



CIRCUS NUMBERS

Player, Family, and Educator Manual

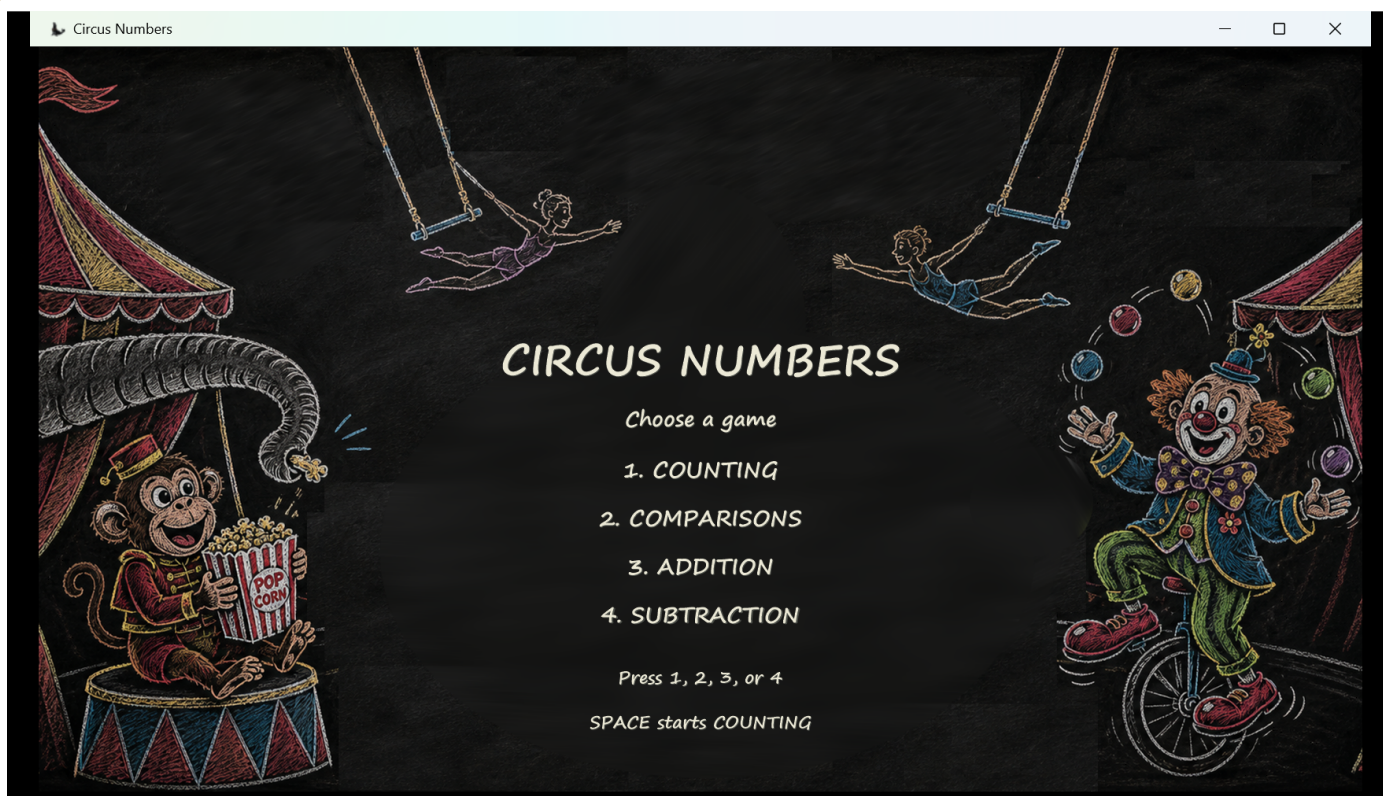
What could be more exciting than the day the circus comes to town? The tents rise, the music begins, and amazing wonders fill the ring. Count the treats, compare the performers' collections, and solve each number act to help the show go on. Step right up - the Circus Numbers spectacular is about to begin!

VERSION 1.0 | WINDOWS 11

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Welcome to the Big Top

A bright, timed math adventure for young learners



The current Circus Numbers menu

Quick start

Choose 1, 2, 3, or 4. COUNTING is selected by default, so SPACE starts it immediately. Each activity begins with its own circus background and ends with a summary.

