K-3 Maths Dice/Card Games

https://deck.of.cards/
http://random-cards.com/random-cards/
https://www.google.com/search?q=online+dice+roller&rlz=1C1GCEA_enAU892AU892&oq=online+dice+roller&aqs=chrome..69i57j0l4j69i60l3.4055j0j7&sourceid=chrome&ie=UTF-8

Why Use Games to Learn?

- Engaging
- Purposeful & repeated practice
- Strategic thinking
- Independent
- Choice & variety

Guess My Number

Cards (Ace – 10)

SKILL: Number recognition, order and sequencing

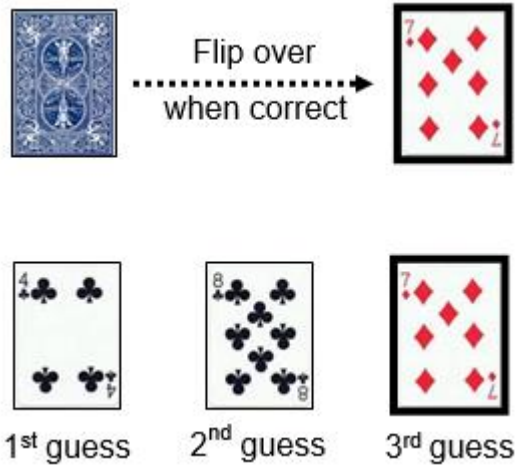
HOW TO:
Each child gets a set of cards Ace through 10 (ace =1)
One player selects a ‘secret card’ for his/her deck and places it face down.

The second player tries to guess what the number on the card is by choosing a card from his/her hand and placing it face up.

The first player then tells whether the secret card is greater than or less than the face-up card.

The second player continues to make guesses by selecting and showing different cards until he/she discovers the secret number.

Players than switch roles.



Card Flip to 12

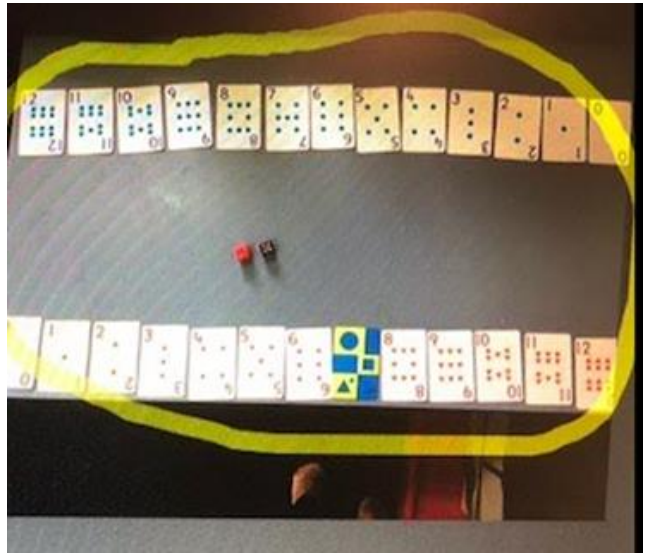
A deck of child friendly playing cards – with the 13 taken out.
2 dice

Skill: Addition and Subtraction

Aim:
Be the first player to turn over all of the cards 0 – 12.

How to:
- Each player starts with a row of cards 0-12 face up in front of them.
- The players take turns in rolling to die.
- Add or subtract the numbers on each dice face to equal a number 0-12 and turn that card face down – remember to say aloud your thinking.
- If you have already turned that card over, it is the next players turn.

Example:
4 – 3 = 1 (turn the 1 over) OR 4 + 3 = 7 (turn the 7 over)



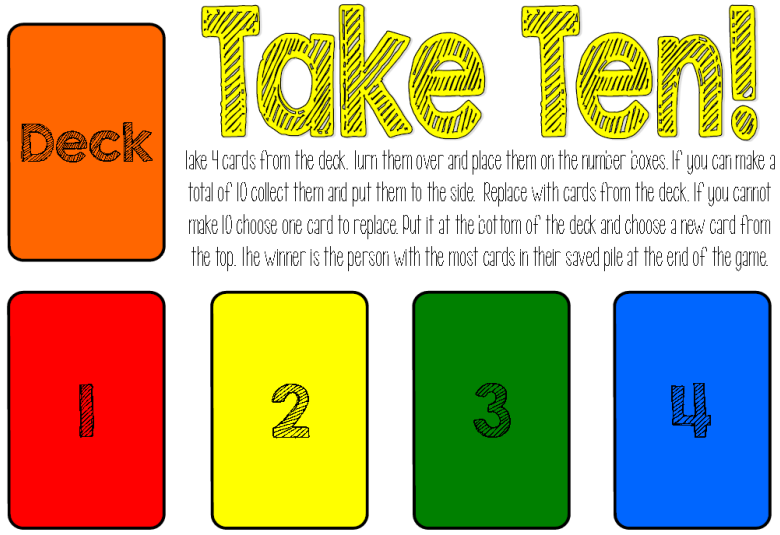
Take 10

40 cards: 1 (Ace) to 10

Skill: Friends of 10

How To:

- Take 4 cards from the deck.
- Turn them over and place them on the number boxes.
- If you can make a total of 10 collect them and put them to the side.
- Replace with cards from the deck.
- If you cannot make 10 choose one card to replace. Put it at the bottom of the deck and choose a new card from the top.
- Play until you can no longer make 10. Player 2 has a turn.
- The winner is the person with the most cards in their saved pile at the end of their game.



