Activity overview

Card Sorting

KS1 KS2 KS3

This is a simple puzzle that only needs a few playing cards and to learn a quick algorithm.

Have 5 cards. Ideally this will be Ace, 2, 3, 4, 5 but as long as you can order them, it doesn't really matter. And it means that with 2 packs of cards, a whole class could do this activity.

Put them in order with the Ace at the top and 5 at the bottom. The cards should face down.
Here's what you are going to do. Take the top card and place it in the line. Take the next card and put it at the bottom of the pack. Continue alternating between placing the card in the line and putting it at the bottom of the pack. But before you do that, guess what the order is going to be.

Now try it and see if you were right.

You need:
5 playing cards (ideally A – 5)

Set up:
None needed really. Just…
1. Put in order
2. Place in a pile

10 Frame Card Swap

KS1

This is a great game for getting used to counting on and 10 frame structures.

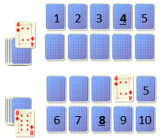
The aim is to get all of your cards face up and in number order. You do this by swapping cards.

How to play
On each turn, a player picks up a card from the pile and looks at the number.

They count that number of cards starting from the top left card.
If that card is face down, they replace it and leave the card face up in that position.

They take the card they swapped and do the same with that. Keep playing in that way until they get a number that has already been found. Place that card at the bottom of the pile. Then it's the next player's turn.

You can play collaboratively or competitively.



You need:
Number cards and Aces
2-3 players

Set Up:
Lay 10 cards, face down as shown below in front of each player.

Quick Rules:
Each turn,
- Swap cards based on the position number
- Keep swapping until you get a number that you've already found.

Card Sequences

KS1 KS2

Which cards would you need to bridge the King of Spades with the 5 of Spades?
Or the queen of diamonds with the 6 of diamonds? Can you do it in more than one way?

Linking Rules
You can only link two cards together if…
- They are in the same suit and consecutive numbers (consecutive means that they are next to each other like 5 and 6 for example)
- They are in different suits but the same number or letter

You should find at least 2 paths between any two cards (that are not already next to each other.

What other cards would you need to complete this line? How could you do it with less cards?

You need:
A pack of playing cards

Quick Rules:
1. Choose 2 cards to bridge between.
2. Find cards that can link the two cards.

Card Grid

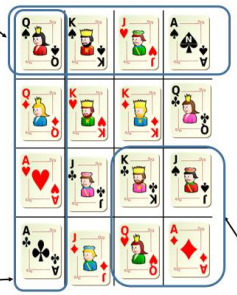
KS2 KS3

Row with one of each letter

Place all the cards in a 4 by 4 grid.
Arrange them so that each letter (A, K, Q, J) is in each row and column (and if you can do that try the quadrants too)
Notice any patterns in any of the diagonals.

Now try the same thing but ensure that the suits are unique in every row and column (and quadrant) too.

Column with one of each suit



Quadrant with one of each letter and suit

You need:
Picture cards and aces from a pack of cards

Quick Rules:
1. Place cards so that each letter and suit appears in every row
2. Try to do the same but get each letter and suit to appear in every column too.
3. And each quadrant?

Dobble

KS1 KS2 KS3

Dobble is a fun card game for any age.

The rules are really simple. Set out your cards with a central pile and each player has one card each.
When play starts, uncover the central card and players try to find an image on their card that matches an image in the central card (example shown for the yellow card).
The first player to call out the match gets to keep their card and takes the central card as the card they play with. Keep playing until all the cards have been won.

The interesting thing about Dobble is that each card has exactly 1 picture in common with every other card.

You need:
Dobble cards
Or print your own

Quick Rules:
1. Give each player 1 card
2. Rest of the cards in a pile in the middle
3. Players compete to call out a picture match that their card has with the central card.
4. First person to find a match wins the card then plays with that one.

Make your own Dobble Cards

KS2 KS3

Use the images to cut out and stick on your own Dobble cards to make a Dobble shapes set.
Dobble packs come in the following possible sizes:

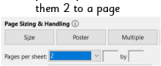
Pictures/card	2	3	4	5	6	7	8
Max num of cards	3	7	13	21	31	43	57

It is worth trying a draw your own version with the 3 card, 2 pictures version first. It's also advisable to examine a set of cards before creating the set.