Four acts

1 COUNTING | 2 COMPARISONS 3 ADDITION | 4 SUBTRACTION Use the keyboard or click a menu line with the mouse.

Before the show begins

- Turn on sound so correct and incorrect answer cues can be heard.
- Resize the window if needed; artwork and controls scale with it.
- Use short sessions and celebrate careful thinking, not only speed.

Two Ways to Play

Keyboard and mouse controls are available throughout the game

Keyboard

0-12

Enter a numeric answer.

ENTER

Submit the answer.

DELETE

Clear the current input.

ESC

Exit the application cleanly.

Comparison keys

<

,

Less than

=

Equal to

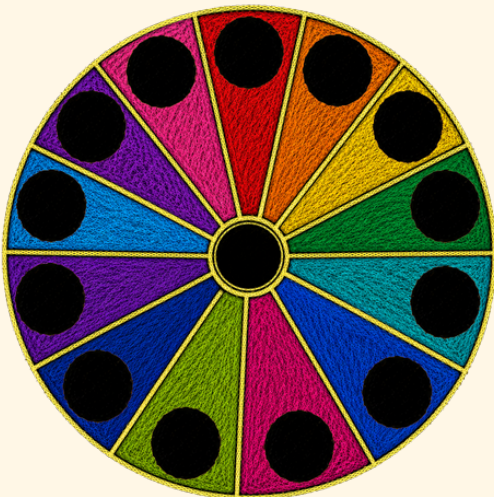
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.

Greater than

Comma and period work without holding SHIFT, making comparison input easier for small hands.

The number wheel



Click any colored wheel segment to choose its number. The wheel scales with the window, and each entire segment is clickable - not just the black number circle.

MOUSE FRIENDLY**SPACE**

Starts the default COUNTING activity from the menu.

Every Answer Becomes a Learning Moment

Clear sound, animation, and encouraging feedback keep the pace moving



A correct answer with a positive affirmation

Correct

A tada plays, an affirmation appears, and the game demonstrates the quantity when the activity calls for counting.

Incorrect

A gentle wrong-answer sound plays. In object stages, the game counts the objects and shows the correct result.

No answer

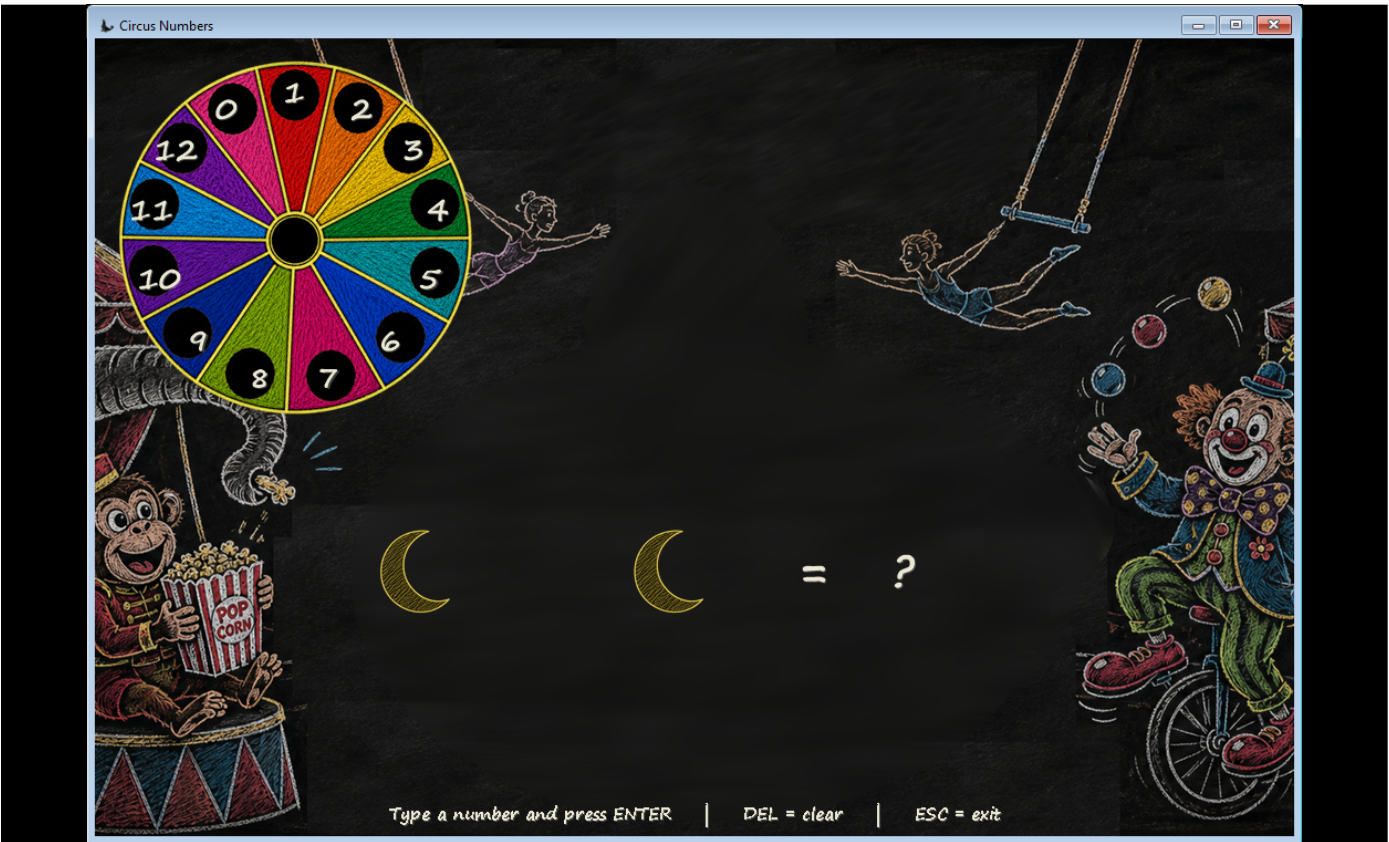
After 20 seconds, the correct response is demonstrated. The wrong-answer sound is not played.