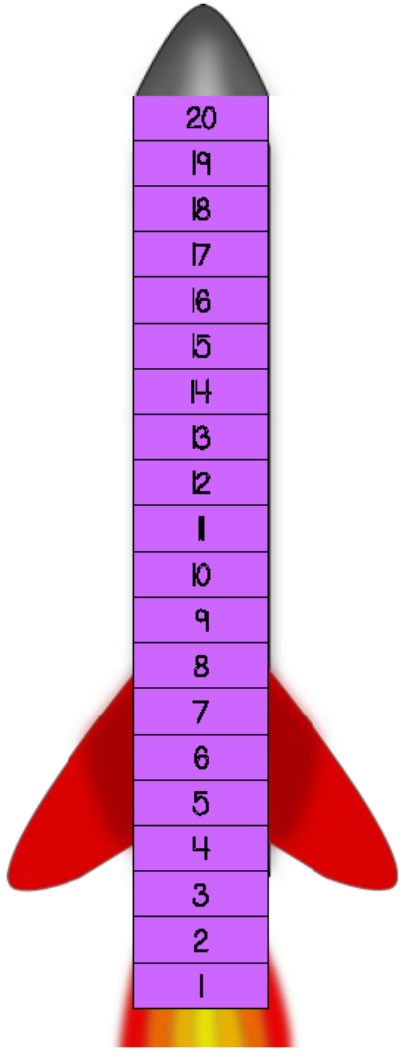
Rockets

Numbers 1-20 on paper
Dice

Skill: Addition and Subtraction to 20

How To:

- Each student draws their own rocket.
- Roll a 6 sided dice and climb the ladder the number rolled.
- The winner is the first person to land <u>exactly</u> on 20.
- Keep rolling and adding/subtracting the dice until you reach 20.



36 cards: 1 (Ace) to 9

Make 10

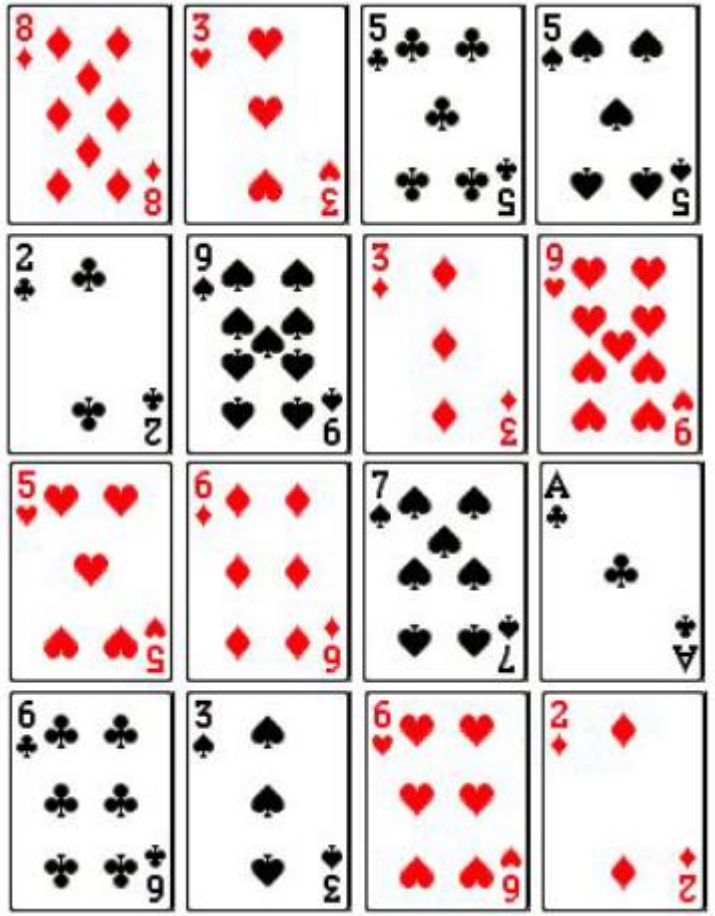
Skill: Friends of 10

How To:

- Lay out an array of cards.
- Take turns finding combinations of cards whose sum is 10.
- The player with the most combinations wins.

Variations:

✓ Choose a different target sum.

