

# APPLE PICKING

## ACTIVITY GUIDE BEGINNER VERSION

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## Materials and Setup

Per table (assuming 5 pairs of students per table), you will need:

Per Table	Material Preparation	
3 copies of Instructions	1 page each	p. 6
5 copies of Tasks	2 pages each <i>can be printed double-sided</i>	p. 7
125 Apple Cards	Print Apple cards double-sided and then cut out. <i>NOTE: If you have already made these for the regular version, you don't need to make more.</i>	p. 8-9
1 copy of Table Sign	1 page <i>print on cardstock for sturdiness</i>	p. 10

Per Table	Purchasing Materials		
8 plastic sheet protectors	<a href="#">pack of 100</a> for \$7.67	<a href="#">pack of 500</a> for \$26.99	These are recommended in order to protect the documents that students will be handling.



## What does “Beginner Version” mean?

This version of Apple Picking was created with PreK - 2nd grade students in mind. However, "beginner" does not mean “easy,” and this version of Apple Picking can be an effective way to engage students of any age who:

- Have strong math anxieties
- Don't feel confident with math or math puzzles
- Have learning differences
- Want a gentler start to the activity

Older students and parents at our events often engage with this beginner version and move on to the [regular version](#) when they feel ready.

## Objective

The goal is to be the player who eats the last apple.

Rules:

1. Players take turns eating apples by flipping the cards over.
2. Each turn, a player can eat one apple or two apples.

## Materials

Each Apple Picking table should be prepped for 5 stations of two students.

Each station needs:

1. 25 apple cards.
2. Apple Picking instructions.
3. Apple Picking tasks.

## How to Play

Introduce the activity without overexplaining it and without telling what strategies students might want to use. As much as possible, avoid giving away answers. Students should be encouraged to explore, experiment, and learn from their mistakes.

1. Demonstrate the rules by playing a game with the student (or pair of students).
2. Encourage them to explain their thinking out loud as they choose which move to make.
3. Have the student explore the game, starting with the row of 5 apples. Apple Picking is a 2-player game, so collaborating with a partner is preferred, but the game can also be played with an imaginary partner.

## Standards

1. Make sense of problems and persevere in solving them. CCSS.MP1
2. Construct viable arguments and critique the reasoning of others. CCSS.MP3
3. Model with mathematics. CCSS.MP4
4. Look for and make use of structure. CCSS.MP7

## Answers

### **General Answers for Apple Picking** (*Please don't share these strategies with students!*):

1. If the starting number of apples is not a multiple of 3:
  - The first player can win by always leaving the opponent with a multiple of 3. e.g., Starting with a row of 5 apples. The first player should take two apples, leaving 3 apples for the second player.
2. If the starting number of apples is a multiple of 3:
  - The second player can win by always leaving the first player with a multiple of 3. e.g., Starting with a row of 6 apples and the first player takes 2 apples, leaving 4 apples remaining. The second player can then take 1 apple leaving 3 apples for the first player.

## Asking Good Questions

1. Ask questions about confidence.
  - a. When a student asks you “Is this right?”, instead of saying “yes” or “no” right away, ask them how confident they are in their answer. Here are some examples:
    - i. “Maybe. What do you think? How confident are you?”
    - ii. “On a scale of 1-5, how confident are you in your answer?”
  - b. If a student is not confident in their answer, follow up by asking “What would help you feel more confident in your answer?” or “Why do you not feel confident?” This helps you determine how best to help the student through their explorations.
2. Ask students about choices.
  - a. When a student is stuck or shows you a wrong answer, instead of jumping in and showing the student the correct answer, start by asking about the choices that the student made along the way. Here are some suggested steps to follow:
    - i. Start from the beginning.
    - ii. Ask students to show you what they’ve tried so far.
    - iii. When the student gets to a point where they have different choices, ask the student “What other choices can you make here?”
    - iv. Have the student make a different choice and try to solve the puzzle. This helps the student see that they have the power to make different choices during an activity, and they’ll start to do this on their own in the future.
    - v. If you’re familiar with the puzzle or a particular solution, stop the student only when a different choice will help them get to the solution. This will help them feel successful faster without you giving away too much of the answer.
3. Ask students about strategies.
  - a. If a student is getting into the activity and has been doing it for a while, ask the student if there are any strategies they’ve come up with to help them solve the puzzle or win the game.
  - b. Follow up by asking if they think their strategies will work for all puzzles and/or larger puzzles, more complex puzzles, etc. Have the student explore more complex puzzles to test out their strategies.
  - c. This is a great way to encourage a student to dive deeper into an activity and to start looking for patterns, structure, and proofs.

## **Apple Picking Instructions (Beginner Version)**

### **Rules:**

1. Start with a row of apples.



2. Players take turns eating apples by flipping the cards over.
3. Each turn, a player can eat one apple or two apples.
4. The winner is the player who eats the last apple.