Just 7 cards is quite difficult but usually doable and checkable. 13 cards is really difficult to check and is not necessarily possible to build up from the 7 card version. It makes a nice project for a small group who work well together, are fairly well organised and have quite a growth mindset. Anything more is likely to be too much and should be done with a spreadsheet or as a computing project.

You need:
Pictures/stickers
Cards

Preparation
1. Print and cut out enough cards for the size you want.
2. You'll need the same number of different pictures as you have cards in the set.
3. You'll need the same number of copies of each picture as there are pictures per card. Print them 2 to a page



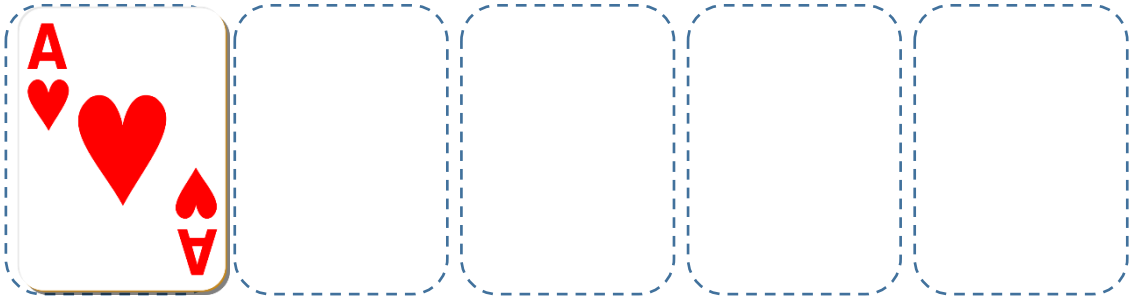
Card Sorting

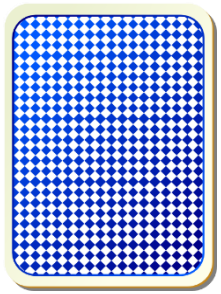
This is a simple puzzle that only needs a few playing cards and to learn a quick algorithm.

Have 5 cards. Ideally this will be Ace, 2, 3, 4, 5 but as long as you can order them, it doesn't really matter. And it means that with 2 packs of cards, a whole class could do this activity.

Put them in order with the Ace at the top and 5 at the bottom. The cards should face down.
Here's what you are going to do. Take the top card and place it in the line. Take the next card and put it at the bottom of the pack. Continue alternating between placing the card in the line and putting it at the bottom of the pack. But before you do that, guess what the order is going to be.

Now try it and see if you were right.





You need:
5 playing cards
(ideally A – 5)

Set up:
None needed
really. Just...
1. Put in order
2. Place in a pile

10 Frame Card Swap

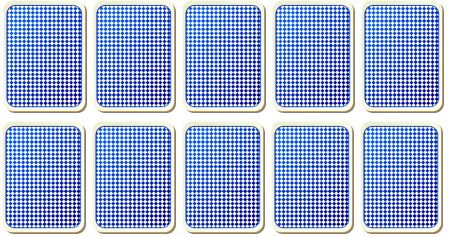
KS1

This is a great game for getting used to counting on and 10 frame structures.

The aim is to get all of your cards face up and in number order. You do this by swapping cards.

You need:
Number cards and Aces
2-3 players

Set Up:
Lay 10 cards, face down as shown below in front of each player.