HOW THE COUNTING DEMONSTRATION WORKS

A counter appears above the group, beginning at 0. Each object grows briefly and returns to size; the counter advances to 1 with the first object and continues through the full quantity. Groups in two-part activities are counted together before the total is shown.

Counting

Build one-to-one correspondence before combining groups



Initial counting play: count the objects, then answer at the equals sign

DEFAULT ACTIVITY

AGES 4+

1

Single-group counting

2 MINUTES

Count 1 to 5 randomly arranged objects. Consecutive questions never use the same quantity.

2

Two-group counting

3 MINUTES

With at least 5 correct answers, add two groups of 1 to 5 objects and enter the total.

What the player sees

- Objects may form rows, triangles, squares, circles, or staggered patterns.
- The answer area displays = ? until a number is entered; DELETE restores the question mark.
- Objects are spaced to avoid overlap and positioned in the open center of the circus scene.

Comparisons

Decide whether the left side is less than, equal to, or greater than the right



Object groups and the three clickable comparison characters

Choose the relationship



Left group is smaller



Groups are equal



Left group is larger

PLAY WITH THE MOUSE - CLICK THE CHARACTER THAT SHOWS YOUR ANSWER



GREATER THAN



EQUAL



LESS THAN

1

Object groups up to 5

2 MIN

Reach at least 90 percent correct to advance.

2

Object groups up to 6

2 MIN

Reach at least 97 percent correct to advance.

3

Number comparison

1.5 MIN

Large numerals replace the objects; counting demonstrations are no longer needed.

Addition

Join two groups and find the total



Count both groups, then enter their combined total.

1**Groups of 1 to 5****3 MINUTES**

The familiar count-and-reveal sequence follows each answer.

2**Groups of 1 to 6****3 MINUTES**

Earn 5 correct answers in Stage 1 to reach this level.

3**Mixed bonus****2 MINUTES**

With more than 95 percent correct in Stage 2, one group may appear as a numeral. Feedback uses sound only.

4**Final bonus****1 MINUTE**

A perfect first bonus unlocks a faster round. Either side may appear as a numeral.

Helpful strategy

Ask the learner to begin with the larger group and count on. Example: for $5 + 2$, say 'five ... six, seven.' The visual groups support the idea that addition joins quantities, while the numeral bonus stages help bridge concrete objects and symbols.

Progress is earned

The activity advances only when the round threshold is met. If it is not met, the summary appears without penalty language. A fresh game always offers another opportunity to practice.

Subtraction

Start with a quantity and take away the group shown

$$9 - \text{3 apples} = ?$$

The starting number is shown on the left. Subtract the number of objects in the group.

1**Object subtraction****3 MINUTES**

A large starting number appears first; count the group being removed and enter what remains.