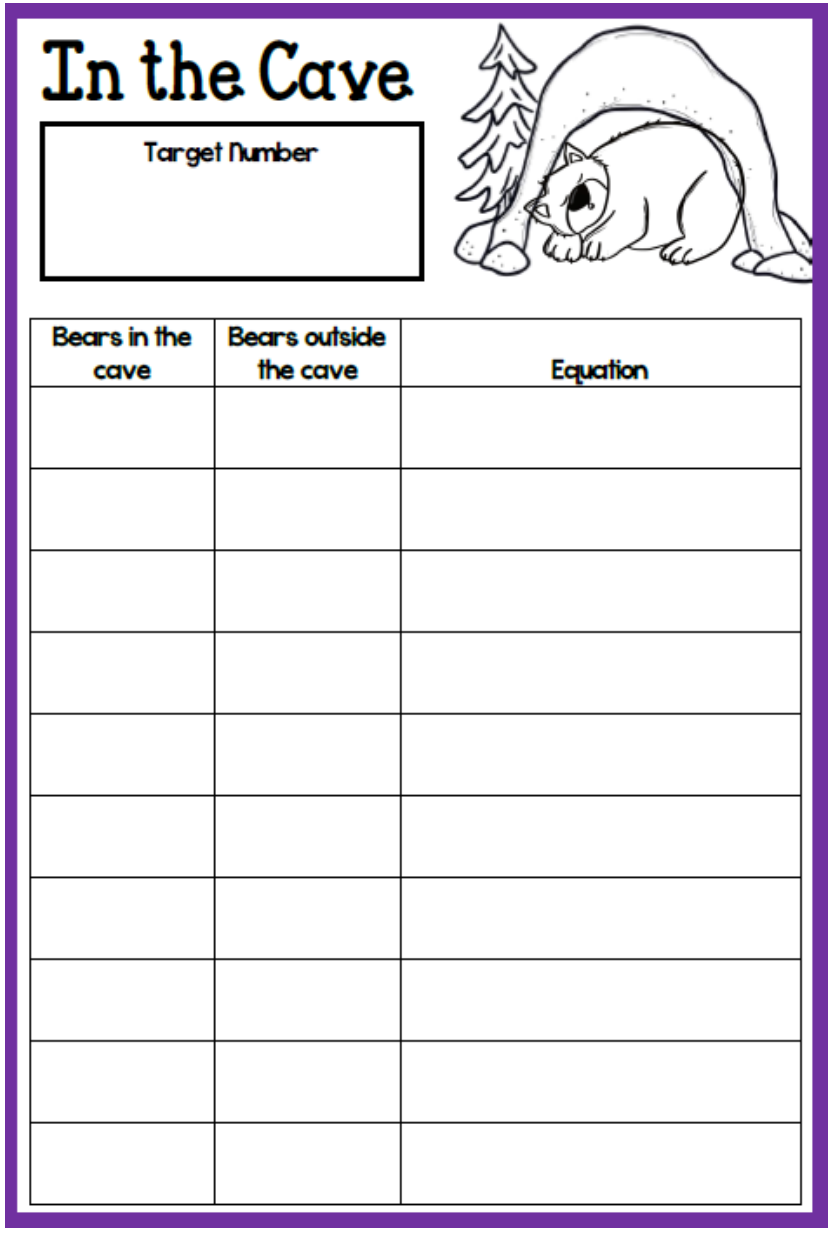


Bear in a Cave

SKILL: Decomposing Numbers (up to the amount your child can subitise – see at a glance)

HOW TO:
Kids are with a partner and they have a certain number of counters. One partner closes his/her eyes and counters are hidden under the cup ("in the cave"). The child opens his/her eyes and tries to figure out how many counters are in the cave.

eg. 'We started with 5 counters and there are 3 outside the cave (cup) so there must be 2 counters in the cave (under the cup).
Q: CAN YOU PUT IT IN A NUMBER SENTENCE? 3 + 2 = 5



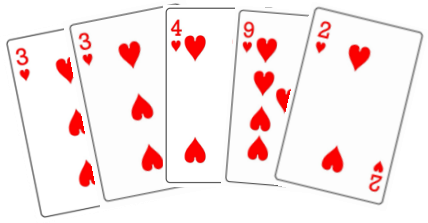
Counters (rocks…) and a cup

Go Fish – Make it 10

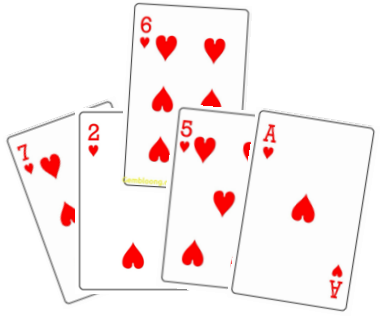
36 cards: 1 (Ace) to 9

SKILL: Friends of 10

Aim:
To have the most cards at the end of play.



Player A
"Do you have a 6 to go with my 4?"



Player B

How to:
This game is played just like "Go Fish." Instead of asking for a card to match your card, you have to ask for a card that would add with one of your cards to make a sum of 10.

Make it 10

A deck of child friendly playing cards (or use Jack =11, etc)

SKILL: Friends of 10. Addition and Subtraction

Aim:
To be the first player to have no cards in your hand.

How to:
- Each player is dealt 7 cards.
- Manipulate the numbers on the cards by using addition and subtraction to make ten.
- When you have made ten, with two or more cards, place cards on the discard pile – saying aloud your number sentence.
- If you cannot go, you pick up from the draw pile.

Example:

Player 1: 2 + 9 -1 = 10

Player 2: 4 + 6 = 10

Flipper

40 cards: 1 (Ace) to 10

SKILL: Addition

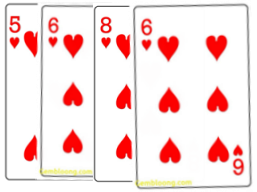
Aim:
To add as many cards as you can in 1 minute

How To:
- Children have 1 minute to turn over as many cards as they can, adding them as they go.
- Encourage use of strategies, eg. add 9 is add 10 – 1
- Play again and see if they can beat their total.

Example:

A 5 card, then a 6 equals 11 (encourage 5+5+1), then add 8 equals 19…
Children call out their totals as they go

5, 11, 19, 25…



Differentiation:
- Increase or decrease the amount of time.
- Only use cards 1 – 5 for lower primary

http://en.castlots.org/playing-cards-generator/

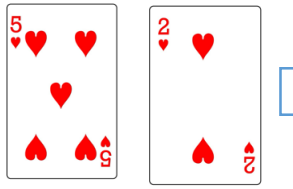
Place Value War

36 cards: 1 (Ace) to 9

SKILL: Place Value

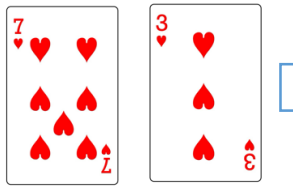
How To:
Shuffle cards and place in the middle.

Player A takes 2 cards and rearranges them to make the largest number possible, eg. cards 2 and 5 make 52. Player A places them on the table and says “I have 52”



Player A

Player B repeats this
eg. picks up cards 3 and 7.
“I have 73”



Player B

Winner is the person with the highest number <u>who must be able to prove it.</u>
eg. Player B says “I win because I have 7 tens which is 70 but you only have 5 tens which is 50”

Q: HOW DO YOU KNOW YOUR NUMBER IS HIGHER?

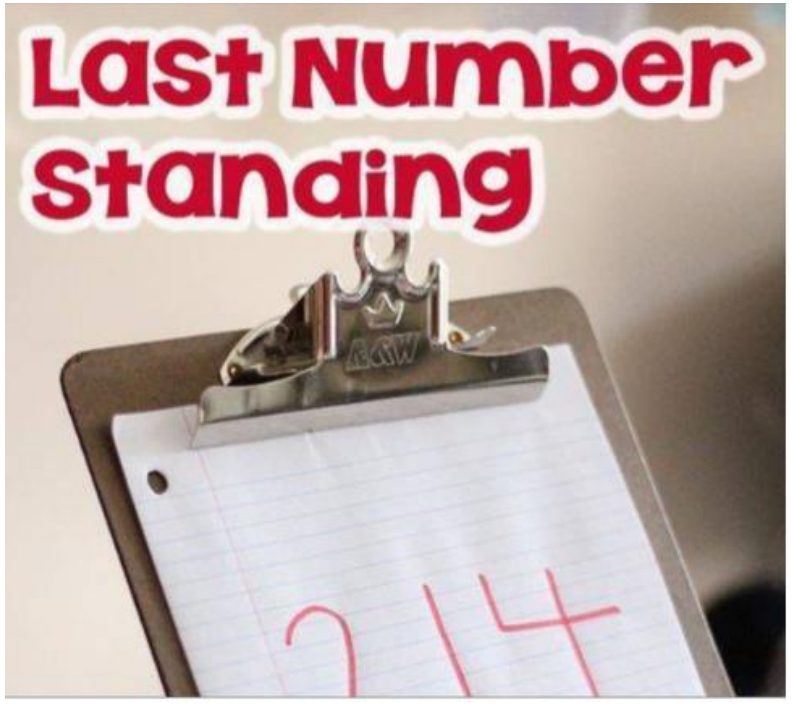
Differentiation:
- use 3 (hundreds) or 4 (thousands) cards depending on how your child understands place value.
- Flip over 1 card at a time and say which value you will use it for before you flip over the next card – introduces the aspect of chance.