# Apple Picking (Beginner Version)



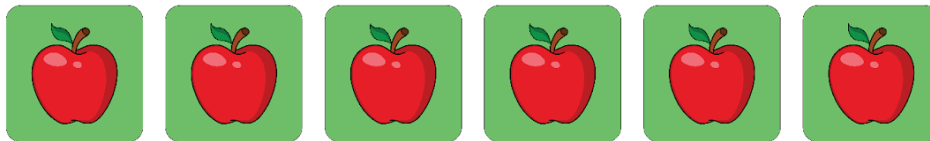
**BEGINNER**

You can play any of the games below, or make up your own!

## Game #1



## Game #2



## Game #3



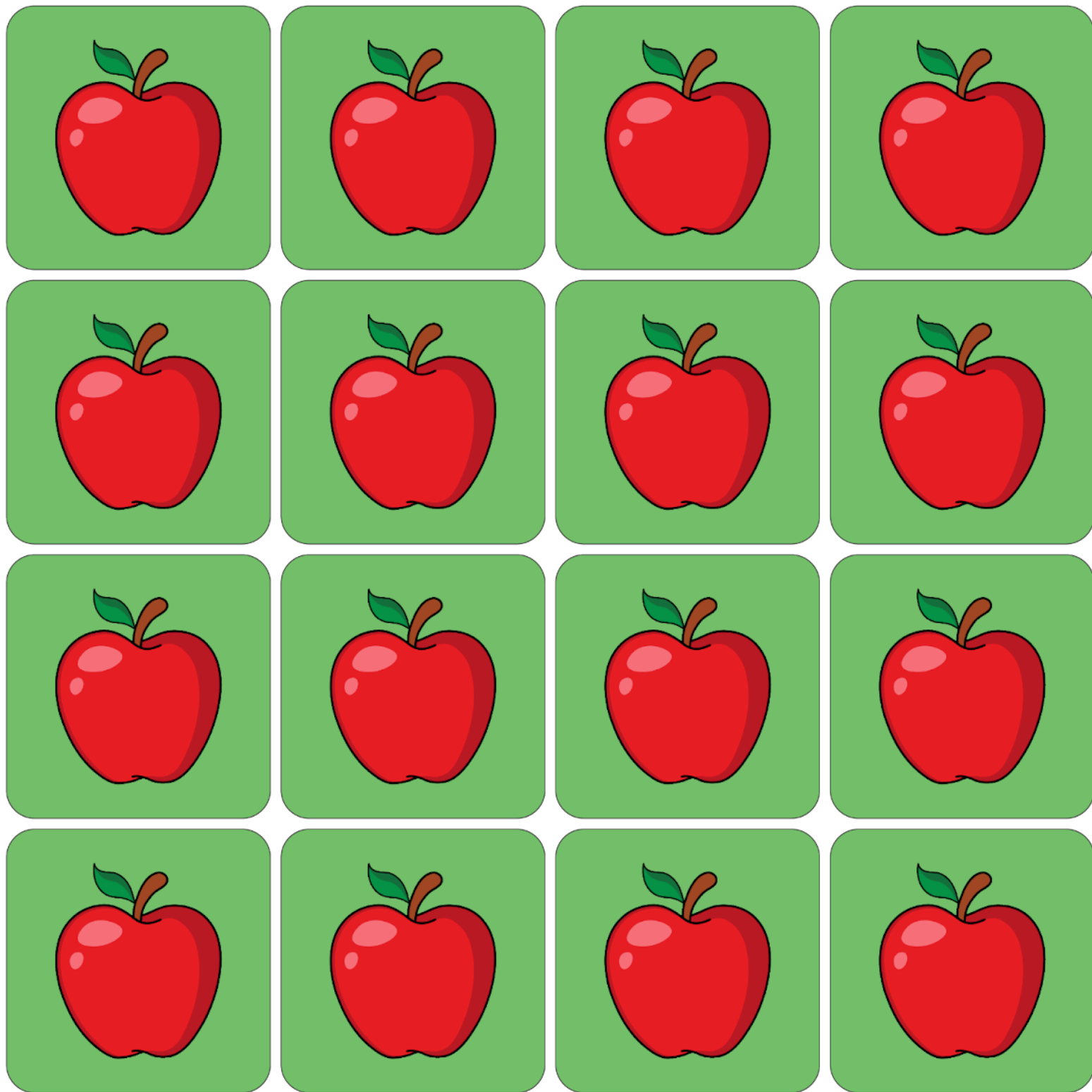
## Game #4



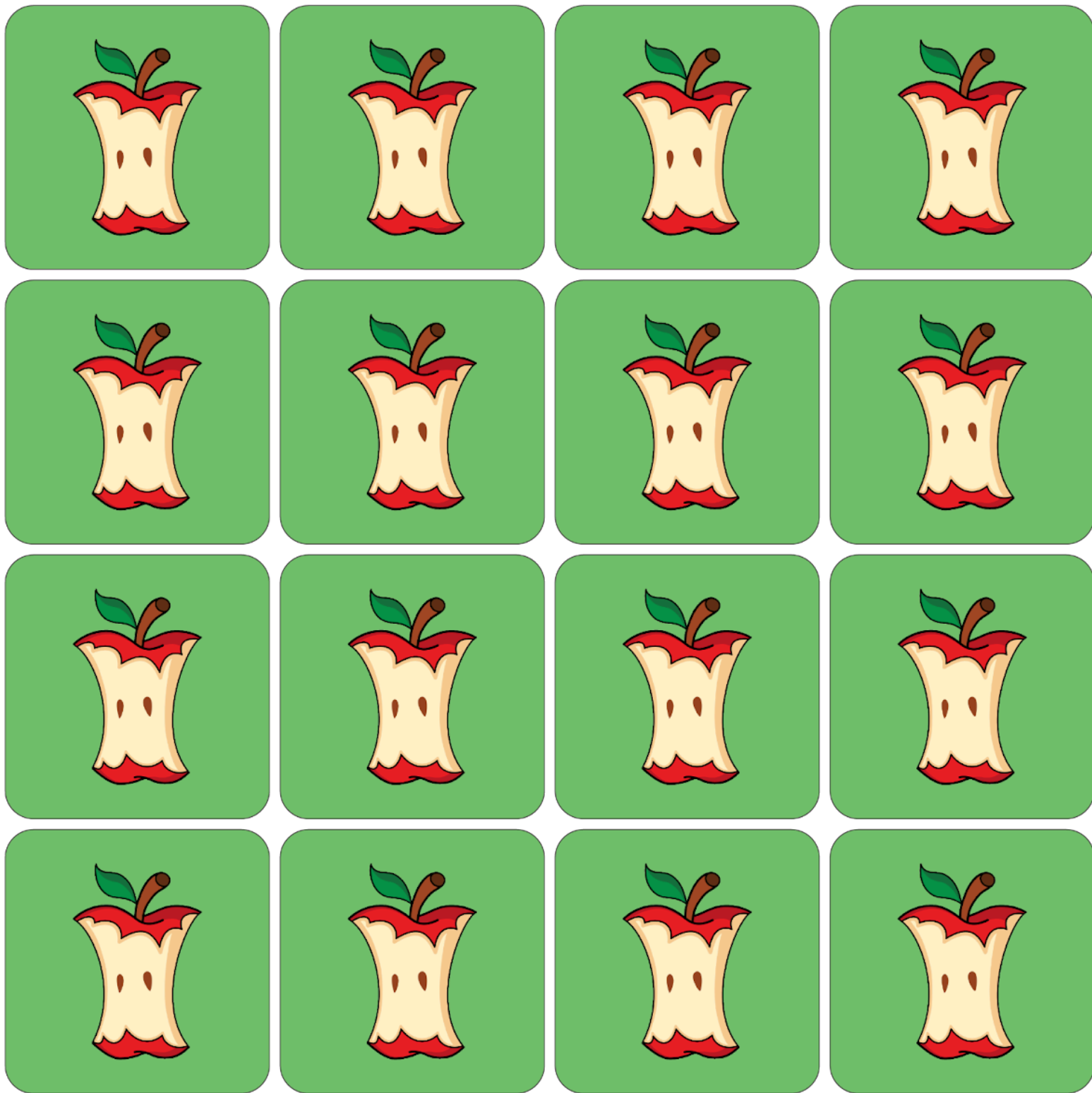