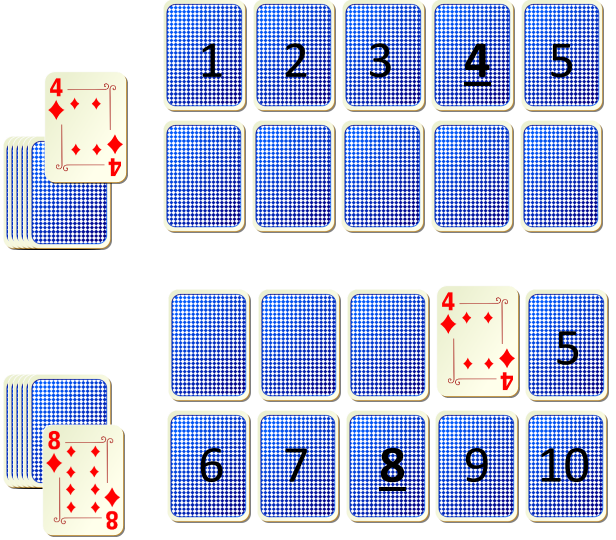


How to play

On each turn, a player picks up a card from the pile and looks at the number.

They count that number of cards starting from the top left card.
If that card is face down, they replace it and leave the card face up in that position.

They take the card they swapped and do the same with that. Keep playing in that way until they get a number that has already been found. Place that card at the bottom of the pile. Then it's the next player's turn.



You can play collaboratively or competitively.

Quick Rules:
Each turn,

- Swap cards based on the position number
- Keep swapping until you get a number that you've already found.

Card Sequences

KS1 KS2

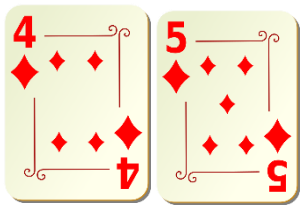
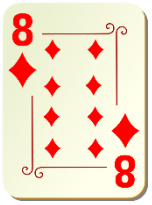
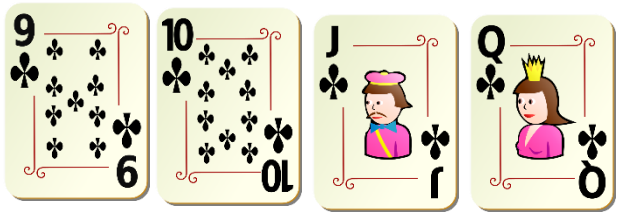
Which cards would you need to bridge the King of Spades with the 5 of Spades?
Or the queen of diamonds with the 6 of diamonds? Can you do it in more than one way?

You need:
A pack of playing cards

Quick Rules:
1. Choose 2 cards to bridge between.
2. Find cards that can link the two cards.

Linking Rules
You can only link two cards together if...
- They are in the same suit and consecutive numbers (consecutive means that they are next to each other like 5 and 6 for example)
- They are in different suits but the same number or letter

You should find at least 2 paths between any two cards (that are not already next to each other.