Last Number Standing

Skill: Place Value

How To:

- Students write down a 2 digit (or 3/4 digit) number on their paper
- Call out different place values, eg. Sit down if you have a 3 in the tens place
- Keep calling out different place value amounts until only one student standing
- This is The Last Number Standing



Salute

40 cards: 1 (Ace) to 10

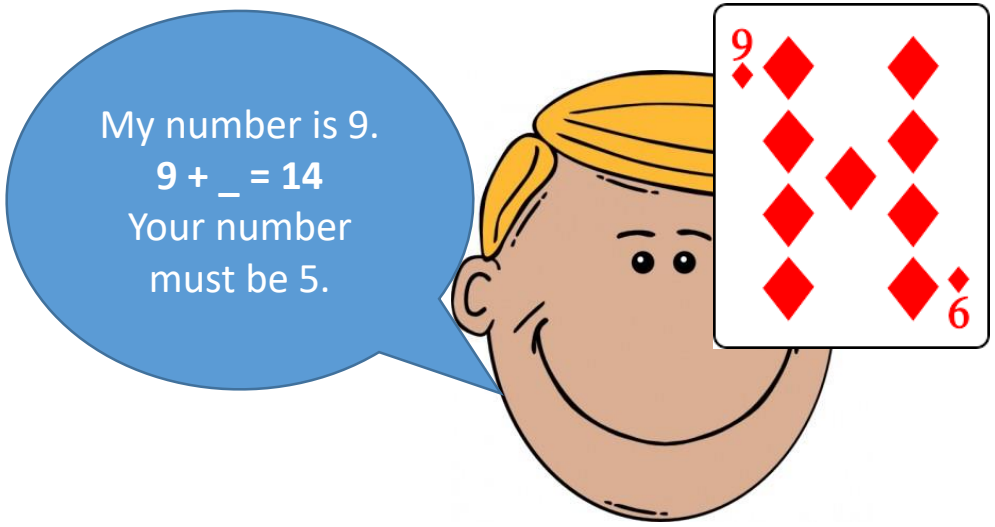
Skill: Addition

How To:

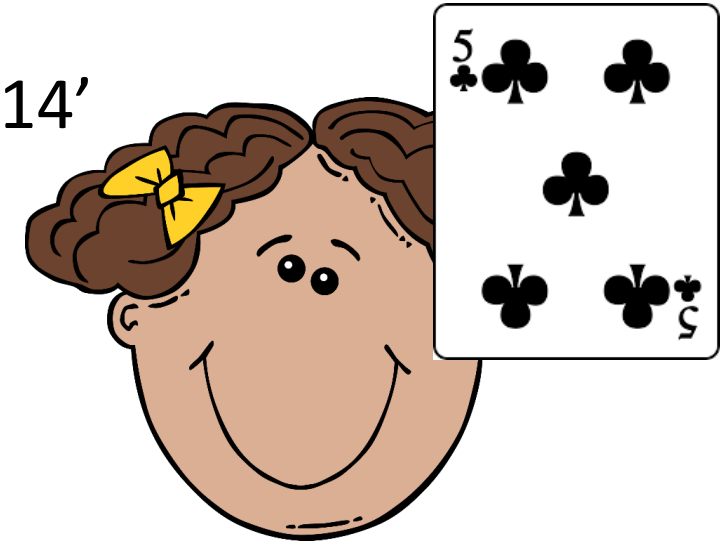
- 2 children sit back to back
- Each takes a number card to hold up, and the rest of the class calls out the sum of the 2 numbers
- The pair have to shout out the number held by their partner
- The fastest remains in their place with a new challenger

Extension:

- Add extra students with more numbers



Class calls out ’14’



Magic Number

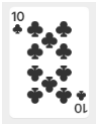
40 cards: 1 (Ace) to 10

Skill: Addition and Subtraction

How To:

- Give students a magic number, eg. 43
- Player 1 picks 2 cards and the totals are added together.
- Player 2 picks a card and adds the number to the previous total.
- Player 1 picks a card and its added to the running total.
- Play continues until they get the magic number.
- Students will need to start subtracting as the running total exceeds.
- Game continues until they hit the magic number so they'll need to add and subtract a few times.

Magic Number is 43

	Running Total
Player 1 	7 + 4 = 11
Player 2 	14
Player 1 	24
Player 2 	32
Player 1 	37
Player 2 	45 (total is over so need to subtract next card)
Player 1 	43 WINNER!

Collect 10 - Early

1-3 dice
10 counters

SKILL: Addition

How to (Kindy):
A game for pairs of students, with each student having a regular dice (the dice used for this game can be varied according to the needs of the students). Counters are also required. The players roll the dice and the player with the higher number showing scores a counter ('rock'); if both throw the same number they both score a counter. The first player to collect 10 counters is the winner.

How to (Yr 1):
Same as ***Collect 10*** above, but each student has 2 regular dice and the total is obtained by adding the numbers rolled.