2**Numeral bonus****BONUS ROUND**

At 95 percent correct or higher, object groups are replaced by numerals for symbolic practice.

Try this language

Tell the number story

'There are 9 apples at the circus snack stand. Three are served. How many remain?' Connecting the symbols to a short story can make subtraction easier to understand.

Check the direction

The left number is the starting amount. The group or number after the minus sign is taken away. The answer cannot be greater than the starting amount.

KEY IDEA

Subtraction asks what remains after part of a quantity is removed. Encourage the player to count backward, count what is left, or use fingers or small objects nearby.

Rounds, Timing, and Advancement

A concise guide to the full progression

ACTIVITY	ROUND	TIME	TO ADVANCE	DISPLAY
COUNTING	Single group	2:00	5 correct	1-5 objects
COUNTING	Two groups	3:00	Summary follows	1-5 per group
COMPARISONS	Objects	2:00	90% correct	1-5 per group
COMPARISONS	More objects	2:00	97% correct	1-6 per group
COMPARISONS	Numerals	1:30	Summary follows	Numbers only
ADDITION	Groups	3:00	5 correct	1-5 per group
ADDITION	Larger groups	3:00	>95% correct	1-6 per group
ADDITION	Mixed bonus	2:00	Perfect round	One numeral possible
ADDITION	Final bonus	1:00	Summary follows	Either side may be numeral
SUBTRACTION	Objects	3:00	95% correct	Number minus group
SUBTRACTION	Numeral bonus	Bonus	Summary follows	Numbers only

ABOUT THE CLOCK

The clock sets a lively session length; it is not a measure of intelligence. A question already in progress can finish after the displayed time reaches zero. Round durations are therefore approximate.

Turn Play Into Conversation

A few thoughtful prompts can deepen mathematical understanding

Before playing

Invite the learner to choose an activity. Practice locating ENTER, DELETE, and ESC. For comparisons, point out that the open side of the symbol faces the larger quantity.

During play

Let the learner think before offering help. Ask for a strategy: 'Did you count each one, recognize a pattern, or count on from a larger group?'

After a mistake

Keep the tone neutral: 'Let's watch the objects count themselves.' Then ask, 'What did you notice?' The demonstration is the explanation, not a punishment.

After a round

Celebrate persistence and name a specific success: 'You checked both sides carefully.' Use the summary as a conversation starter rather than a grade.

Questions worth asking

- How did the arrangement help you count without skipping an object?
- Can you show the same quantity in a different pattern?
- How can you tell which side is greater before counting every object?
- What addition or subtraction story matches this picture?
- Which answer would be too large or too small? How do you know?

What Circus Numbers Practices

Playful repetition with concrete, visual, and symbolic representations

Number sense

Recognize quantities, connect numerals to sets, and see the same number in varied spatial arrangements.

Operations

Join groups for addition and reason about what remains in subtraction.

Relationships

Use less than, equal to, and greater than to compare two quantities.

Design principles

- Concrete to symbolic: object groups support meaning before numerals take over in advanced rounds.
- Varied arrangements: rows and geometric patterns discourage reliance on one memorized layout.
- Immediate, neutral feedback: animation and sound make the correction visible without harsh language.
- Multiple input paths: keyboard, number wheel, and large comparison characters support different motor preferences.
- Bounded practice: timed rounds create a clear beginning and ending, followed by a concise summary.

IMPORTANT PERSPECTIVE

Circus Numbers is a practice game, not a diagnostic assessment. Performance can vary with familiarity, attention, reading, motor access, sound level, and comfort with timed tasks. Adults should combine game observations with conversation and other learning evidence.

Setup, Sound, and Troubleshooting

Practical notes for a smooth performance

System and display

Designed for 64-bit Windows 11. The game opens in a resizable window, and gameplay elements scale and reposition with the available space.

Audio

Background music plays softly during the game. Correct and incorrect answers are accompanied by appropriate sound effects for immediate feedback. Computer volume controls the overall level.

If something does not look or sound right

- No sound: confirm Windows is not muted and check the active output device.
- Objects appear crowded: enlarge the game window or use a standard 16:9 display size.
- A key does not respond: click the game window once to restore keyboard focus.
- Need to clear an entry: press DELETE; the question mark returns.
- Ready to stop: press ESC at any time for a clean exit.



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THANK YOU FOR JOINING THE SHOW!