## Game #5



# Apple Picking Cards (Front)

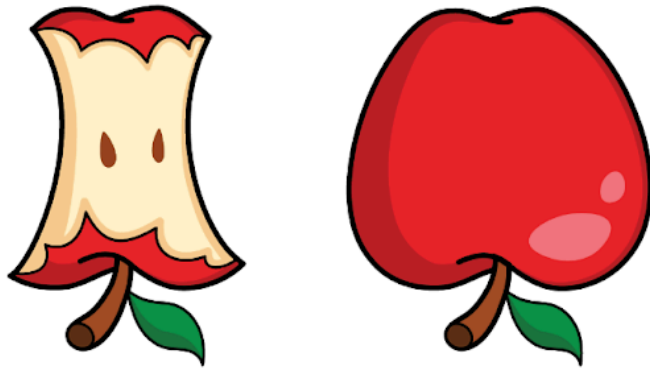


# Apple Picking Cards (Back)





Play for free at  
[jrmf.org/puzzle/apple-picking](http://jrmf.org/puzzle/apple-picking)



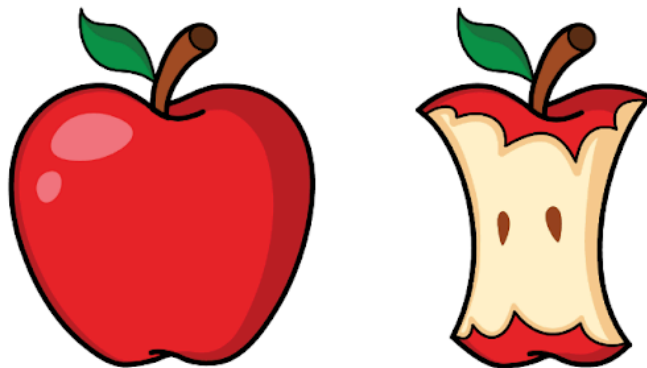
# APPLE PICKING

BEGINNER



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