How to (Yr 2):
Same as ***Collect 10*** above, but the total is obtained by adding three regular dice.
Note: Encourage the students to find quicker ways of adding the numbers.
1. Doubles, eg 4 + 4
2. Doubles plus one, eg 4 + 5 (4 + 4 + 1)
3. Doubles less one, eg 4 + 3 (4 + 4 - 1)
4. Combinations to 5, eg 1 + 4
5. Combinations to 10, eg 6 + 4

Player A has a total of 11 and Player B has 7. Player A may 'steal' a rock from Player B

Variations
• The player with the lower number scores the counter each time.
• Start with ten counters and the player with the higher number on the roll of the dice takes away this number of counters. The first player to have no counters is the winner.

Card Flip – Make 10

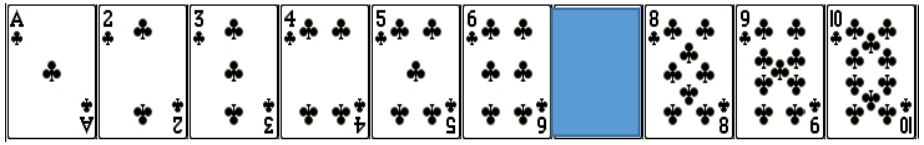
A deck of playing cards 1-10
A ten sided dice (0-9)

SKILL: Friends of 10.

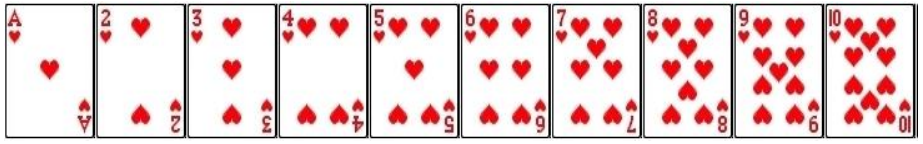
Aim:
Be the first player to turn over all of the cards 1 – 10 .

How to:
- Each player starts with a row of cards 1-10 face up in front of them.
- The players take turns in rolling the die.
- When you have rolled a number, turn over the card that matches that number to make 10.
- If you have already turned that card over, it is the next players turn.

Example:



Player A rolled a 3 so they turn over their 7 card



Addition or Subtraction Battle

40 cards: 1 (Ace) to 10
Extension: include face cards
Dice

Skill: Addition or Subtraction

Aim: To add or subtract simple sums to win as many cards as possible.

How To:

- Deal the cards evenly among the players.
- One player throws the dice.
- Each player then flips up one card from their pile of cards.
- **Addition battle**: each player adds the number of their card with the number rolled on the dice, the highest total wins the cards that have been flipped over.
- **Subtraction battle**: the lowest value wins.
- The player that is left with cards wins!

Differentiation – Have students multiply the numbers.

Cross Out

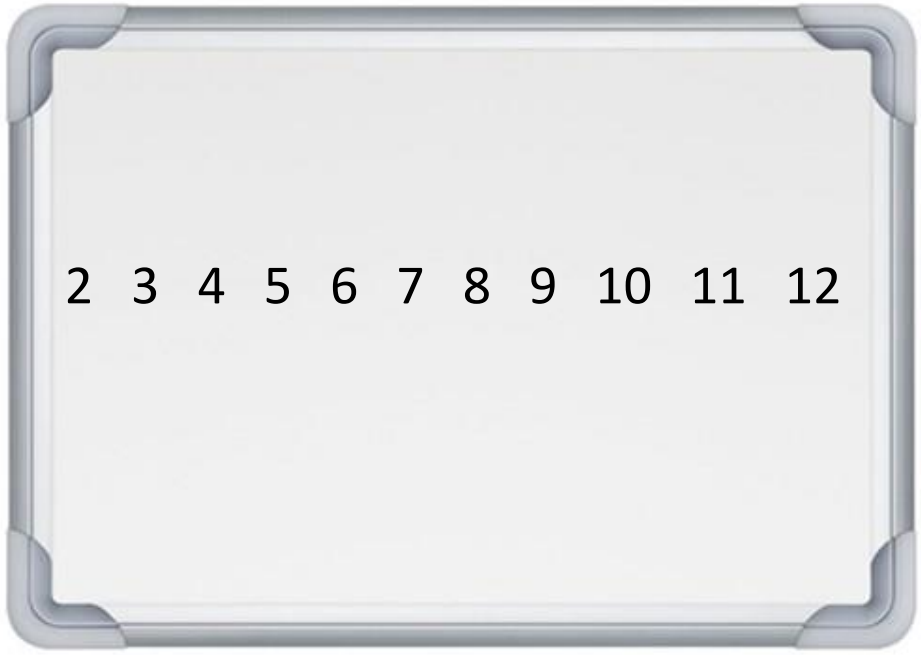
Whiteboard/paper
2 dice

SKILL: Addition

Years 1-2:

Cross out is an activity for two students. Each student writes the numbers 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 on a piece of paper. They take turns to roll two regular dice, add both numbers rolled and cross out the total on their piece of paper. The first player to cross out all the numbers is the winner.