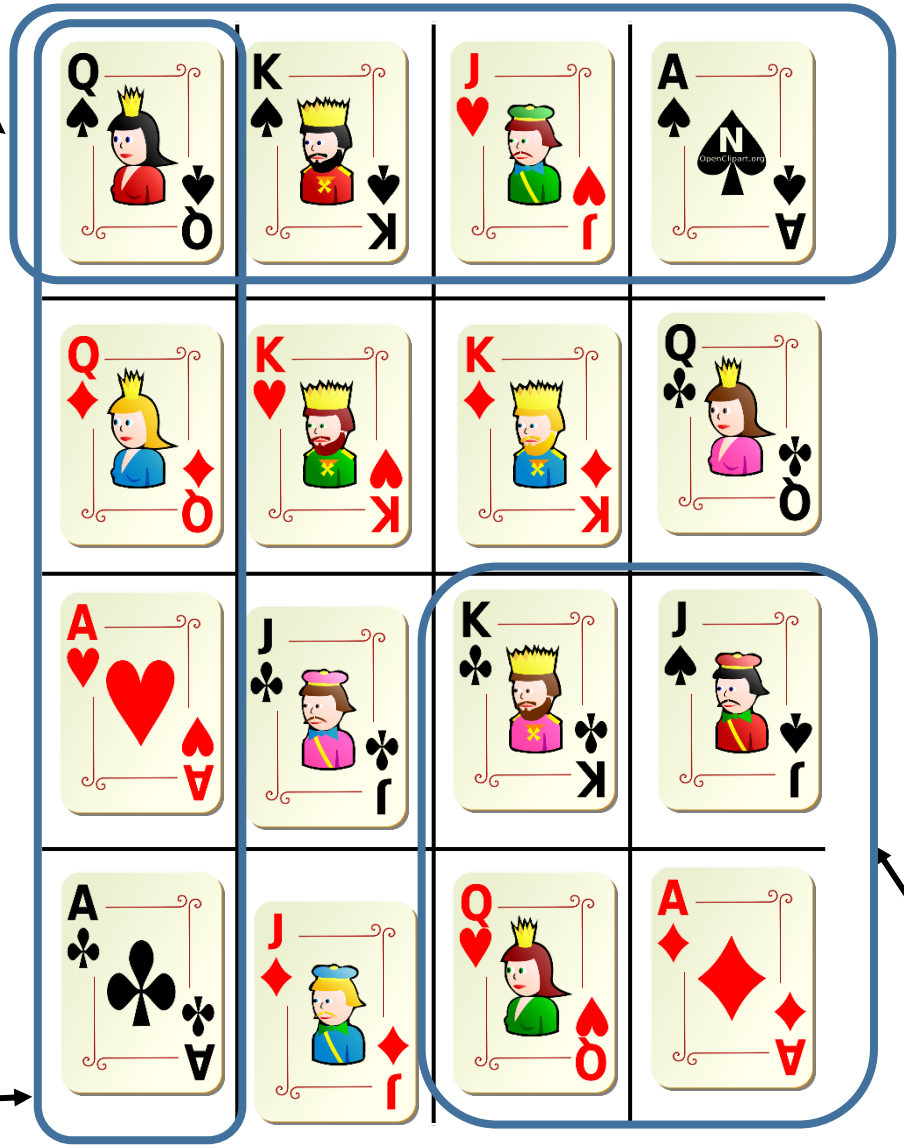
What other cards would you need to complete this line? How could you do it with less cards?

Card Grid

Row with one of each letter

Place all the cards in a 4 by 4 grid.
Arrange them so that each letter (A, K, Q, J) is in each row and column (and if you can do that try the quadrants too)
Notice any patterns in any of the diagonals.

Now try the same thing but ensure that the suits are unique in every row and column (and quadrant) too.



Column with one of each suit

Quadrant with one of each letter and suit

You need:
Picture cards and aces from a pack of cards

Quick Rules:
1. Place cards so that each letter and suit appears in every row
2. Try to do the same but get each letter and suit to appear in every column too.
3. And each quadrant?

Dobble

Dobble is a fun card game for any age.

The rules are really simple. Set out your cards with a central pile and each player has one card each.
When play starts, uncover the central card and players try to find an image on their card that matches an image in the central card (example shown for the yellow card).
The first player to call out the match gets to keep their card and takes the central card as the card they play with.
Keep playing until all the cards have been won.

The interesting thing about Dobble is that each card has exactly 1 picture in common with every other card.

You need:
Dobble cards
Or print your own

Quick Rules:
1. Give each player 1 card
2. Rest of the cards in a pile in the middle
3. Players compete to call out a picture match that their card has with the central card.
4. First person to find a match wins the card then plays with that one.

Make your own Dobble Cards

Use the images to cut out and stick on your own Dobble cards to make a Dobble shapes set.
Dobble packs come in the following possible sizes:

Pictures/card	2	3	4	5	6	7	8
Max num of cards	3	7	13	21	31	43	57

It is worth trying a draw your own version with the 3 card, 2 pictures version first. It's also advisable to examine a set of cards before creating the set.

Just 7 cards is quite difficult but usually doable and checkable. 13 cards is really difficult to check and is not necessarily possible to build up from the 7 card version. It makes a nice project for a small group who work well together, are fairly well organised and have quite a growth mindset. Anything more is likely to be too much and should be done with a spreadsheet or as a computing project.

You need:
Pictures/stickers
Cards

Preparation
1. Print and cut out enough cards for the size you want.
2. You'll need the same number of different pictures as you have cards in the set.
3. You'll need the same number of copies of each picture as there are pictures per card. Print them 2 to a page