its options.

Preview the page and select suitable problems before assigning it.

Teaching connections

Addition as combining and counting on

Connect the written equation to a meaningful action. For 3 + 2, place three counters beside two counters and combine them. Then model counting on from three: "four, five." Invite the child to explain how the objects, spoken numbers, and written symbols describe the same relationship.

Representations and mathematical language

The garden provides an engaging setting, but its carrots are answer choices, not a visual model of the addends. Pair the game with objects, drawings, or a number line when a child needs a quantity model. Use clear language such as addend, sum, and equals, explaining each term in familiar words. Move between representations deliberately rather than expecting the animation alone to teach the concept. These teaching choices reflect the emphasis on systematic instruction, mathematical language, and representations in the Institute of Education Sciences' elementary mathematics intervention guide.

Equality and part-whole relationships

Explain the equals sign as "has the same value as," rather than "the answer comes next." Advanced Mode provides opportunities to explore a whole and its parts: "We know the total is five and one part is three. What is the other part?" A child might count on, separate counters, or use a related subtraction fact. This connects addition practice to early algebraic thinking.



OBJECTS, SPOKEN NUMBERS, AND WRITTEN SYMBOLS

Strategies and feedback

Flexible strategies and the order of addends

Discuss why 2 + 3 and 3 + 2 have the same sum. This is the commutative property of addition. As children become ready, invite strategies such as counting on from the larger number, using doubles, or making ten. The game avoids immediate equivalent repeats, so use a spoken example or written pair when you want children to compare both orders explicitly.

Feedback, explanation, and fluency

The bright and black carrots give immediate feedback about whether the selected answer is correct. They do not explain the reason for an error. Follow an incorrect choice with a calm explanation or a concrete example. Encourage the child to solve before looking through the choices. Accurate reasoning and a growing repertoire of strategies are useful goals; choosing quickly is not the only sign of understanding.

The practice topics connect with early elementary expectations concerning addition, the commutative property, and unknowns in different equation positions. Because the number range grows, individual sessions and worksheets can extend beyond a particular grade's specified range. Select and supervise the activity in relation to the learner's needs. Sum Garden is a practice resource; the game itself has not been presented as a validated assessment or a tested instructional intervention.

2 + 3 = 5

3 + 2 = 5

Explain. Represent. Check.



Play, talk, and extend

Before play: Model one addition equation with objects. Ask the child what the question mark means and how an answer can be checked.

During play: Invite an explanation before a click. Partners can alternate between explaining a solution and selecting the answer. Allow discussion and manipulatives rather than treating the session as a race.

After play: Revisit one successful strategy and one challenging equation. Ask the child to draw or write a related example. Use a short worksheet selection when practice on paper will help connect the activity to classroom work. Honor the break prompt when the child needs a rest.

Useful questions include:

"How did you work that out?"

"Can you show the same idea with counters or a drawing?"

"What changes if we switch the addends?"

"How do you know both sides have the same value?"

"What number is missing, and how could we check it?"

For a child who is still developing confidence, provide guided choices, read equations aloud, and model a strategy before another attempt. Recognize effort, explanation, and improvement. Treat the bear ending as the end of one round, followed by a chance to discuss and try again.



Observing learning

Notice the child's strategy, accuracy, explanation, and use of support. Record observations such as "counts on from the larger addend" or "needs counters for missing-addend equations." These are more informative than the carrot total alone.

The total is affected by thinking time, animation time, adult assistance, number range, and mouse use. Use it as a record of that session rather than a grade or a comparison between children. Sum Garden does not keep a saved progress report.



Enter PLAY AGAIN

Escape EXIT