- Roll 2 dice
- Add
- Cross out that number



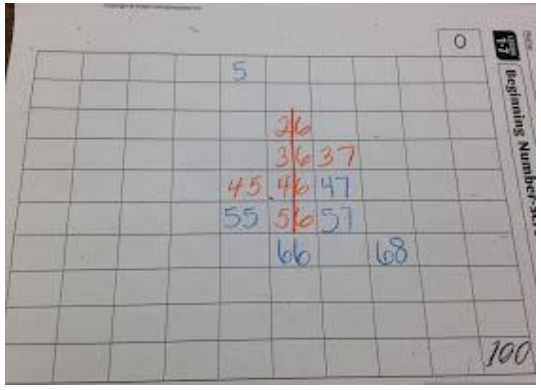
Tic-Tac-Toe

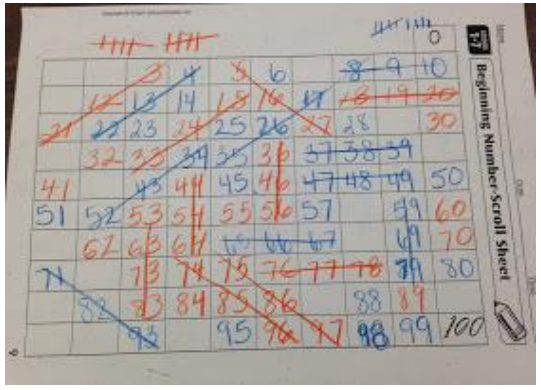
Grid paper

Skill: Place Value and Counting

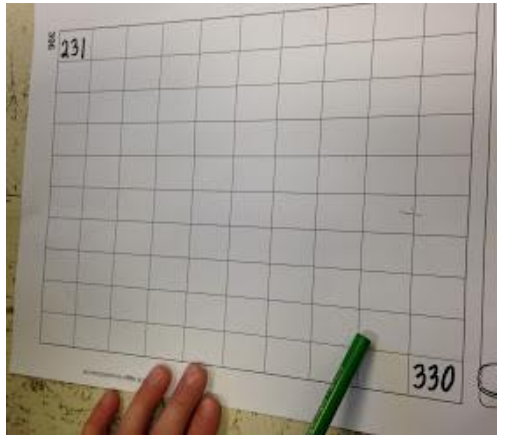
How To:

- Using different coloured pencils, players alternate capturing squares on a hundreds grid while trying to get 4 squares in a row, column, or diagonal.
- Each tic-tac-toe is worth a point, and you can keep track with tallies. Play until the board is filled up.





Try something harder…



20 Questions Number Hat

40 cards: 1 (Ace) to 10

Skill: Number Sense

Aim: To work out the number by asking 20 or less questions.

How To:

- The student picks a card without looking and places it on their 'guessing hat' using the blue tack.
- The student then has 20 questions to work out what number they have.
- The questions they ask can only be answered by the rest of the group or class with a 'yes' or 'no'.

Differentiation – Have students pick two cards to create a 2 digit number.

Take 100

Dice

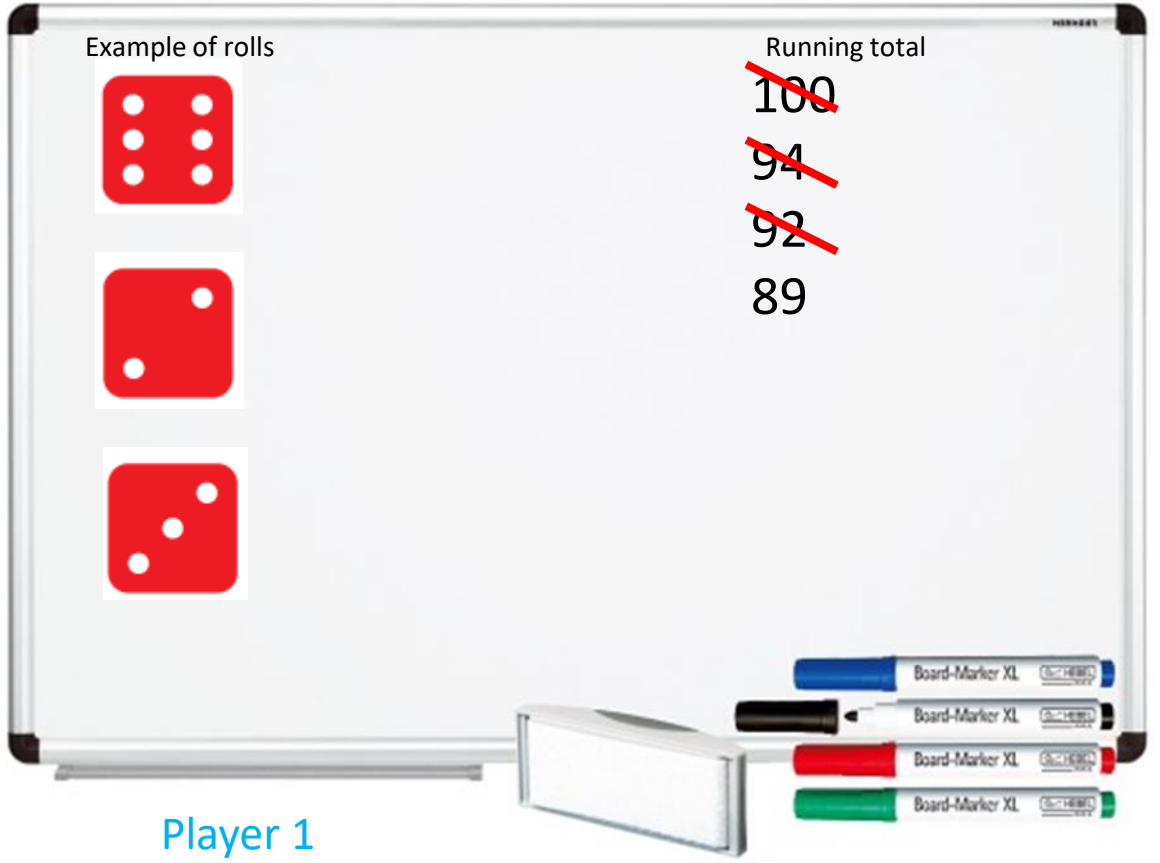
SKILL: Subtraction

Years 2/3:

Each student begins with 100 points. In turn, students roll a regular dice and subtract the number from their 100 points. The first player to reach zero is the winner.

Variations

- Change the number of points to begin.
- Add the dice together before subtracting them



Player 1

Make 24

Dice

SKILL: Addition, Skip Counting, Multiples

Years 2-4:

This game for individuals requires only 1 dice. The player throws the dice repeatedly, listing the numbers thrown in columns as follows.

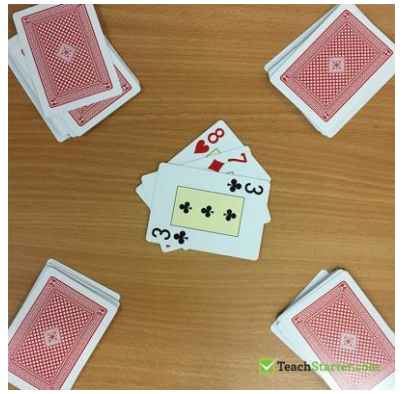
1	2	3	4	5	6
1	2		4		6
	2		4		
	2				

The player has to keep a running total of each column in their head and stop when one of the columns reaches exactly 24 (The fifth column will never reach 24). Players play the game several times and compare their findings.

