

Game

Domino chain game

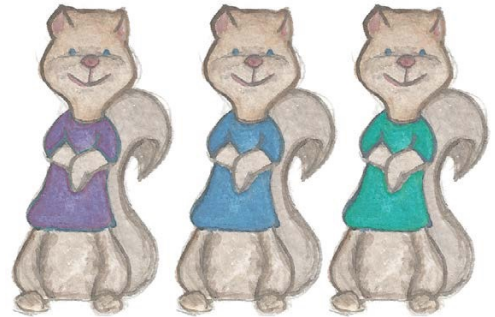
Games are a great resource. They support talk in maths and, just as important, they motivate us to persevere.

AIMS:

Investigate and identify game strategy.
Try alternative versions and see if the same strategies apply.

You will need:

To play this game you will need a set of dominoes (check that you have all 28!)
Or you can cut out the set on the following pages.



Rules of the game.

One player chooses **odds** and the other **evens**.

The aim of this game is to **get the highest score** when the odd and even numbers in the domino chain are added.

How to play

- Lay out the dominoes in front of you.
- Remove the doubles.
- Toss a coin to decide who will go first.
- Player 1 chooses a domino and starts the chain.
- Player 2 chooses a domino. It must share one number with the first.
- Player 1 plays again, using the same rule.
- The game continues until it is impossible to play any more dominoes.
- Add the odds and evens to see who has the highest points score.
- **Play several times, swapping who starts – first to score 100 points is the winner.**

To get started, study the first 6 moves of this example game...

1	3	3	6	6	5	5	4	4	3	3	2	?	?	?	?
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Player 1's moves are shown with **green** dominoes and she is playing **odds**.

Player 2's moves are shown with **orange** dominoes and he is playing **evens**.

Player 1 starts with **1-3**, both odd numbers (so scoring 4). Player 2 plays **3-6** giving away 3 points to Player 1, but gaining 6.

Player 1 plays **6-5** giving away even 6, but gaining 5. Player 2 plays **5-4**, giving away odd 5, but gaining 4.

Player 1 plays **4-3** giving away even 4 but gaining 3. Player 2 plays **3-2** giving away odd 3 but gaining 2.

How might this game continue?

Now let's think about a **good strategy** for a single game.

- Do you think it is better to go first or second?
- Do you think it is better to be odds or evens?
- Is it best to start with your highest scoring single domino (i.e. 5-3 or 6-4) or save it for later?
- When is the best time to play the zeroes (i.e. dominoes with a blank)?
- Is it better to try to keep the chain going, or better to end it if you get a chance?

Now try one of these five alternative versions...

- Include the doubles.
- Continue the chain in either direction from the first domino.
- Choose the first domino randomly.
- Player 1 scores all the 6s, 3s and 2s, Player 2 scores all the 5s, 4s and 1s.
- Anyone playing a zero loses a point!