Make 40

40 cards: 1 (Ace) to 10

Skill: Addition



Aim: To add numbers until the total gets to 40.

How To:

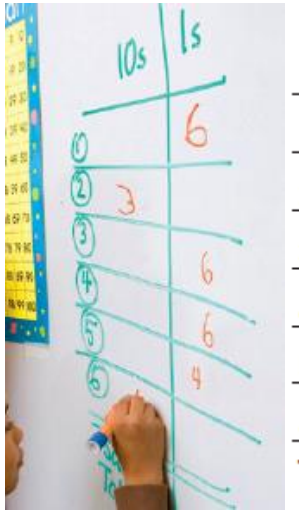
- Deal out the cards to the players.
- The first player turns over their top card and places it in the middle.
- The next player turns over their top card and places it on the first card. This player adds the value of the two cards and tells everyone the total.
- The next player does the same, adding the value of their card to the previous total.
- Play continues until the total reaches 40 or over. The player who puts down the card that takes the total to 40 or over takes all of the cards and shuffles them in with their remaining cards.
- Play continues until set time or when one player has no cards left.
- The winner is the person with the most cards.

Differentiation – Have students add to 20 or for a harder activity you may like to get them to add till they get to 100.

101 and Out!

One dice

Skill: Place Value and Addition



	10s	1s
1		
2		
3		
4		
5		
6		
TOTAL		

How To:

- Explain the rules: A 1–6 number cube will be rolled six times.
- With each roll, students write the number that comes up on their game board.
- They write the first number on line 1 of their game board in either the 10s column or 1s column; they write the second number on line 2 in either column; and they continue to play for six rolls.
- Once students write a number, they can’t change it.
- After writing six numbers, they fill in any blanks in the 1s column with zeros, and then add to find the sum.
- The winner is the player with the sum that is closest to 100 without going over.

Drop Dead Dice

5 dice

Skill: Addition.

Aim:
To score as many points as possible.
At the start of the game players determine either:
- ✓ the target score; or
- ✓ how many rounds they will play.

How To:
Player one throws all five dice. If his roll contains a 5 or a 2 he scores no points, removes any dice showing a 5 or 2 and re-rolls the remaining dice. If the roll does not contain a 5 or a 2, he adds up the total, records it on the score card and rolls all five dice again. He continues in this way until all the dice are removed from play. Play continues with the next player.

Player 1:

1st roll
No score, remove the 5 and 2.

2nd roll
Score: 8

3rd roll
No score, removes the 2s.

4th roll
Score: 6.

5th roll
No score.

TOTAL SCORE for that round for Player 1: 14

https://youtu.be/x9s-JNb4csg

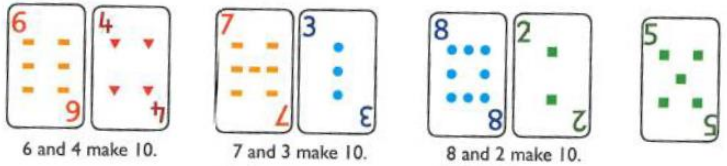
7 Card Game

A deck of child friendly playing cards.

SKILL: Friends of 10. Buddies to 20. Basic Facts.

Aim:
To be the player who ends up with the highest total at the end of a set number of rounds.

How to:
- Each player is dealt 7 cards and the remaining cards are placed face down on the table.
- Players arrange their cards in pairs or groups to make adding their value easier.



- Once each player has added together the numbers on their cards, they say aloud their thinking (see above).
- The winner is the person with the highest total.
- The winning person turns over the top card from the deck and this represents the number of points they earn for that round.
- The winner is the player with the highest number of points at the end of a set amount of rounds.

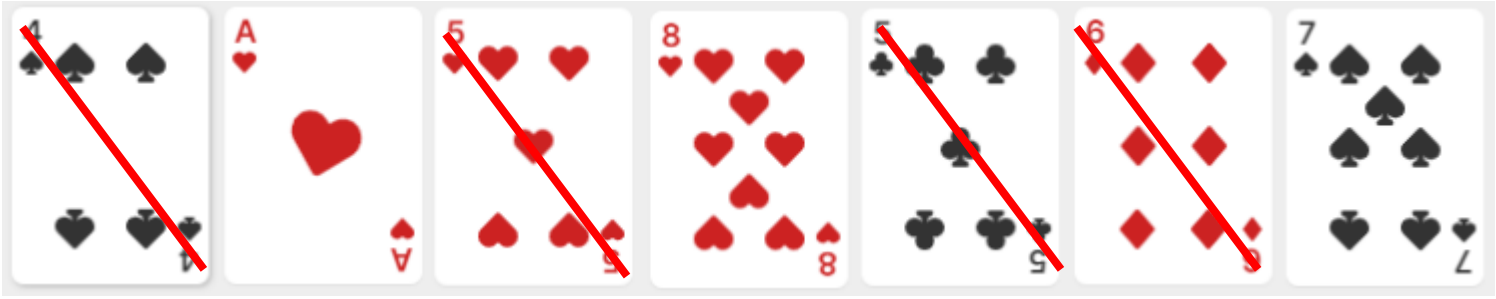
Seven Up

40 cards: 1 (Ace) to 10

SKILL: Friends of 10.

How to:

- A game for students to play individually
- To play, students deal seven cards face up in a row.
- They remove all 10s, either individual cards with 10 on them or pairs of cards that add to 10.
- Each time players remove cards, they replace them with cards from the remaining pack.
- When it's not possible to remove any more cards, they deal a new row of seven cards on top of the ones that are there.
- The game ends when it's no longer possible to make 10s or all of the cards are used up.



Remove these cards and draw another 7 over the top

From Here to There

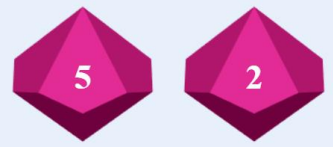
2 ten-sided dice

Dice Dazzlers, Paul Swan, p. 46

- Draw number track
- Starting and finishing numbers chosen at the start
- First player rolls 2 ten-sided dice, makes a 2–digit number and places it on the number track
- Next player does the same
- The winner is the player who completes the sequence

10								
								70
		25			49			
		33						
								99

For example, this could be 25 or 52. If you chose 25, where could it go on the grid (closer to 10 or 33)



Pig

1 dice

Skill: Addition, Probability

How To:

- This is a game for two or more people, although usually played in pairs.
- It is good practice for addition skills up to 50, especially adding three or more small numbers.
- The first player rolls the die as many times as he/she likes, adding up the total as he/she goes.
- If, however, a 1 is thrown, all the score for that round is lost.
- The player may stop at any time and put his/her score in the bank - that banked score can not be lost.
- When a score has been banked the die is passed to the next player who has his/her turn.
- The winner is the first player to reach 50 or more.

Player 1	Player 2

Differentiation:

- Raise the winning score to 100 or more.
- Use a 10 sided dice

Make and Round

36 cards: 1 (Ace) to 9

SKILL: Rounding to 10/100

How to:

- Pick 2 cards from the deck and arrange them to make a 2-digit number.
- Round the number to the nearest 10 and cover that number.
- First to cover all their numbers wins.

Extension:

3 cards and rounding to nearest 100.

100	~~600~~
200	700
300	800
400	900
500	1000

Player 1

Or rearrange to make
855 and cross out 900

Heads and Tails

2 dice
coin

Skills: Addition, Subtraction

How To:

- All students start at 50 and the idea of the game is to be the first to 100 or to 0.
- The students roll the 2 dice and add to make a number

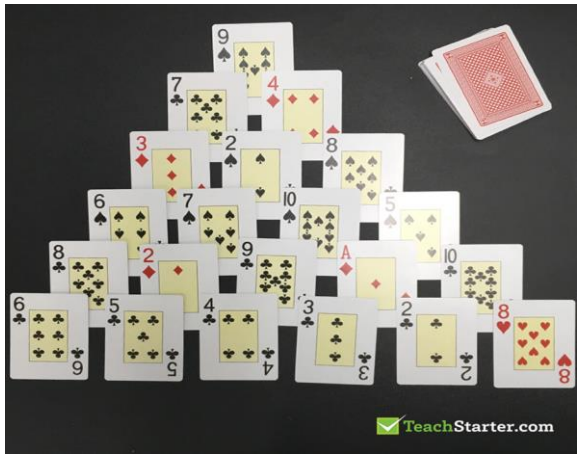
Step 1 Roll Dice
4 + 3 = 7

Step 2 Flip A Coin
Tails
Subtract 7 from my 50

- The students then throw the coin if they get *heads they add* the number to 50, if they throw a *tail they subtract* the number
- The next person has a turn, etc. until someone reaches 0 or 100

40 cards: 1 (Ace) to 10

Make 10s Pyramid



Skill: Friends of 10

Aim: To remove as many cards as possible from the pyramid that add up to 10.

How To:

- Create a pyramid shape with 6 rows (like the photo). Each row should slightly overlap the previous row.
- The remaining cards become the **draw** pile.
- The object of the game is to remove cards that 'make 10'. Students can remove one card (being a 10) or remove two cards that add up to 10.
- The cards that are removed must be completely uncovered. Therefore, at the start of the game you can only remove cards that are in the bottom row.
- The cards that add up to 10 are placed in a **discard** pile off to the side.
- If a player can not make 10 with any of the uncovered cards in the pyramid, they need to draw a card from the **draw** pile and can use this card to 'make 10'. If they still can't make 10 they continue to draw until they can make 10.
- If the **draw** pile runs out, a player can shuffle the **discard** pile and draw from there.
- The game is over when a player can no longer remove cards from the pyramid.
- If playing against each other, the player's score is the total of all the cards left in their pyramid. The person with the smallest number wins that round.

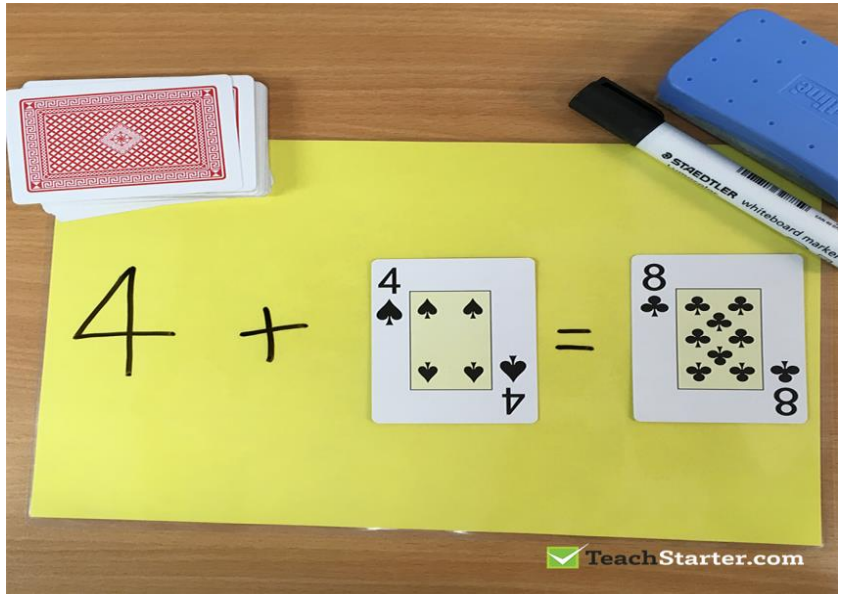
Number Sentence

40 cards: 1 (Ace) to 10

Skills: Addition and Subtraction

How To:

- Flip over 2 cards – first person to put them in a written number sentence wins both cards.



The Game 11…

SKILL: Problem Solving

Students stand in circle they take turns moving around the circle counting on and can say up to 3 numbers..the person that says 11 is out and start again

Eg

123

45

678

9

10

11

Often play in teams